Curriculum Vitae

As of November 30, 2024

Chang-Hwan Choi, PhD

Professor
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1. Educational Background

University of California at Los Angeles (UCLA) Los Angeles, CA, USA

December 2006 **PhD** in Mechanical Engineering

Field of Specialization: MEMS/Nanotechnology

Field of Minor: Fluid Mechanics, Bioengineering

Advisor: Prof. Chang-Jin "CJ" Kim

Dissertation: "Nanoengineered Surfaces: Design, Fabrication, and Applications to Microfluidics and Tissue Engineering"

Brown University Providence, RI, USA

May 2002 **MS** in Engineering (Fluid, Thermal and Chemical Processes)

Field of Specialization: Microfluidics

Advisor: Prof. Kenneth S. Breuer

Thesis: "Flow Rates and Slip Velocities of Liquids in Hydrophilic and Hydrophobic Microchannels"

Seoul National University Seoul, Korea

February 1997 **MS** in Aerospace Engineering

Field of Specialization: Aerodynamics

Advisor: Prof. Ohyun Rho

Thesis: "Thermal Analysis and Design of 3-Axis-Stabilized Satellite in Sun-synchronous Orbit"

February 1995 **BS** (*Magna cum laude*, with Honors) in Aerospace Engineering

2. Professional Appointments

Stevens Institute of Technology Hoboken, NJ, USA

September 2018 – present	Professor
September 2013 – August 2018	Associate Professor
January 2007 – August 2013	Assistant Professor
	Department of Mechanical Engineering

Pukyong National University Busan, Korea

July – August, 2021, 2022, & 2023	Visiting Research Professor *(Brain Pool Fellow)*
	Research Institute of Industrial Science and Technology

Max Planck Institute for Polymer Research (MPIP) Mainz, Germany

June – August, 2017	Visiting Researcher *(Humboldt Research Fellow)*
	Department of Physics at Interfaces (Prof. Dr. Butt)

Ecole Polytechnique Fédérale de Lausanne (EPFL) Lausanne, Switzerland

May – June, 2016	Visiting Professor
(Sabbatical Leave)	*Institute of Microengineering* (Prof. Brugger)

Technische Universität Darmstadt (TU Darmstadt) Darmstadt, Germany

February – April, 2016	Visiting Professor *(Humboldt Research Fellow)*
(Sabbatical Leave)	*Center of Smart Interfaces* (Prof. Dr. Hardt)

Korea Institute of Science and Technology (KIST) Seoul, Korea

August 2015 – January 2016	Visiting Researcher
(Sabbatical Leave)	*Materials and Life Science Division* (Dr. Moon)

Korea University Seoul, Korea

August 2015 – January 2016	Visiting Research Professor *(Brain Pool Fellow)*
(Sabbatical Leave)	*Institute of Advanced Machinery Design Technology*

Kyung Hee University Yongin, Korea

June – August, 2013	Visiting Professor *(International Scholar)*
	Department of Mechanical Engineering

Korea Aerospace Research Institute (KARI) Daejeon, Korea

December 1999 – June 2000	Researcher
February – December, 1996	Assistant Researcher
	Satellite Bus Department, Satellite Division

Chandrakasem Rajabhat University Bangkok, Thailand

March 1997 – November 1999	Lecturer *(Korean Government Volunteer Program)* *Korean Education in Foreign Language Department*

3. Honors and Awards

1. **Humboldt Research Fellowship**, Alexander von Humboldt Foundation, 2016
2. **NSF Fellowship**, NSF Summer Institute on Nanomechanics, Nanomaterials, and Micro/Nanomanufacturing, 2011
3. **Research Recognition Award**, Stevens Institute of Technology, 2010
4. **NSF Fellowship**, NSF Summer Institute on Nanomechanics, Nanomaterials, and Micro/Nanomanufacturing, 2010
5. **Young Investigator Award**, Office of Naval Research (ONR), 2010: Featured in **Nature Careers Q&A**, "From aerospace to Navy ships: Design for anti-corrosive vessel surfaces earns award for nanoengineer", *Nature* **465**, 385 (19 May 2010).
6. **NSF Fellowship**, NSF Summer Institute on Nanomechanics, Nanomaterials, and Micro/Nanomanufacturing, 2007
7. **KUSCO/KSEA Scholarship**, Korea-U.S. Science Cooperation Center / Korean-American Scientists and Engineers Association, 2006
8. **Graduate Fellowship**, California NanoSystems Institute, 2002
9. **Engineering Research Fellowship**, Brown University, 2000
10. **National Fellowship**, Korean Government, 2000
11. **'*Magna cum laude*' Honors in graduation**, Seoul National University, 1995
12. **Honors Fellowship for the best academic record**, Seoul National University, 1993
13. **Honors Fellowship for the best academic record**, Seoul National University, 1994

4. Research

4.1 Publications (http://personal.stevens.edu/~cchoi/Publication.htm)

4.1.1 Patents

1. E.-H. Yang, J. Xu, W. Xu, B. Englot, **C.-H. Choi**, "In Situ Oil Cleanup and Recovery Using Smart Polymer Integrated Surface Vessels", Application No.: 17/881406, Filing Date: August 4, 2022, Publication No.: US 2023/0025974 A1, Publication Date: January 26, 2023, **Patent No.: US 12,054,406 B2, Date of Patent: August 6, 2024**.
2. **C.-H. Choi**, J. Lee, "Oil-impregnated Nanoporous Oxide Coatings having Bottle-Shaped Pores", International Application No.: PCT/US2021/030329, International Filing Date: April 30, 2021, International Publication No.: WO 2021/242475 A2, Publication Date: March 17, 2022.
3. J. Lee, **C.-H. Choi**, "Anti-Corrosive Oil-impregnated Nanoporous Oxide Coating for Stainless Steel", International Application No.: PCT/US2021/028982, International Filing Date: April 23, 2021, International Publication No.: WO 2021/217093 A1, Publication Date: October 28, 2021.
4. Y. Xi, **C.-H. Choi**, J. Liang, X. Yu, "Artificial Cornea with Double-side Microtextured PHEMA Hydrogel", International Application No.: PCT/US2021/024521, International Filing Date: March 26, 2021, International Publication No.: WO 2021/195587 A1, Publication Date: September 30, 2021.
5. Y. Xi, **C.-H. Choi**, X. Yu, J. Liang, "Artificial Cornea with Double-side Microtextured PHEMA Hydrogel", Application No.: 16/879641, Filing Date: May 20, 2020, Publication No.: US 2020/0390539 A1, Publication Date: December 17, 2020, **Patent No.: US 11,950,997 B2, Date of Patent: April 9, 2024**.
6. E.-H. Yang, J. Xu, W. Xu, B. Englot, **C.-H. Choi**, "In Situ Oil Cleanup and Recovery Using Smart Polymer Integrated Surface Vessels", Application No.: 16/766066, PCT Filed: December 4, 2018, PCT No.: PCT/US2018/063932, PCT Publication No.: WO2019/113126, PCT Pub. Date: June 13, 2019, Prior Publication Date (US 2020/0331776 A1, October 22, 2020), **Patent No.: US 11,407,657 B2, Date of Patent: August 9, 2022**.
7. **C.-H. Choi**, J. Lee, "Oil-impregnated Nanoporous Oxide Coating for Inhibiting Aluminum Corrosion", Application No.: US 18/734209, Filing Date: June 5, 2024, Publication No.: US 2024/0318345 A1, Publication Date: September 26, 2024.
8. **C.-H. Choi**, J. Lee, "Oil-impregnated Nanoporous Oxide Coating for Inhibiting Aluminum Corrosion", Application No.: US 17/584160, Filing Date: January 25, 2022, Publication No.: US 2022/0178042 A1, Publication Date: June 9, 2022, **Patent No.: US 12006583 B2, Date of Patent: June 11, 2024**.
9. J. Lee, **C.-H. Choi**, "Oil-impregnated Nanoporous Oxide Coating for Inhibiting Aluminum Corrosion", Application No.: US 16/269348, Filing Date: February 6, 2019, Publication No.: US 2019/0242026 A1, Publication Date: August 8, 2019. (**Abandoned**)
10. C. Jeong, **C.-H. Choi**, "Nanoengineered Superhydrophobic Anti-Corrosive Aluminum Surfaces", Application No.: US 14/199489, Filing Date: March 6, 2014, Publication No.: US 2014/0255682 A1, Publication Date: September 11, 2014.
11. P. Tolias, W. Lee, A. Ritter, X. Yu, H. Wang, H. Du, **C.-H. Choi**, W. Zhang, Y. Gu, "Microfluidic-Based Cell-Culturing Platform and Method", Application No.: US 13/690831, Filing Date: November 30, 2012, Publication No.: US 2013/0143230 A1, Publication Date: June 6, 2013.
12. W. Mao, I. Wathuthanthri, **C.-H. Choi**, "Tunable Two-Mirror Interference Lithography System", Application No.: US 13/547824, Filing Date: July 12, 2012, Publication No.: US 2013/0017498

A1, Publication Date: January 17, 2013, **Patent No.: US 8,681,315 B2, Date of Patent: March 25, 2014**: New Jersey Inventors Hall of Fame (NJIHoF) Graduate Student Award (I. Wathuthanthri, 2012).

13. E.-H. Yang, Y.-T. Tsai, **C.-H. Choi**, "Marangoni Stress-Driven Droplet Manipulation on Smart Polymers for Ultra-Low Voltage Digital Microfluidics", Application No.: US 13/434082, Filing Date: March 29, 2012, Publication No.: US 2012/0248229 A1, Publication Date: October 4, 2012.

4.1.2 Book

1. K. Mittar, **C.-H. Choi**, "Ice Adhesion: Mechanism, Measurement, and Mitigation", Wiley-Scrivener, Beverly, MA (2020).

4.1.3 Book Chapters (Peer-Reviewed)

1. D. Song, Y. Jiang, M. A. Sarshar, **C.-H. Choi**, "Icephobicities of Superhydrophobic Surfaces", in ***Ice Adhesion: Mechanism, Measurement, and Mitigation***, Eds. Kash Mittar and Chang-Hwan Choi, Wiley-Scrivener, Beverly, MA (2020) (**invited**).
2. J. Lee, **C.-H. Choi**, "Superhydrophobic Surfaces for Anti-Corrosion of Aluminum", in ***Advances in Contact Angle, Wettability and Adhesion***, *Vol. 3*, Ed. Kash Mittar, Scrivener Publishing / Wiley (2018) (**invited**).
3. Y. Jiang, W. Xu, and **C.-H. Choi**, "Effects of Particulates on Contact Angles and Adhesion of a Droplet", ***Progress in Adhesion and Adhesives***, *Vol. 2*, Ed. Kash Mittar, Scrivener Publishing / Wiley (2017).
4. R. Ozbay, A. Kibar, **C.-H. Choi**, "Bubble Adhesion to Superhydrophilic Surfaces", in ***Advances in Contact Angle, Wettability and Adhesion***, *Vol. 2*, Ed. Kash Mittar, Scrivener Publishing / Wiley (2015) (**invited**).
5. M. A. Sarshar, W. Xu, **C.-H. Choi**, "Correlation between Contact Line Pinning and Contact Angle Hysteresis on Heterogeneous Surfaces: A Review and Discussion", in ***Advances in Contact Angle, Wettability and Adhesion***, *Vol. 1*, Ed. Kash Mittar, Scrivener Publishing / Wiley (2013) (**invited**).
6. **C.-H. Choi**, "Advanced Nanostructured Surfaces for the Control of Biofouling: Cell Adhesions to Three-Dimensional Nanostructures", in ***Green Tribology: Biomimetics, Energy Conservation, and Sustainability***, Ed. B. Bhushan, Springer (2011) (**invited**).
7. **C.-H. Choi,** C.-J. Kim, "Design, Fabrication, and Applications of Large-Area Well-Ordered Dense-Array Three-Dimensional Nanostructures", in ***Nanostructures in Electronics and Photonics***, Ed. Faiz Rahman, Pan Stanford Publishing (2008) (**invited**).

4.1.4 Peer-Reviewed Journal Articles *(Citation: 9,083, h-index: 44, i10-index: 107, according to Google Scholar)*

1. J.-Y. Son, K.-Y. Lee, S. H. Lee, **C.-H. Choi**, "Effects of Oxidized Metal Powders on Pore Defects in Powder-Fed Direct Energy Deposition", ***Micromachines*** 15, 243 (2024).
2. Y. Xi, **C.-H. Choi**, R. C. Chang, H. Kaper, P. K. Sharma, "Tribology of Pore Textured Hard Surfaces under Physiological Conditions: Effects of Texture Scales", ***Langmuir*** 39, 6657–6665 (2023).
3. J. Son, K. Lee, G.-Y. Shin, **C.-H. Choi**, D. Shim, "Mechanical and Thermal Properties of the High Thermal Conductivity Steel (HTCS) Additively Manufactured via Powder-Fed Direct Energy Deposition", ***Micromachines*** 14, 872 (2023).

4. T. Huang, J. Lee, **C.-H. Choi**, P. Zhang, "Condensation Heat Transfer on Slippery Lubricant-Impregnated Nanohole-Arrayed Stainless-Steel Surface", ***Surfaces and Interfaces*** 37, 102704 (2023).
5. C. Jeong, J. Jung, K. Sheppard, **C.-H. Choi**, "Control of the Nanopore Architecture of Anodic Alumina via Stepwise Anodization with Voltage Modulation and Pore Widening", ***Nanomaterials*** 13, 342 (2023).
6. D. Song, C. Xu, B. Song, G. Pan, H. Hu, **C.-H. Choi**, "Splitting an Impacting Droplet by a Superhydrophobic Wire", ***Coatings*** 12, 1866 (2022).
7. J. Brito, K. Asawa, A. Marin, A. K. Andrianov, **C.-H. Choi**, S. A. Sukhishvili, "Hierarchically Structured, All-Aqueous-Coated Hydrophobic Surfaces with pH-Selective Droplet Transfer Capability", ***ACS Applied Materials & Interfaces***, 14, 26225-26237 (2022).
8. K. S. Choudhari, **C.-H. Choi**, S. Chidangil, S. D. George, "Recent Progress in the Fabrication and Optical Properties of Nanoporous Anodic Alumina", ***Nanomaterials*** 12, 444 (2022).
9. J. Lee, M.-H. Lee, **C.-H. Choi**, "Design of Robust Lubricant-Infused Surfaces for Anti-Corrosion", ***ACS Applied Materials & Interfaces*** 14, 2411-2423 (2022).
10. H. Park, **C.-H. Choi**, C.-J. Kim, "Superhydrophobic Drag Reduction in Turbulent Flows: A Critical Review", ***Experiments in Fluids*** 62, 229 (2021).
11. Y. Xi, P. K. Sharma, H. J. Kaper, **C.-H. Choi**, "Tribological Properties of Micropored Poly(2-hydroxyethyl methacrylate) Hydrogel in a Biomimetic Aqueous Environment", ***ACS Applied Materials & Interfaces*** 13, 41473-41484 (2021).
12. S. Duan, Y. Lin, Z. Wang, J. Tang, Y. Li, D. Zhu, J. Wu, L. Tao, **C.-H. Choi**, L. Sun, J. Xia, L, Wei, B. Wang, "Conductive Porous MXene for Bionic, Wearable, and Precise Gesture Motion Sensors", ***Research*** 2021, 9861467 (2021).
13. H. Sohrabpoor, V. Salarvand, R. Lupoi, Q. Chu, W. Li, B. Aldwell, W. Stanley, S. O'Halloran, R. Raghavendra, **C.-H. Choi**, D. Brabazon, "Microstructural and Mechanical Evaluation of Post Processed SS 316L Manufactured by Laser-based Powder Bed Fusion", ***Journal of Materials Research and Technology*** 12, 210-220 (2021).
14. K. Asawa, S. Kumar, Y. Huang, **C.-H. Choi**, "Guiding Light via Slippery Liquid-Infused Porous Surfaces", ***Applied Physics Letter*** 118, 091602 (2021).
15. Y. Liu, **C.-H. Choi**, "Superhydrophobic Sands for Preservation and Purification of Water", ***Coatings*** 11, 151 (2021).
16. A. Alaei, K. Zong, K. Asawa, T.-M. Chou, A. L. Briseno, **C.-H. Choi**, S. S. Lee, "Orienting and Shaping Organic Semiconductor Single Crystals through Selective Nanoconfinement", ***Soft Matter*** 17, 3603-3608 (2021).
17. Y. Jiang, **C.-H. Choi**, "Droplet Retention on Superhydrophobic Surfaces: A Critical Review", ***Advanced Materials Interfaces*** 8, 2001205 (2021).
18. Y. Jiang, Y. Sun, J. W. Drelich, **C.-H. Choi**, "Topography-Dependent Effective Contact Line in Droplet Depinning", ***Physical Review Letters*** 125, 184502 (2020).
19. D. Song, Y. Jiang, T. Chou, K. Asawa, **C.-H. Choi**, "Spontaneous Deicing on Cold Surfaces", ***Langmuir*** 36, 11245–11254 (2020).
20. Y. Liu, K. Du, I. Wathuthanthri, W. Xu, **C.-H. Choi**, "Free-Standing Photoresist Film: A Versatile Template for Three-Dimensional Micro- and Nanofabrication", ***Advanced Functional Materials*** 30, 2004129 (2020). (**Inside Front Cover**)
21. R. Gulfam, D. Orejon, **C.-H. Choi**, P. Zhang, "Phase-change Slippery Liquid-infused Porous Surfaces with Thermo-responsive Wetting and Shedding States", ***ACS Applied Materials & Interfaces*** 12, 34306–34316 (2020).

22. D. Zheng, **C.-H. Choi**, G. Sun, X. Zhao, "Superwicking on Nanoporous Micropillared Surfaces", ***ACS Applied Materials & Interfaces*** 12, 30925–30931 (2020).
23. K. Zong, K. Asawa, A. Circelli, N. Sparta, Choi, **C.-H. Choi**, S. Lee, "Graphoepitaxy-Directed Assembly of Organic Semiconductor Single Crystals into Trellis Structures", ***ACS Materials Letters*** 2, 721-726 (2020).
24. D. Zheng, **C.-H. Choi**, X. Zhao, G. Sun, "Facile Fabrication of Sponge-like Porous Micropillar Array via Electrochemical Process", ***Nanoscale*** 12, 10565-10572 (2020).
25. D. Wang, Y. Jiang, Z. Zhu, W. Yin, K. Asawa, **C.-H. Choi**, J. W. Drelich, "Contact Line and Adhesion Force of Droplets on Concentric Ring-Textured Hydrophobic Surfaces", ***Langmuir*** 36, 2622-2628 (2020).
26. Z. Zhang, J. Ding, B. M. Ocko, J. Lhermitte, J. Strzalka, **C.-H. Choi**, F. T. Fisher, K. G. Yager, C. T. Black, "Nanoconfinement and Salt Synergistically Suppress Crystallization in Polyethylene Oxide", ***Macromolecules*** 53, 1494-1501 (2020).
27. Y. Xi, H. J. Kaperb, **C.-H. Choi**, P. K. Sharma, "Tribological Properties of Microporous Polydimethylsiloxane (PDMS) Surfaces under Physiological Conditions", ***Journal of Colloid and Interface Science*** 561, 220-230 (2020).
28. J. Lee, S. Wooh, **C.-H. Choi**, "Fluorocarbon Lubricant Impregnated Nanoporous Oxide for Omnicorrosion-Resistant Stainless Steel", ***Journal of Colloid and Interface Science*** 558, 301-309 (2020).
29. Z. Zhang, J. Ding, B. M. Ocko, A. Fluerasu, L. Wiegart, Y. Zhang, M. Kobrak, Y. Tian, H. Zhang, J. Lhermitte, **C.-H. Choi**, F. T. Fisher, K. G. Yager, C. T. Black, "Nanoscale Viscosity of Confined Polyethylene Oxide", ***Physical Review E*** 100, 062503 (2019).
30. A. Chauvin, L. Molina-Luna, J. Ding, **C.-H. Choi**, P.-Y. Tessier, A.-A. El Mel, "Study of the Coarsening of Nanoporous Gold Nanowires by In Situ Scanning Transmission Electron Microscopy During Annealing", ***Physica Status Solidi RRL*** 13, 1900376 (2019).
31. J. Lee, Y. Jiang, F. Hizal, G. Ban, S. Jun, **C.-H. Choi**, "Durable Omniphobicity of Oil-Impregnated Anodic Aluminum Oxide Nanostructured Surfaces", ***Journal of Colloid and Interface Science*** 553, 734-745 (2019).
32. Y. Jiang. W. Xu, M. Sarshar, **C.-H. Choi**, "Generalized Models for Advancing and Receding Contact Angles of Fakir Droplets on Pillared and Pored Surfaces", ***Journal of Colloid and Interface Science*** 552, 359-371 (2019).
33. M. Sarshar, Y. Jiang. W. Xu, **C.-H. Choi**, "Depinning Force of a Receding Droplet on Pillared Superhydrophobic Surfaces: Analytical Models", ***Journal of Colloid and Interface Science*** 543, 122-129 (2019).
34. D. Peckus, A. Chauvin, T. Tamulevicius, M. Juodenas, J. Ding, **C.-H. Choi**, A.-A. El Mel, P.-Y. Tessier, S. Tamulevicius, "Polarization Dependent Ultrafast Plasmon Relaxation Dynamics in Nanoporous Gold Thin Films and Nanowires", ***Journal of Physics D*** 52, 225103 (2019).
35. C. Park, H. Park, H. J. Lee, H. S. Lee, K. H. Park, **C.-H. Choi**, S. Na, "Double Amplified Colorimetric Detection of DNA using Gold Nanoparticles, Enzymes and a Catalytic Hairpin Assembly", ***Microchimica Acta*** 186, 34 (2019).
36. M. Sarshar, D. Song, C. Swarctz, J. Lee, **C.-H. Choi**, "Anti-Icing or Deicing?: Icephobicities of Superhydrophobic Surfaces with Hierarchical Structures", ***Langmuir*** 34, 13821-13827 (2018).
37. Y. Luan, S. Liu, M. Pihl, H. C. van der Mei, J. Liu, F. Hizal, **C.-H. Choi**, H. Chen, Y. Ren, H. J. Busscher, "Bacterial Interactions with Nanostructured Surfaces", ***Current Opinion in Colloid & Interface Science*** 38, 170-189 (2018).
38. K. Du, I. Wathuthanthri, J. Ding, **C.-H. Choi**, "Superhydrophobic Waveguide: Liquid-Core Air-Cladding Waveguide Platform for Optofluidics", ***Applied Physics Letters*** 113, 143701 (2018).

39. D. Song, **C.-H. Choi**, T. Chou, "Combining High-Speed Video Imaging and Cryo-SEM to Study Droplet Impact Freezing on an Extremely Cold Surface", ***Microscopy and Microanalysis*** 24, 402-403 (2018).
40. K. Du, Y. Jiang, Y. Liu, I. Wathuthanthri, **C.-H. Choi**, "Manipulation of the Superhydrophobicity of Plasma-Etched Polymer Nanostructures" ***Micromachines*** 9, 304 (2018).
41. J. Li, W. Yu, D. Zheng, X. Zhao, **C.-H. Choi**, G. Sun, "Hot Embossing for Whole Teflon Superhydrophobic Surfaces" ***Coatings*** 8, 227 (2018).
42. N. Gusnaniar, F. Hizal, **C.-H. Choi**, J. Sjollema, T. Nuryastuti, M. Rustema-Abbing, R. T. Rozenbaum, H. C. van der Mei, H. J. Busscher, S. W. Wessel, "Transmission of Monospecies and Dual-species Biofilms from Smooth to Nanopillared Surfaces", ***Applied and Environmental Microbiology*** 84, e01035-18 (2018).
43. Y. Liu, D. Song, **C.-H. Choi**, "Anti- and De-icing Behaviors of Superhydrophobic Fabrics", ***Coatings*** 8, 198 (2018) (**Cover Page**).
44. Y. Jiang, Y. Sun, J. W. Drelich, **C.-H. Choi**, "Spontaneous Spreading of a Droplet: The Role of Solid Continuity and Advancing Contact Angle", ***Langmuir*** 34, 4945-4951 (2018).
45. D. Song, B. Song, H. Hu, X. Du, P. Du, **C.-H. Choi**, J. P. Rothstein, "Effect of Surface Tension Gradient on the Slip Flow along a Superhydrophobic Air-Water Interface", ***Physical Review Fluids*** 3, 033303 (2018).
46. Y. Sun, Y. Jiang, **C.-H. Choi**, G. Xie, Q. Liu, J. W. Drelich, "The Most Stable State of a Droplet on Anisotropic Patterns: Support for a Missing Link", ***Surface Innovations*** 6, 133-140 (2018).
47. C. Park, Y. Song, K. Jang, **C.-H. Choi**, S. Na, "Target Switching Catalytic Hairpin Assembly and Gold Nanoparticle Colorimetric for EGFR Mutant Detection" ***Sensors and Actuators B*** 261, 497-504 (2018).
48. K. Du, Y. Jiang, P.-S. Huang, J. Ding, T. Gao, **C.-H. Choi**, "Self-Formation of Polymer Nanostructures in Plasma Etching: Mechanisms and Applications" ***Journal of Micromechanics and Microengineering*** 28, 014006 (2018).
49. D. Zheng, Y. Jiang, W. Yu, X. Jiang, X. Zhao, **C.-H. Choi**, G. Sun, "Salvinia-Effect-Inspired "Sticky" Superhydrophobic Surfaces by Meniscus-Confined Electrodeposition" ***Langmuir*** 33, 13640-13648 (2018).
50. Y. Sun, Y. Jiang, **C.-H. Choi**, G. Xie, J. W. Drelich, "Direct Measurement of Adhesion Forces for Water Droplets in Contact with Polymers of Varying Surface Topography", ***Surface Innovations*** 6, 93-105 (2018).
51. A. Kibar, R. Ozbay, M. A. Sarshar, Y. T. Kang, **C.-H. Choi**, "Bubble Movement on Inclined Hydrophobic Surfaces", ***Langmuir*** 33, 12016-12027 (2017).
52. K. Du, J. Ding, I. Wathuthanthri, **C.-H. Choi**, "Selective Hierarchical Patterning of Silicon Nanostructures via Soft Nanostencil Lithography", ***Nanotechnology*** 28, 465303 (2017).
53. K. Du, I. Wathuthanthri, **C.-H. Choi**, "The Rise of Scalable Micro/Nanopatterning", ***Micromachines*** 8, 275 (2017).
54. Y. Jiang, J. Xu, J. Lee, K. Du, E.-H. Yang, **C.-H. Choi**, "Nanotexturing of Conjugated Polymers via One-step Maskless Oxygen Plasma Etching for Enhanced Tunable Wettability", ***Langmuir*** 33, 6885–6894 (2017).
55. G.-H. Ban, J. Lee, **C.-H. Choi**, S, Jun, "Nano-Patterned Aluminum Surface with Oil-Impregnation for Improved Antibacterial Performance", ***LWT - Food Science and Technology*** 84, 359–363 (2017).
56. W. Xu, A. Palumbo, J. Xu, Y. Jiang, **C.-H. Choi**, E.-H. Yang, "On-Demand Capture and Release of Organic Droplets using Surfactant-Doped Polypyrrole Surfaces", ***ACS Applied Materials & Interfaces*** *9*, 23119–23127 (2017).

57. A. Chauvin, N. Stephant, K. Du, J. Ding, I. Wathuthanthri, **C.-H. Choi**, P.-Y. Tessier, A.-A. El Mel, "Large-Scale Fabrication of Porous Gold Nanowires via Laser Interference Lithography and Dealloying of Gold-Silver Nano-Alloys", ***Micromachines*** 8, 168 (2017).
58. K. Du, J. Ding, Y. Liu, I. Wathuthanthri, **C.-H. Choi**, "Stencil Lithography for Scalable Micro- and Nanomanufacturing", ***Micromachines*** 8, 131 (2017).
59. F. Hizal, N. Rungraeng, J. Lee, S. Jun, H. J. Busscher, H. C. van der Mei, **C.-H. Choi**, "Nanoengineered Superhydrophobic Surfaces of Aluminum with Extremely Low Bacterial Adhesivity", ***ACS Applied Materials & Interfaces*** 9, 12118-12129 (2017).
60. J. Lee, S. Shin, Y. Jiang, C. Jeong, H. A. Stone, **C.-H Choi**, "Oil-Impregnated Nanoporous Oxide Layer for Corrosion Protection with Self-Healing", ***Advanced Functional Materials*** 27, 1606040 (2017): **selected for a cover**.
61. J. Lee, D. Kim, **C.-H. Choi**, W. Chung, "Nanoporous Anodic Alumina Oxide Layer and Its Sealing for the Enhancement of Radiative Heat Dissipation of Aluminum Alloy", ***Nano Energy*** 31, 504-513 (2017).
62. C. Lee, **C.-H. Choi**, C.-J. Kim, "Superhydrophobic Drag Reduction in Laminar Flows: A Critical Review", ***Experiments in Fluids*** 57, 176 (2016).
63. F. Hizal, **C.-H. Choi**, H. J. Busscher, H. C. van der Mei, "Staphylococcal Adhesion, Detachment and Transmission on Nanopillared Si Surfaces", ***ACS Applied Materials & Interfaces*** 8, 30430-30439 (2016).
64. K. Jang, C. Park, J. You, J. Choi, H. Park, J. Park, H. Lee, **C.-H. Choi**, S. Na, "A Highly-Sensitive, Direct and Real-Time Detection of Silver Nanowires by using a Quartz Crystal Microbalance", ***Nanotechnology*** 27, 475506 (2016).
65. A. Chauvin, C. Delacote, M. Boujtita, B. Angeraud, J. Ding, **C.-H. Choi**, P.-Y. Tessier, A.-A. El Mel, "Dealloying of Gold-Copper Alloy Nanowires: From Hillocks to Periodic Ring-Shaped Nanopore", ***Beilstein Journal of Nanotechnology*** 7, 1361-1367 (2016).
66. Y. Jiang, W. Xu, and **C.-H. Choi**, "Effects of Particulates on Contact Angles and Adhesion of a Droplet: A Critical Review", ***Review of Adhesion and Adhesives***, 4, 192-222 (2016) (**invited**).
67. W. Xu, J. Xu, X. Li, Y. Tian, **C.-H. Choi**, E.-H. Yang, "Lateral Actuation of an Organic Droplet on Conjugated Polymer Electrodes *via* Imbalanced Interfacial Tensions", ***Soft Matter*** 12, 6902-6909 (2016): **selected for a cover.**
68. A.-A. El Mel, M. Chettab, E. Gautron, A. Chauvin, B. Humbert, J.-Y. Mevellec, C. Delacote, D. Thiry, N. Stephant, J. Ding, K. Du, **C.-H. Choi**, P.-Y. Tessier, "Galvanic Replacement Reaction: A Route to Highly Ordered Bimetallic Nanotubes", ***Journal of Physical Chemistry*** 120, 17652-17659 (2016).
69. S. Na, K. Jang, J. You, C. Park, H. Park, J. Choi, **C.-H. Choi**, J. Park, H. Lee, "Ultra-sensitive Detection of Zinc Oxide Nanowires using a Quartz Crystal Microbalance and Phosphoric Acid DNA", ***Nanotechnology*** 27, 365501 (2016).
70. A. Chauvin, C. Delacote, L. Molina-Luna, M. Duerrschnabel, M. Boujtita, D. Thiry, K. Du, J. Ding, **C.-H. Choi**, P.-Y. Tessier, A.-A. El Mel, "Planar Arrays of Nanoporous Gold Nanowires: When Electrochemical Dealloying Meets Nanopatterning", ***ACS Applied Materials & Interfaces*** 8, 6611-6620 (2016).
71. A.-A. El Mel, P.-Y. Tessier, M. Buffiere, E. Gautron, J. Ding, K. Du, **C.-H. Choi**, S. Konstantinidis, R. Snyders, C. Bittencourt, L. Molina-Luna, "Controlling the Formation of Nanocavities in Kirkendall Nanoobjects through Sequential Thermal Ex Situ Oxidation and In Situ Reduction Reactions", ***Small*** 12, 2885-2892 (2016).

72. D. Kim; J. Lee, J. Kim, **C.-H. Choi**, W. Chung, "Enhancement of Heat Dissipation of LED Module with Cupric-Oxide Composite Coating on Aluminum-Alloy Heat Sink", ***Energy Conversion and Management*** 106, 958-963 (2015).
73. W. Xu, J. Xu, **C.-H. Choi**, and E. H. Yang, "*In situ* Control of Underwater-Pinning of Organic Droplets on a Surfactant-Doped Conjugated Polymer Surface", ***ACS Applied Materials & Interfaces*** 7, 25608-25617 (2015).
74. C. Jeong, J. Lee, K. Sheppard, **C.-H. Choi**, "Air-Impregnated Nanoporous Anodic Aluminum Oxide Layers for Enhancing the Corrosion Resistance of Aluminum", ***Langmuir*** 31, 11040-11050 (2015).
75. F. Hizal, I. Zhuk, S. Sukhishvili, H. J. Busscher, H. C. van der Mei, **C.-H. Choi**, "Impact of 3D Hierarchical Nanostructures on the Antibacterial Efficacy of a Bacteria-Triggered Self-Defensive Antibiotic Coating", ***ACS Applied Materials & Interfaces*** 7, 20304-20313 (2015).
76. D. Thiry, L. Molina-Luna, E. Gautron, N. Stephan, A. Chauvin, K. Du, J. Ding, **C.-H. Choi**, P. Y. Tessier, A. A. El Mel, "The Kirkendall Effect in Binary Alloys: Trapping Gold in Copper Oxide Nanoshells", ***Chemistry of Materials*** 27, 6374-6384 (2015).
77. S. Lee, K. Jang, C. Park, J. You, T. Kim, C. Im, J. Kang, H. Shin, **C.-H. Choi**, J. Park, S. Na, "Ultra-Sensitive in situ Detection of Silver Ions Using a Quartz Crystal Microbalance", ***New Journal of Chemistry*** 39, 8028-8034 (2015).
78. J. You, K. Jang, S. Lee, D. Bang, S. Haam, **C.-H. Choi**, J. Park, S. Na, "Label-Free Detection of Zinc Oxide Nanowire Using a Graphene Wrapping Method", ***Biosensors and Bioelectronics*** 68, 481-486 (2015).
79. J. Ding, K. Du, I. Wathuthanthri, **C.-H. Choi**, F. Fisher, E.-H. Yang, "Transfer Patterning of Large-Area Graphene Nanomesh via Holographic Lithography and Plasma Etching", ***Journal of Vacuum Science & Technology B*** 32, 06FF01 (2014).
80. K. Du, I. Wathuthanthri, Y. Liu, **C.-H. Choi**, "Fabrication of Polymer Nanowires via Maskless O_2 Plasma Etching", ***Nanotechnology*** 25, 165301 (2014): **selected for a cover.**
81. A.-A. El Mel, L. Molina-Luna, M. Buffière, P.-Y. Tessier, K. Du, **C.-H. Choi**, H.-J. Kleebe, S. Konstantinidis, C. Bittencourt, R. Snyders, "Nanosculpting of Ordered Metal Particles inside Kirkendall Oxide Nanochannels", ***ACS Nano*** 8, 1854-1861 (2014).
82. Y. Lu, M. A. Sarshar, K. Du, T. Chou, **C.-H. Choi**, S. A. Sukhishvili, "Large-Amplitude, Reversible, pH-Triggered Wetting Transitions Enabled by Layer-by-Layer Films", ***ACS Applied Materials & Interfaces*** 5, 12617-12623 (2013).
83. K. Du, Y. Liu, I. Wathuthanthri, **C.-H. Choi**, "Fabrication of Hierarchical Nanostructures using Free-Standing Tri-Layer Membrane", ***Journal of Vacuum Science & Technology B*** 31, 06FF04 (2013).
84. S. R. Nam, C. W. Jung, **C.-H. Choi**, Y. T. Kang, "Cooling Performance Enhancement of LED Packages with Carbon Nanogrease", ***Energy*** 60, 195-203 (2013).
85. E. Aljallis, M. Sarshar, R. Datla, V. Sikka, A. Jones, **C.-H. Choi**, A Response to "Comment on 'Experimental study of skin friction drag reduction on superhydrophobic flat plates in high Reynolds number boundary layer flow'", ***Physics of Fluids*** 25, 079101 (2013).
86. W. Xu, R. Leeladhar, Y. T. Kang, **C.-H. Choi**, "Evaporation Kinetics of Sessile Water Droplets on Micropillared Superhydrophobic Surfaces", ***Langmuir*** 29, 6032-6041 (2013).
87. E. Aljallis, M. Sarshar, R. Datla, V. Sikka, A. Jones, **C.-H. Choi**, "Experimental Study of Skin Friction Drag Reduction on Superhydrophobic Flat Plates in High Reynolds Number Boundary Layer Flow", ***Physics of Fluids*** 25, 025103 (2013).

88. A.-A. El Mel, M. Buffière, P.-Y. Tessier, S. Konstantinidis, W. Xu, K. Du, I. Wathuthanthri, **C.-H. Choi**, C. Bittencourt, R. Snyders, "Highly Ordered Hollow Oxide Nanostructures: The Kirkendall Effect at the Nanoscale", ***Small*** 9, 2838-2843 (2013): **selected for a cover**.
89. I. Wathuthanthri, Y. Liu, K. Du, W. Xu, **C.-H. Choi**, "Simple Holographic Patterning for High-Aspect-Ratio Three-Dimensional Nanostructures with Large Coverage Area", ***Advanced Functional Materials*** 23, 608-618 (2013).
90. M. A. Sarshar, C. Swarctz, S. Hunter, J, Simpson, **C.-H. Choi**, "Effects of Contact Angle Hysteresis on Ice Adhesion and Growth over Superhydrophobic Surfaces under Dynamic Flow Conditions", ***Colloid and Polymer Science*** 291, 427-435 (2013) (**invited** for a special issue on *Contact Angle Hysteresis*).
91. Y. Liu, **C.-H. Choi**, "Condensation Induced Wetting State and Contact Angle Hysteresis on Superhydrophobic Lotus Leaves", ***Colloid and Polymer Science*** 291, 437-445 (2013) (**invited** for a special issue on *Contact Angle Hysteresis*).
92. Y.-T Tsai, **C.-H. Choi**, E.-H. Yang, "Low-Voltage Manipulation of an Aqueous Droplet in a Microchannel via Tunable Wetting on PPy(DBS)", ***Lab on a Chip*** 13, 302-309 (2013).
93. Y. Liu, J. Xin, **C.-H. Choi**, "Cotton Fabric with Single-Faced Superhydrophobicity", ***Langmuir*** 28, 17426-17434 (2012).
94. A. A. El Mel, J. L. Duvail, E. Gautron, W. Xu, **C.-H. Choi**, B. Angleraud, A. Granier, P. Y. Tessier, "Highly Ordered Ultralong Magnetic Nanowires Wrapped in Stacked Graphene Layers", ***Beilstein Journal of Nanotechnology*** 3, 846-851 (2012).
95. Y. Liu, K. Du, I. Wathuthanthri, **C.-H. Choi**, "From Nanocone to Nanodisc: Structural Transformation of Gold Nanoarrays via Simple Mechanical Stresses", ***Journal of Vacuum Science & Technology B*** 30, 06FF10 (2012).
96. K. Du, Y. Liu, I. Wathuthanthri, **C.-H. Choi**, "Dual Application of Free-Standing Holographic Nanopatterns for Lift-Off and Stencil Lithography", ***Journal of Vacuum Science & Technology B*** 30, 06FF04 (2012).
97. K. Du, I. Wathuthanthri, Y. Liu, W. Xu, **C.-H. Choi**, "Wafer-Scale Pattern Transfer of Metal Nanostructures on Polydimethylsiloxane (PDMS) Substrates via Holographic Nanopatterns", ***ACS Applied Materials & Interfaces*** 4, 5505-5514 (2012).
98. W. Xu, **C.-H. Choi**, "From Sticky to Slippery Droplets: Dynamics of Contact Line Depinning on Superhydrophobic Surfaces", ***Physical Review Letters*** 109, 024504 (2012).
99. A.A. El Mel, E. Gautron, B. Angleraud, A. Granier, W. Xu, **C.-H. Choi**, K. J. Briston, B. J. Inkson, P.Y. Tessier, "Fabrication of a Nickel Nanowire Mesh Electrode Suspended on Polymer Substrate", ***Nanotechnology*** 23, 275603 (2012).
100. W. Xu, **C.-H. Choi**, "Effects of Surface Topography and Colloid Particles on the Evaporation Kinetics of Sessile Droplets on Superhydrophobic Surfaces", ***Journal of Heat Transfer*** 134, 051022 (2012) (**invited** for a special issue on *ASME 2009 2nd Micro/Nanoscale Heat and Mass Transfer (MNHMT) International Conference*).
101. C. Jeong, **C.-H. Choi**, "Single-Step Direct Fabrication of Pillar-on-Pore Hybrid Nanostructures in Anodizing Aluminum for Superior Superhydrophobic Efficiency", ***ACS Applied Materials & Interfaces*** 4, 842-848 (2012).
102. A.A. El Mel, M. Buffiere, F. Massuyeau, E. Gautron, J. Wery, E. Faulques, N. Barreau, P.Y. Tessier, W. Xu, **C.-H. Choi**, "Direct Synthesis of ZnO Nanowires on Nanopatterned Surface by Magnetron Sputtering", ***Chemical Vapor Deposition*** 17, 337-341 (2011).
103. A.A. El Mel, A. Achour, W. Xu, **C.-H. Choi**, E. Gautron, B. Angleraud, A. Granier, L. Le Brizoual, M. A. Djouadi, P.Y. Tessier, "Hierarchical Carbon Nanostructures Design: Ultra-Long Carbon Nanofibers Decorated with Carbon Nanotubes", ***Nanotechnology*** 22, 435302 (2011).

104. W. Mao, I. Wathuthanthri, **C.-H. Choi**, "Tunable Two-Mirror Interference Lithography System for Wafer-Scale Nanopatterning", ***Optics Letters*** 36, 3176-3178 (2011).
105. W. Xu, **C.-H. Choi**, "Experimental Studies on Evaporation Kinetics and Wetting Dynamics of Nanofluid Droplets on Superhydrophobic Surfaces of Micro-Post Patterns", ***Journal of Adhesion Science and Technology*** 25, 1305-1321 (2011) (**invited**).
106. K. Du, I. Wathuthanthri, W. Mao, W. Xu, **C.-H. Choi**, "Large-Area Pattern Transfer of Metallic Nanostructures on Glass Substrates via Interference Lithography", ***Nanotechnology*** 22, 285306 (2011).
107. I. Wathuthanthri, W. Mao, **C.-H. Choi**, "Two Degrees-of-Freedom Lloyd-Mirror Interferometer for Superior Pattern Coverage Area", ***Optics Letters*** 36, 1593-1595 (2011).
108. Y.-T. Tsai, **C.-H. Choi**, N. Gao, E.-H. Yang, "Tunable Wetting Mechanism of Polypyrrole Surfaces and Low-Voltage Droplet Manipulation via Redox", ***Langmuir*** 27, 4249-4256 (2011).
109. W. Xu, R. Leeladhar, Y.-T. Tsai, E.-H. Yang, **C.-H. Choi**, "Evaporative Self-Assembly of Nanowires on Superhydrophobic Surfaces of Nano-Tip Latching Structures", ***Applied Physics Letters*** 98, 073101 (2011): **selected for a cover** (also featured in **Nanowerk**, "A step forward in techniques for the arrangement of nanowires", February 25, 2011).
110. A.A. El Mel, E. Gautron, **C.-H. Choi**, B. Angleraud, A. Granier, P.Y. Tessier, "Titanium Carbide/Carbon Composite Nanofibers Prepared by Plasma Process", ***Nanotechnology*** 21, 435603 (2010).
111. Y.-T. Tsai, W. Xu, E.H. Yang and **C.-H. Choi**, "Self-Assembly of Nanowires at Three-Phase Contact Lines on Superhydrophobic Surfaces", ***Nanoscience and Nanotechnology Letters*** 2, 150-156 (2010) (**invited** for a special issue on *Nanoscale Materials, Structures and Devices for Sensors and Systems Applications*).
112. K. Schenke-Layland, F. Rofail, S. Heydarkhan, J. M. Gluck, N. P. Ingle, E. Angelis, **C.-H. Choi**, W. R. MacLellan, R. E Beygui, R. J. Shemin, S. Heydarkhan-Hagvall, "The Use of Three-Dimensional Nanostructures to Instruct Cells to Produce Extracellular Matrix for Regenerative Medicine Strategies", ***Biomaterials*** 30, 4665-4675 (2009).
113. **C.-H. Choi**, C.-J. Kim, "Droplet Evaporation of Pure Water and Protein Solution on Nanostructured Superhydrophobic Surfaces of Varying Heights", ***Langmuir*** 25, 7561-7567 (2009).
114. **C.-H. Choi,** S. H. Hagvall, B. M. Wu, J. C. Y. Dunn, R. E. Beygui, C.-J. Kim, "Cell Growth as a Sheet on Three-Dimensional Sharp-Tip Nanostructures", ***Journal of Biomedical Materials Research A*** 89, 804-817 (2009).
115. C. Lee, **C.-H. Choi,** C.-J. Kim, "Structured Surfaces for a Giant Liquid Slip", ***Physical Review Letters*** 101, 064501 (2008) (Featured in **Nature Research Highlights**, "Fluid dynamics: Slip and slide", *Nature* **454**, 920).
116. S. Heydarkhan-Hagvall, **C.-H. Choi**, J. Dunn, S. Heydarkhan, K. Schenke-Layland, W. R. MacLellan, R. E. Beygui, "Influence of Systematically Varied Nano-Scale Topography on Cell Morphology and Adhesion", ***Cell Communication & Adhesion*** 14, 181-194 (2007).
117. **C.-H. Choi,** S. H. Hagvall, B. M. Wu, J. C. Y. Dunn, R. E. Beygui, C.-J. Kim, "Cell Interaction with Three-Dimensional Sharp-Tip Nanotopography", ***Biomaterials*** 28, 1672-1679 (2007) (**Featured** in "Biomaterials 2007 - The Year in Images").
118. **C.-H. Choi,** C.-J. Kim, "Fabrication of Dense Array of Tall Nanostructures over a Large Sample Area with Sidewall Profile and Tip Sharpness Control", ***Nanotechnology*** 17, 5326-5333 (2006) (Featured in **Nanowerk**, "Novel method simplifies large-scale nanofabrication process", October 27, 2006).

119. **C.-H. Choi,** C.-J. Kim, "Choi and Kim Reply" (A Reply to the Comment on 'Large Slip of Aqueous Liquid Flow over a Nanoengineered Superhydrophobic Surface'), ***Physical Review Letters*** 97, 109602 (2006).
120. **C.-H. Choi,** U. Ulmanella, J. Kim, C.-M. Ho, C.-J. Kim, "Effective Slip and Friction Reduction in Nanograted Superhydrophobic Microchannels", ***Physics of Fluids*** 18, 087105 (2006).
121. **C.-H. Choi,** C.-J. Kim, "Large Slip of Aqueous Liquid Flow over a Nanoengineered Superhydrophobic Surface", ***Physical Review Letters*** 96, 066001 (2006) (Featured in: **UCLA Engineer**, "Researchers Discover No-slip Condition Does Not Hold at the Nanoscale", Issue No. 16, Page 8-9, Fall 2006; **Deutschlandfunk: German National Public Radio**, "Weniger Reibung durch spitze Nadeln", March 8, 2006; **Material News: MRS (Materials Research Society)**, "New superhydrophobic surface developed", February 8, 2006; **Physics News Update: The AIP Bulletin of Physics News**, "A Superhydrophobic Surface", Number 764 #1, February 6, 2006).
122. **C.-H. Choi,** K. J. A. Westin, K. S. Breuer, "Apparent Slip Flows in Hydrophilic and Hydrophobic Microchannels", ***Physics of Fluids*** 15, 2897-2902 (2003).
123. K. J. A. Westin, **C.-H. Choi,** K. S. Breuer, "A Novel System for Measuring Liquid Flow Rates with Nanoliter per Minute Resolution", ***Experiments in Fluids*** 34, 635-642 (2003).

4.1.5 Conference/Workshop/Symposium Proceedings (Peer-Reviewed)

1. **C.-H. Choi**, "Design of Robust Lubricant-Infused Surfaces", in *Proceedings of IUTAM Symposium on Capillarity and Elastocapillarity in Biology*, August 22-24, 2024, Seoul, Korea.
2. J. Jang, **C.-H. Choi**, S. H. Lee, "Effects of Holding Temperature during Induction Heating Assisted Laser-Directed Energy Deposition of Inconel 718", in *Proceedings of the 42th International Congress on Applications of Lasers and Electro-Optics (ICALEO)*, October 16-19, 2023, Chicago, IL.
3. J. Jung, S. M. Hosseini, **C.-H. Choi**, "Optimization of Direct Energy Deposition Additive Manufacturing Process for Al-Mg-Si Alloy and H13 Steel", in *Proceedings of UKC2023: The 2023 US-Korea Conference on Science, Technology and Entrepreneurship*, August 2-5, 2023, Dallas-Fort Worth, TX.
4. **C.-H. Choi**, "Novel Nanofabrication Processes and Applications via Laser Interference Lithography", in *Proceedings of the 23rd IEEE International Conference on Nanotechnology (IEEE-NANO 2023)*, July 2-5**,** 2023, Jeju Island, South Korea.
5. J. Jung, S. M. Hosseini, **C.-H. Choi**, "Optimization of Direct Energy Deposition Process for Al-Mg-Si Aluminum Alloy and H13 Steel Bi-metal Structure", in *Proceedings of* the Northeast Regional Conference (NRC) 2023, April 29, 2023, Montclair, NJ.
6. **C.-H. Choi**, "Superhydrophobic Drag Reduction: From Droplet Movement to Boundary Layer Flows", in *Proceedings of the 3rd International Conference on Fluid Flow and Thermal Science (ICFFTS'22),* October 27-29, 2022, Seoul, South Korea.
7. Y. Xi, H. J. Kaper, **C.-H. Choi**, P. K. Sharma, "Biotribology of Microtextured Surfaces: Effects of Material Hydrophilicity and Stiffness", in *Proceedings of the 2nd International Conference on Nature Inspired Surface Engineering (NISE 2022)*, August 17-19**,** 2022, Seoul, South Korea.
8. Y. Xi, H. J. Kaper, **C.-H. Choi**, P. K. Sharma, "Tribological Effects of Textured Hard Implant Surfaces Sliding against Soft Tissue under Physiological Conditions", in *Proceedings of the 7th World Tribology Congress (WTC 2022)*, July 10-15**,** 2022, Lyon, France.
9. J. Son, **C.-H. Choi**, D.-S. Shim, "Thermal Conductivity of HTCS-150 Deposited via Powder-fed DED Technology", in *Proceedings of UKC2021: The 2021 US-Korea Conference on Science, Technology and Entrepreneurship*, December 15-18**,** 2021, Garden Grove, CA.

10. R. Gulfam, D. Orejon, **C.-H. Choi**, P. Zhang, "Thermo-Responsive Enhanced Shedding on Lubricant Infused Surfaces", in *Proceedings of UKHTC 2021: The 17th UK Heat Transfer Conference*, September 5-7**,** 2021, Manchester, UK.
11. J. Son, G. Shin, K. Lee, **C.-H. Choi**, D. Shim, "High-Temperature Properties of Hot-Work Tool Steel (AISI H13) Deposited via Direct Energy Deposition", in *Proceedings of ICTP 2021: The 13th International Conference on the Technology of Plasticity*, July 25-30**,** 2021, Virtual.
12. J. E. Brito, K. Asawa, **C.-H. Choi,** A. K. Andrianov, S. A. Sukhishvili, "All-aqueous Layer-by-layer Coatings of Fluorinated Polyelectrolytes for Controllable Hydrophobicity and Droplet Adhesion", in *Proceedings of ACS Spring 2021*, April 5-16**,** 2021, Virtual.
13. J.-Y. Son, **C.-H. Choi,** K.-Y. Lee, D.-S. Shim, "Experimental Investigation into a Fatigue Failure of Deposited HTCS-150 on H13 by Thermal Cyclic Loadings", in *Proceedings of the 30th KSEA Northeast Regional Conference*, April 3**,** 2021, Virtual.
14. A. Alaei, K. Zong, K. Asawa, T.-M. Chou, A. L. Briseño, **C.-H. Choi**, S. S. Lee, "Directing Organic Semiconductor Crystal Orientation and Shape using Nanoconfining Scaffolds", in *Proceedings of the APS March Meeting,* March 15-19**,** 2021, Virtual.
15. **C.-H. Choi**, K. Asawa, D. Song, "Electrokinetic Energy Harvesting of Streaming Current through Nanotextured Microchannels", in *Proceedings of UKC2020: The 2020 US-Korea Conference on Science, Technology and Entrepreneurship*, December 14-17**,** 2020, Virtual.
16. K. Zong, K. Asawa, **C.-H. Choi**, S. S. Lee, "Graphoepitaxy-Directed Crystallization of Small-Molecule Organic Semiconductors into 3D Structures", in *Proceedings of the 2022 Virtual AlChE Annual Meeting,* November 16-20**,** 2020, Virtual.
17. K. Asawa, S. Kumar, Y. Huang, **C.-H. Choi**, "Optofluidic Waveguide using Oil-Impregnated Nanoporous Surfaces as Cladding Layers", in *Proceedings of the ASME 2019 International Mechanical Engineering Congress & Exposition (IMECE)*, November 8-14**,** 2019, Salt Lake City, Utah, USA.
18. S. S. Lee, K. Zong, K. Asawa, **C.-H. Choi**, N. Sparta, A. Circelli, "Engineering Vertical Crystal Arrays for Efficient Solar Energy Harvesting", in *Proceedings of the Energy Harvesting From Infrastructure and Ocean Systems (EHIOS)*, November 4-6**,** 2019, Hoboken, NJ, USA.
19. J. Lee, **C.-H. Choi**, "Oil-impregnated Nanoporous Oxide Layers for Durable Omniphobicity and Anti-Corrosion for Aluminum", in *Proceedings of UKC2019: The 2019 US-Korea Conference on Science, Technology and Entrepreneurship*, August 14-17**,** 2019, Chicago, IL, USA.
20. Y. Xi, H. J. Kaper, **C.-H. Choi**, P. K. Sharma, "Tribological Properties of Nature-Inspired Microporous PDMS Surfaces under Physiological Conditions", in *Proceedings of NISE 2019: The 1st International Conference on Nature Inspired Surface Engineering*, June 11-14**,** 2019, Hoboken, NJ, USA.
21. D. Zhang, J. Li, X. Zhao, **C.-H. Choi**, G. Sun, "Integration of Nanopores onto Micro Wick Structures for High Performance Flat Heat Pipe", in *Proceedings of NISE 2019: The 1st International Conference on Nature Inspired Surface Engineering*, June 11-14**,** 2019, Hoboken, NJ, USA.
22. J. Lee, **C.-H. Choi**, "Effects of Oil Viscosity on the Anti-Corrosion and Self-Healing Properties of Oil-Impregnated Nanoporous Anodic Aluminum Oxide", in *Proceedings of the Americas International Meeting on Electrochemistry and Solid-State Science (AiMES 2018)*, September 20 – October 4**,** 2018, Cancun, Mexico.
23. K. Du, J. Ding, I. Wathuthanthri, **C.-H. Choi**, "Optofluidic Waveguide using Nanostructured Superhydrophobic Surfaces as Novel Cladding Layers", in *Proceedings of the 8th International Multidisciplinary Conference on Optofluidics (IMCS 2018)*, August 5-8, 2018, Shanghai, China.

24. G. Sun, **C.-H. Choi**, "Nanopillars by Deep Reactive Ion Etching using Silica Nanoparticles as Masks", in *Proceedings of the ACS Publications Symposium: Innovation in Materials Science*, July 29-31, 2018, Shanghai, China.
25. Y. Jiang, Y. Sun, J. W. Drelich, **C.-H. Choi**, "Droplet Adhesion on Patterned Hydrophobic Surfaces in a Fakir State: Topography-Dependent Effective Contact Line", in *Proceedings of the 11th International Symposium on Contact Angle, Wettability and Adhesion*, July 13-15, 2018, Hoboken, NJ, USA.
26. D. Song, Y. Jiang, T. Chou, K. Asawa, **C.-H. Choi**, "Water Droplet Impact and Freezing on an Extremely Cold Surface", in *Proceedings of the 11th International Symposium on Contact Angle, Wettability and Adhesion*, July 13-15, 2018, Hoboken, NJ, USA.
27. Y. Jiang, Y. Sun, J. W. Drelich, **C.-H. Choi**, "Spontaneous Spreading of a Droplet: The Role of Solid Continuity and Advancing Contact Angle", in *Proceedings of the 11th International Symposium on Contact Angle, Wettability and Adhesion*, July 13-15, 2018, Hoboken, NJ, USA.
28. R. Ozbay, Y. Jiang, **C.-H. Choi**, "Contact Line Dynamics of a Bubble on Superaerophobic Surfaces", in *Proceedings of the 11th International Symposium on Contact Angle, Wettability and Adhesion*, July 13-15, 2018, Hoboken, NJ, USA.
29. F. Hizal, **C.-H. Choi**, "Nanofabricated Biomaterial Surfaces for Anti-Bacterial Adhesion", in *Proceedings of the 5th Nano Today Conference*, December 6-10, 2017, Hawaii, USA.
30. J. Lee, **C.-H. Choi**, "Multifunctional Omniphobicity of Oil-Impregnated Nanoporous Anodic Oxide Surfaces", in *Proceedings of the 1st International Symposium on Surface Treatment & Modification Technologies (STMT2017)*, November 21-25**,** 2017, Jeju, Korea.
31. D. Song, **C.-H. Choi**, "Spontaneous De-icing Phenomena on Extremely Cold Surfaces", in *Proceeding of the 70th Annual Meeting of the APS Division of Fluid Dynamics*, November 19-21, 2017, Denver, CO, USA.
32. Y. Jiang, L. Cao, Z. Guo, **C.-H. Choi**, "Droplet Sliding on Inclined Superhydrophobic Surfaces: The Effect of Anisotropic Contact Line", in *Proceeding of the 70th Annual Meeting of the APS Division of Fluid Dynamics*, November 19-21, 2017, Denver, CO, USA.
33. R. Ozbay, Y. Jiang, A. Kibar, **C.-H. Choi**, "Dynamics of Contact Line Pinning/Depinning of Sliding Bubble on Super-Aerophobic Surfaces", in *Proceeding of the 70th Annual Meeting of the APS Division of Fluid Dynamics*, November 19-21, 2017, Denver, CO, USA.
34. J. Lee, **C.-H. Choi**, "Oil-Impregnated Nanoporous Oxide Layer of Metals for Omniphobic and Anti-Corrosive Surfaces", in *Proceedings of the 4th International Symposium on Hybrid Materials and Processing (HyMaP 2017)*, November 5-8**,** 2017, Busan, Korea.
35. J. Lee, **C.-H. Choi**, "Anodized Stainless Steel for Omniphobicity and Anti-Corrosion", in *Proceedings of UKC2017: The 2017 US-Korea Conference on Science, Technology and Entrepreneurship*, August 9-12**,** 2017, Washington, DC, USA.
36. J. Lee, **C.-H. Choi**, "Enhancement of Radiative Heat Dissipation of Aluminum Alloy by Anodizing and Sealing", in *Proceedings of UKC2017: The 2017 US-Korea Conference on Science, Technology and Entrepreneurship*, August 9-12**,** 2017, Washington, DC, USA.
37. Y. Jiang, Z. Guo, **C.-H. Choi**, "The Origin of Droplets' Retention on Superhydrophobic Surfaces", in *Proceedings of the 3rd International Conference on Droplets (Droplet 2017)*, July 24-26**,** 2017, Los Angeles, CA, USA.
38. J. Lee, **C.-H. Choi**, "Bio-Inspired Nanoporous Composite Oxide Layer with Oil Impregnation for Anti-Corrosion", in *Proceedings of the 25th Annual International Conference on Composites/Nano Engineering (ICCE-25)*, July 16-22**,** 2017, Rome, Italy.

39. Y. Jiang, J. Xu, E.-H. Yang, **C.-H. Choi**, "Effects of Nanostructures on Tunable Droplet Mobility on Conjugated Polymer Surfaces", in *Proceedings of the 91th ACS Colloid & Surface Science Symposium*, July 9-12, 2017, New York, NY, USA.
40. W. Xu, J. Xu, X. Li, Y. Tian, **C.-H. Choi**, Eui-Hyeok Yang, "Lateral Actuation of an Organic Droplet on Conjugated Polymer Electrodes", in *Proceedings of the 91th ACS Colloid & Surface Science Symposium*, July 9-12, 2017, New York, NY, USA.
41. W. Xu, A. Palumbo, J. Xu, Y. Jiang, **C.-H. Choi**, Eui-Hyeok Yang, "On-Demand Capture and Release of Organic Droplets on Surfactant-Doped Polypyrrole Surfaces", in *Proceedings of the 91th ACS Colloid & Surface Science Symposium*, July 9-12, 2017, New York, NY, USA.
42. D. Song, **C.-H. Choi**, "Spontaneous De-Icing Phenomena on Extremely Cold Surfaces", in *Proceedings of the 7th International Colloids Conference*, June 18-21, 2017, Sitges, Barcelona, Spain.
43. F. Hizal, **C.-H. Choi**, "Bacterial Transmission Between Smooth and Nanopillared Surfaces", in *Proceedings of the 7th International Colloids Conference*, June 18-21, 2017, Sitges, Barcelona, Spain.
44. Y. Jiang, Z. Guo, **C.-H. Choi**, "Retention of Particle-Laden Droplets on Superhydrophobic Surfaces: The Role of Capillary Bridge Rupture", in *Proceedings of the 7rd Northeast Complex Fluids and Soft Matter Workshop (NCS7)*, May 26**,** 2017, Princeton, NJ, USA.
45. J. Lee, Y. Jiang, **C.-H. Choi**, "Oil-Impregnated Nanoporous Oxide Layer of Anodized Stainless Steel for Omniphobic and Anti-Corrosive Surfaces", in *Proceedings of PRiME 2016: Pacific Rim Meeting on Electrochemical and Solid-State Science*, Oct. 2-7, 2016, Honolulu, HI.
46. J. Lee, **C.-H. Choi**, "Oil-Impregnated Aluminum Anodic Oxide Layer with Bottle-Shaped Pores for Enhanced Anti-Corrosion and Self-Healing Properties", in *Proceedings of PRiME 2016: Pacific Rim Meeting on Electrochemical and Solid-State Science*, Oct. 2-7, 2016, Honolulu, HI.
47. J. Lee, **C.-H. Choi**, "Oil-Impregnated Anodic Aluminum Oxide Layer for Enhanced Anti-Corrosion and Self-Healing Properties", in *Proceedings of UKC2016: The 2016 US-Korea Conference on Science, Technology and Entrepreneurship*, August 10-13**,** 2016, Dallas, TX, USA. (**invited**)
48. G.H. Ban, J. Lee, J. Lee, Y. Li, **C.-H. Choi**, S. Jun, "Nano-Engineered Sanitation Surfaces for Prevention of Bacterial Adhesion", in *Proceedings of the International Association for Food Protection Annual Meeting (IAFP 2016)*, August 1-2, 2016, St. Louis, MO, USA.
49. M. Sarshar, C. Swartz, **C.-H. Choi**, "Icephobicity of Superhydrophobic Surfaces: Effects of Environmental Conditions", in *Proceedings of the 10th International Symposium on Contact Angle, Wettability and Adhesion*, July 13-15, 2016, Hoboken, NJ, USA.
50. R. Ozbay, A. Kibar, **C.-H. Choi**, "Bubble Adhesion on Superaerophobic Surfaces: Effects of Surface Morphology", in *Proceedings of the 10th International Symposium on Contact Angle, Wettability and Adhesion*, July 13-15, 2016, Hoboken, NJ, USA.
51. J. Lee, Y. Jiang, **C.-H. Choi**, "Oil-Impregnated Anodic Aluminum Oxide Layers for Omniphobic Surfaces", in *Proceedings of the 10th International Symposium on Contact Angle, Wettability and Adhesion*, July 13-15, 2016, Hoboken, NJ, USA.
52. A. Kibar, R. Ozbay, **C.-H. Choi**, "Air Bubble Detachment on Superhydrophobic Surfaces", in *Proceedings of the 10th International Symposium on Contact Angle, Wettability and Adhesion*, July 13-15, 2016, Hoboken, NJ, USA.
53. R. Ozbay, A. Kibar, **C.-H. Choi**, "Adhesion and Sliding Dynamics of Air Bubbles on Superhydrophobic Surfaces", in *Proceedings of the 9th International Conference on Multiphase Flow*, May 22-27, 2016, Firenze, Italy.

54. Y. Jiang, W. Xu, K. Connington, **C.-H. Choi**, "Effects of Nanoparticles on the Depinning Force of a Receding Droplet on Micropatterned Superhydrophobic Surfaces", in *Proceedings of the 9th International Conference on Multiphase Flow*, May 22-27, 2016, Firenze, Italy.
55. M. Sarshar, **C.-H. Choi**, "Depinning of Water Droplets on Pillared Superhydrophobic Surfaces under Dynamic Icing Conditions", in *Proceedings of the 9th International Conference on Multiphase Flow*, May 22-27, 2016, Firenze, Italy.
56. A. Chauvin, C. Delacote, L. Molina-Luna, M. Boujtita, D. Thiry, K. Du, J. Ding, **C.-H. Choi**, B. Humbert, J.-Y. Mevellec, P.-Y. Tessier, and A.-A. El Mel, "Two-Step Approach for the Nanofabrication of Highly Ordered Ultra-Long Porous Gold Nanowires with an Adjustable Porosity for SERS-based Sensors", in *Proceedings of the 2016 TechConnect World Innovation Conference and Expo*, May 22-25, 2016, National Harbor, Maryland, USA.
57. A. Kibar, R. Ozbay, **C.-H. Choi**, "Air Bubble Departure on a Superhydrophobic Surface", in *Proceedings of the 8th Ege Energy Symposium and Exhibition*, May 11-13, 2016, Afyonkarahisar, Turkey.
58. A.-A. El Mel, L. Molina-Luna, M. Buffière, P.-Y. Tessier, K. Du, **C.-H. Choi**, H.-J. Kleebe, S. Konstantinidis, C. Bittencourt, R. Snyders, "Steering Atomic Diffusion in Oxide Nanotubes in situ via a Direct Control of Local Defects Created by E-beam Irradiation" in *Proceedings of the European Materials Research Society Spring Meeting*, May 2-6, 2016, Lille, France.
59. A. Chauvin, C. Delacote, L. Molina-Luna, E. Gautron, N. Gautier, M. Boujtita, D. Thiry, J. Ding, **C.-H. Choi**, P.Y. Tessier, A.-A. El Mel, "Surface Engineering of Nanowire by Direct Control of Defects on the Nanoscale" in *Proceedings of the European Materials Research Society Spring Meeting*, May 2-6, 2016, Lille, France.
60. **C.-H. Choi**, "Hydrodynamic Friction Reduction in Microfluidics: From Droplet to Channel Flow", in *Proceedings of the 8th Workshop of Chemical and Biological Micro Laboratory Technology (CBM-8)*, February 23-26, 2016, Ilmenau, Germany. (**invited**)
61. F. Hizal, I. Zhuk, S. Sukhishvili, H. J. Busscher, H. C. van der Mei, **C.-H. Choi**, "Bacteria-Triggered Self-Defensive Antibiotic Coating: Effect of 3D Hierarchical Nanostructures", in *Proceedings of the 9th International Symposium on Nature-Inspired Technology*, January 13-15**,** 2016, Daejeon, Korea. (**invited**)
62. **C.-H. Choi**, "Multifunctional Superhydrophobic Coatings for Naval Applications", in *Proceedings of the Pacific Polymer Conference 14*, December 9-13, 2015, Kauai, Hawaii, USA. (**invited**)
63. **C.-H. Choi**, "Bioinspired Nanoengineering of Multifunctional Superhydrophobic Surfaces", in *Proceedings of the Korean Society of Surface Engineering Fall Workshop*, November 25-27, 2015, Gwangju, Gyeonggi, Korea. (**invited**)
64. **C.-H. Choi**, "Icing on Superhydrophobic Surfaces", in *Proceedings of the Korean Society of Thermal Engineering Workshop*, November 26, 2015, Seoul, Korea. (**invited**)
65. **C.-H. Choi**, "Nanoengineering of Bioinspired Multifunctional Surfaces", in *Proceedings of the Korea Institute of Machinery and Materials Workshop*, August 18, 2015, Gangneung, Gangwon, Korea. (**invited**)
66. F. Hizal, N. Rungraeng, S. Jun, **C.-H. Choi**, "Nanoengineered Surfaces for Prevention of Bacteria Adhesions", in *Proceedings of UKC2015: The 2015 US-Korea Conference on Science, Technology and Entrepreneurship*, July 29 – August 1**,** 2015, Atlanta, GA, USA. (**invited**)
67. F. Hizal, N. Rungraeng, S. Jun, **C.-H. Choi**, "Nanoengineered Surfaces for Prevention of Bacteria Adhesions", in *Proceedings of the 3rd Stevens Conference on Bacteria-Material Interactions*, June 17-18**,** 2015, Hoboken, NJ, USA. (**invited**)

68. **C.-H. Choi**, "Superhydrophobic Surfaces for Microfluidics and Lab-on-a-Chip Applications", in *Proceedings of the Microfluidic and Lab-on-a-Chip India*, January 22-23, 2015, Mumbai, India. (**invited for Keynote Presentation**)
69. **C.-H. Choi**, "Ultra-Low-Voltage Manipulation of Microdroplets using Electrochemical Redox Process of Smart Polymers", in *Proceedings of the Microfluidic and Lab-on-a-Chip India*, January 22-23, 2015, Mumbai, India. (**invited**)
70. **C.-H. Choi**, "Hydrodynamic Frictions on Superhydrophobic Surfaces", in *Proceedings of the Northeast Complex Fluids and Soft Matter Workshop*, January 16, 2015, Newark, NJ, USA. (**Invited for Plenary Talk**).
71. W. Xu, X. Li, Y. Tian, H. Bisaria, A. Palumbo, E. Cook, **C.-H. Choi**, E.-H. Yang, "Manipulation of Microdroplets at Ultra-Low Voltages on Conjugated Polymer", in *Proceedings of ASME 2014 International Mechanical Engineering Congress (IMECE)*, November 14-20, 2014, Montreal, Canada.
72. F.T. Fisher, R. S. Besser, K. Sheppard, **C.-H. Choi**, and E.H. Yang, "An Approach for Introducing Concepts of Nanotechnology within the Undergraduate Curriculum", in *Proceedings of ASEE Mid-Atlantic Section Fall 2014 Conference*, November 14-15, 2014, Swarthmore, PA, USA.
73. Y. Lu, M. A. Sarshar, K. Du, T. Chou, **C.-H. Choi**, S. A. Sukhishvili, "Reversible Wetting Transitions enabled by pH-Responsive Layer-by-Layer Hydrogels", in *Proceedings of the Layer-by-Layer Assemblies: Science and Technology*, June 23-25, 2014, Hoboken, NJ
74. M. A. Sarshar, Y. Jiang, W. Xu, **C.-H. Choi**, "Theoretical Models for Depinning Forces of Evaporating Droplets on Pillared Superhydrophobic Surfaces", in *Proceedings of the 88th ACS Colloid & Surface Science Symposium*, June 22-25, 2014, Philadelphia, PA, USA.
75. Y. Jiang, M. A. Sarshar, W. Xu, **C.-H. Choi**, "Effects of Three-Phase Contact Line on Contact Angle Hysteresis and Depinning Force on Micro-Porous Hydrophobic Surfaces", in *Proceedings of the 88th ACS Colloid & Surface Science Symposium*, June 22-25, 2014, Philadelphia, PA, USA.
76. R. Ozbay, A. Kibar, **C.-H. Choi**, "Bubble Adhesions on Micropillared Super-Aerophobic Surfaces", in *Proceedings of the 88th ACS Colloid & Surface Science Symposium*, June 22-25, 2014, Philadelphia, PA, USA.
77. W. Xu, **C.-H. Choi**, E.-H. Yang, "Tunable Wetting and Adhesion of Doped Polypyrrole Surface for Ultra-Low-Voltage Manipulation of Microdroplets", in *Proceedings of the 88th ACS Colloid & Surface Science Symposium*, June 22-25, 2014, Philadelphia, PA, USA.
78. M. A. Sarshar, Y. Jiang, W. Xu, **C.-H. Choi**, "Analytical Models of Depinning Forces of Evaporating Droplets on Superhydrophobic Surfaces", in *Proceedings of the 9th International Symposium on Contact Angle, Wettability and Adhesion*, June 16-18, 2014, Bethlehem, PA, USA.
79. Y. Jiang, M. A. Sarshar, W. Xu, **C.-H. Choi**, "Contact Angle Hysteresis and Depinning Force on Hydrophobic Porous Surfaces", in *Proceedings of the 9th International Symposium on Contact Angle, Wettability and Adhesion*, June 16-18, 2014, Bethlehem, PA, USA.
80. R. Ozbay, A. Kibar, **C.-H. Choi**, "Bubble Adhesions on Surfaces of Various Wettabilities: Effect of Bubble Volumes", in *Proceedings of the 9th International Symposium on Contact Angle, Wettability and Adhesion*, June 16-18, 2014, Bethlehem, PA, USA.
81. W. Xu, **C.-H. Choi**, E.-H. Yang, "Transportation of Microdroplet at Ultra-Low Voltages by Tunable Wetting on Conjugated Polymer Electrodes", in *Proceedings of the 9th International Symposium on Contact Angle, Wettability and Adhesion*, June 16-18, 2014, Bethlehem, PA, USA.
82. K. Du, J. Ding, I. Wathuthanthri, **C.-H. Choi**, "Patterning of High-Aspect-Ratio Nanostructures on Microtrenches using Stencil Lithography of Free-Standing Tri-Layer Membrane", in Proceeding of the 58th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), May 27-30, 2014, Washington DC, USA.

83. J. Ding, K. Du, I. Wathuthanthri, **C.-H. Choi**, F. Fisher, E.-H. Yang, "Patterning of Large-Area Graphene Nanostructures via Holographic Lithography and O2 Plasma Etching", in Proceeding of the 58th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), May 27-30, 2014, Washington DC, USA.
84. I. Wathuthanthri, K. Du, **C.-H. Choi**, "Nanoparticles-Decorated Nanocone Array of Gold for Anti-Reflective Enhancement of SERS Sensing", in Proceeding of the 58th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), May 27-30, 2014, Washington DC, USA.
85. W. Xu, X. Li, A. Palumbo, **C.-H. Choi**, E.-H. Yang, "Bi-Directional Switching of Microdroplet Adhesion on Doped Polypyrrole Microstructures", in Proceedings of the Hilton Head 2014 Solid-State Sensors, Actuators & Microsystems Workshop, June 8-12, 2014, Hilton Head Island, SC.
86. F. Hizal, N. Rungraeng, S. Jun, **C.-H. Choi**, "Nano-Engineered Alumina Surfaces for Prevention of Bacteria Adhesions", in *Proceeding of the 9th IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS)*, April 13-16, 2014, Waikiki Beach, Hawaii, USA. (**Best Student Paper Award**)
87. A.-A. El Mel, M. Buffière, P.-Y. Tessier, K. Du, **C.-H. Choi**, L. Molina-Luna, S. Schildt, H. J. Kleebe, S. Konstantinidis, C. Bittencourt, R. Snyders, "Fabrication and Controlled *in situ* Morphological Transformation of Highly Ordered Hollow Oxide Nanostructures Based on Nanoscale Kirkendall Effect", in *Proceedings of AVS 60th International Symposium & Exhibition*, October 27-November 1, 2013, Long Beach, California.
88. A.-A. El Mel, M. Buffière, S. Konstantinidis, P.-Y. Tessier, W. Xu, K. Du, **C.-H. Choi**, C. Bittencourt, R. Snyders, "Understanding the Kirkendall Effect at the Nanoscale in Cu/CuO", in *Proceedings of IVC-19/ICSS-15 and ICN+T 2013*, September 9-13, 2013, Paris, France.
89. L. Molina-Luna, S. Schildt, M. Buffière, K. Du, **C.-H. Choi**, H. J. Kleebe, R. Snyders, C. Bittencourt, A.-A. El Mel, "*In vivo* Study of the Morphological Transformation of Hollow Oxide Nanostructures upon *in situ* Annealing in a Transmission Electron Microscope", in *Proceedings of Microscopy Conference (MC) 2013*, August 25-30, 2013, Regensburg, Germany.
90. W. Xu, Y. Tian, H. Bisaria, P. Ahn, **C.-H. Choi**, E.-H. Yang, "Transportation of a Liquid Droplet at Ultra-Low Voltages by Tunable Wetting on Conjugated Polymer Electrodes", in *Proceedings of Transducers 2013 & Eurosensors XXVII: The 17th International Conference on Solid-State Sensors, Actuators and Microsystems*, June 16-20, 2013, Barcelona, Spain.
91. K. Du, Y. Liu, I. Wathuthanthri, **C.-H. Choi**, "Fabrication of Hierarchical Nanostructures using Free-Standing Tri-Layer Membrane", in *Proceeding of the 57th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)*, May 28-31, 2013, Nashville, Tennessee, USA.
92. Y. Liu, K. Du, I. Wathuthanthri, **C.-H. Choi**, "Fabrication of Nano-Bowl Arrays via Simple Holographic Patterning and Lift-off Process", in *Proceeding of the 56th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)*, May 28-31, 2013, Nashville, Tennessee, USA.
93. I. Wathuthanthri, K. Du, **C.-H. Choi**, "Plasmonic Nanogap Arrays Fabricated via Moiré Holographic Lithography", in *Proceeding of the 56th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)*, May 28-31, 2013, Nashville, Tennessee, USA.
94. A. Kibar, R. Ozbay, M. A. Sarshar, Y. T. Kang, **C.-H. Choi**, "Air Bubble Movement over and under Hydrophobic Surfaces in Water", in *Proceedings of the 8th International Conference on Multiphase Flow*, May 26-31, 2013, Jeju, Korea.

95. W. Xu, Y. Tian, H. Bisaria, P. Ahn, X. Li, Y.-T. Tsai, **C.-H. Choi**, E.-H. Yang, "A Low-Voltage Manipulation via Tunable Wetting on Polypyrrole(DBS) surface", in *Proceedings of TechConnect World 2013 – Nanotech, Microtech, Biotech, Cleantech Joint 2013 Conferences,* May 12-16, 2013, National Harbor, Maryland.
96. A.-A. El Mel, M. Buffière, P.-Y. Tessier, W. Xu, K. Du, **C.-H. Choi**, S. Konstantinidis, C. Bittencourt, R. Snyders, "Fabrication of Highly Ordered Hollow Oxide Nanostructures Based on Nanoscale Kirkendall Effect and Oswald Ripening", in *Proceedings of the 5th IEEE International Nanoelectronics Conference (INEC 2013)*, January 2-4, 2013, Singapore.
97. **C.-H. Choi**, "Nano-Engineered Surfaces for Energy Saving Applications", in *Proceedings of the International Symposium on Nature-Inspired Technology (ISNIT 2013)*, January 6-9**,** 2013, Yongpyong, Gangwon, Korea. (**invited**)
98. Y.-T Tsai, **C.-H. Choi**, E.-H. Yang, "Water Droplet Manipulation by Tunable Wetting on Smart Polymer at Ultra-Low Voltages", in *Proceedings of the 16th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2012)*, October 28 - November 1, 2012, Okinawa, Japan.
99. C. Jeong, W. Xu, K. Du, **C.-H. Choi**, "Corrosion Resistance of Nanoporous Superhydrophobic Surfaces of Anodic Aluminum Oxide", in *Proceedings of PRiME 2012: Pacific Rim Meeting on Electrochemical and Solid-State Science*, Oct. 7-12, 2012, Honolulu, HI.
100. C. Jeong, **C.-H. Choi**, "Stepwise Anodizing Processes for Hierarchical Nanoporous Structures", in *Proceedings of PRiME 2012: Pacific Rim Meeting on Electrochemical and Solid-State Science*, Oct. 7-12, 2012, Honolulu, HI.
101. C. Jeong, **C.-H. Choi**, "Anodizing of Pillar-on-Pore Hybrid Nanostructures for Superhydrophobic Surfaces of Aluminum", in *Proceedings of UKC2012: The 2012 US-Korea Conference on Science, Technology, & Entrepreneurship*, August 8-11**,** 2012, Los Angeles, CA.
102. **C.-H. Choi**, "Characterization of Superhydrophobic Surfaces for Anti-Icing in Dynamic Flow Conditions", in *Proceedings of ASME 2012 10th International Conference on Nanochannels, Microchannels and Minichannels (ICNMM)*, July 8-12, 2012, Puerto Rico, USA.
103. **C.-H. Choi**, "Evaporation Kinetics of Sessile Droplets on Superhydrophobic Surfaces", in *Proceedings of ASME 2012 10th International Conference on Nanochannels, Microchannels and Minichannels (ICNMM)*, July 8-12, 2012, Puerto Rico, USA.
104. W. Xu, **C.-H. Choi**, "Is a Superhydrophobic Surface Really Slippery?: A New Criterion to Determine the Stickiness of Superhydrophobic Surfaces", in *Proceedings of the 8th International Symposium on Contact Angle, Wettability and Adhesion*, June 13-15, 2012, Quebec City, Quebec, Canada.
105. M. A. Sarshar, C. F. Swarctz, **C.-H. Choi**, "Ice Adhesion on Superhydrophobic Surfaces", in *Proceedings of the 8th International Symposium on Contact Angle, Wettability and Adhesion*, June 13-15, 2012, Quebec City, Quebec, Canada.
106. W. Xu, **C.-H. Choi**, "Dryout Pattern of Colloid Droplet on Superhydrophobic Surfaces", in *Proceedings of the 86th ACS Colloid & Surface Science Symposium*, June 10-13, 2012, Baltimore, Maryland, USA.
107. K. Du, Y. Liu, I. Wathuthanthri, **C.-H. Choi**, "Effects of Hydrophobic Coatings on the Superhydrophobic Wetting Properties of 3-D Hierarchical Nanostructures", in *Proceedings of the 86th ACS Colloid & Surface Science Symposium*, June 10-13, 2012, Baltimore, Maryland, USA.
108. Y. Liu, K. Du, I. Wathuthanthri, **C.-H. Choi**, "From Nanocone to Nanodisk: Structural Transformation of Nanoarrays via Mechanical Stresses", in *Proceeding of the 56th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)*, May 29 - June 1, 2012, Waikoloa, Hawaii, USA.

109. K. Du, Y. Liu, I. Wathuthanthri, W. Xu, **C.-H. Choi**, "Fabrication of Polymer Nanostructures via Maskless O_2 Plasma Etching", in *Proceeding of the 56th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)*, May 29 - June 1, 2012, Waikoloa, Hawaii, USA.
110. K. Du, Y. Liu, I. Wathuthanthri, W. Xu, **C.-H. Choi**, "Nanopatterning of Disconnected Metal Nanostructures on Polydimethylsiloxane (PDMS) Substrate by Using Free-Standing Photoresist Film as Stencil Lithography Mask", in *Proceeding of the 56th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)*, May 29 - June 1, 2012, Waikoloa, Hawaii, USA.
111. K. Du, Y. Liu, I. Wathuthanthri, W. Xu, **C.-H. Choi**, "Nanopatterning of PDMS Substrates via Novel Lift-off Process of Free-Standing Photoresist Film", in *Proceedings of the 3nd Conference on Advances in Microfluidics and Nanofluidics (AMN)*, May 23-26, 2012, Dalian, China.
112. E. Aljallis, M. A. Sarshar, **C.-H. Choi**, "Measurement of Skin Friction Drag in High Reynolds Number Turbulent Flow over Superhydrophobic Flat Plates", in *Proceedings of the Eighth KSME-JSME Thermal and Fluids Engineering Conference*, March 18-21, 2012, Incheon, Korea.
113. M. A. Sarshar, C. Swarctz, **C.-H. Choi**, "Anti-Icing Mechanics on Nanostructured Superhydrophobic Surfaces: Effects of Contact Angle Hysteresis", in *Proceedings of the Eighth KSME-JSME Thermal and Fluids Engineering Conference*, March 18-21, 2012, Incheon, Korea.
114. W. Xu, **C.-H. Choi**, "Sessile Droplet Evaporation on Superhydrophobic Surfaces: Effects of a Contact Line on Depinning Forces", in *Proceedings of the Eighth KSME-JSME Thermal and Fluids Engineering Conference*, March 18-21, 2012, Incheon, Korea.
115. Y-T Tsai, **C.-H. Choi**, E-H Yang, "Ultra-Low-Voltage Droplet Manipulation via Tunable Wetting of Polypyrrole Polymers for Digital Microfluidics", in *Proceedings of the Eighth KSME-JSME Thermal and Fluids Engineering Conference*, March 18-21, 2012, Incheon, Korea.
116. Y. Liu, K. Du, I. Wathuthanthri, W. Xu, **C.-H. Choi**, "3-D Nanofabrication using Nanostructured Photoresist Film as Free-Standing Appliqué", in *Proceedings of MEMS 2012: The 25th International Conference on Micro Electro Mechanical Systems*, January 29 - February 2, 2012, Paris, France.
117. E. Aljallis, M. A. Sarshar, R. Datla, S. Hunter, J. Simpson, V. Sikka, A. Jones, **C.-H. Choi**, "Measurement of hydrodynamic friction drag on superhydrophobic flat plates in high Reynolds number flows", in *Proceedings of ASME 2011 International Mechanical Engineering Congress (IMECE)*, November 11-17, 2011, Denver, Colorado, USA.
118. M. A. Sarshar, C. Swarctz, S. Hunter, J. Simpson, **C.-H. Choi**, "Superhydrophobic surface properties for anti-icing", in *Proceedings of ASME 2011 International Mechanical Engineering Congress (IMECE)*, November 11-17, 2011, Denver, Colorado, USA.
119. A.-A. El Mel, A. Achour, W. Xu, **C.-H. Choi**, E. Gautron, B. Angleraud, A. Granier, L. Le Brizoual, M. A. Djouadi, P.-Y. Tessier, "Hierarchical Carbon Nanostructures Design: Ultra-Long Carbon Nanofibers Decorated with Carbon Nanotubes", in *Proceedings of NanoteC11 Carbon Nanoscience and Nanotechnology*, August 31 - September 3, 2011, Nantes, France.
120. A.A. El Mel, E. Gautron, B. Angleraud, A. Granier, W. Xu, **C.-H. Choi**, K. J. Briston, B. J. Inkson, P.Y. Tessier, "Template Assisted Plasma Deposition Method for the Synthesis of Ordered Nanowires Array", in *Proceedings of the 18th International Colloquium on Plasma Processes*, July 4-8, 2011, Nantes, France.
121. I. Wathuthanthri, **C.-H. Choi**, "Single-Step Interferometric Patterning of High-Aspect-Ratio Three-Dimensional Nanostructures", in *Proceeding of the 55th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)*, May 31 - June 3, 2011, Las Vegas, Nevada, USA.

122. K. Du, I. Wathuthanthri, W. Xu, **C.-H. Choi**, "Large-Area Pattern Transfer of Metal Nanostructures via Interference Lithography", in *Proceeding of the 55th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)*, May 31 - June 3, 2011, Las Vegas, Nevada, USA.
123. A.A. El Mel, W. Xu, **C.-H. Choi**, E. Gautron, B. Angleraud, A. Granier, P.Y. Tessier, "Non-Catalytic Method to Prepare Organized Nickel-Carbon Nanofibers on Nanopatterned Silicon Substrates**",** in *Proceedings of the International Conference on Metallurgical Coatings and Thin Films,* May 2-6, 2011, San Diego, CA, USA.
124. W. Mao, I. Wathuthanthri, **C.-H. Choi**, "Tunable Two-Mirror Interference Lithography System for Large-Area Nano-Patterning", in *Proceedings of SPIE Advanced Lithography,* February 27 - March 3, 2011, San Jose, CA, USA.
125. E. Aljallis, **C.-H. Choi,** "Nanofluidic Energy Harvesting: Electrokinetic Energy Conversion Efficiency in Hydrodynamic Slip Boundary Conditions", in *Proceedings of the 2nd conference on Advances in Microfluidics and Nanofluidics (AMN) and Asian-Pacific International Symposium on Lab on Chip (APLOC)*, January 5-7, 2011, Singapore.
126. K. Du, W. Xu; I. Wathuthanthri, **C.-H. Choi**, "Large-Area Pattern Transfer of Metal Nanostructures on PDMS via Interference Nanolithography", in *Proceedings of the 2nd conference on Advances in Microfluidics and Nanofluidics (AMN) and Asian-Pacific International Symposium on Lab on Chip (APLOC)*, January 5-7, 2011, Singapore (**invited**).
127. C. Swarctz, E. Aljallis, S. Hunter, J. Simpson, **C.-H. Choi**, "Characterization of Superhydrophobic Surfaces for Anti-Icing in a Low-Temperature Wind Tunnel", in *Proceedings of ASME 2010 International Mechanical Engineering Congress (IMECE)*, November 12-18, 2010, Vancouver, British Columbia, Canada.
128. C.-H. Wang, **C.-H. Choi**, "Optimized Design of Regenerative Blowers for Enhanced Efficiency", in *Proceedings of ASME 2010 International Mechanical Engineering Congress (IMECE)*, November 12-18, 2010, Vancouver, British Columbia, Canada.
129. A.A. El Mel, M. Buffiere, F. Massuyeau, E. Gautron, **C.-H. Choi**, W. Xu, B. Angleraud, A. Granier, N. Barreau, J. Wery, E. Faulques, P.Y. Tessier, "Microstructure and Photoluminescence Study of ZnO Nanofibers Deposited by Plasma Process", in *Proceedings of Materiaux 2010*, October 18-22, 2010, Nantes, France.
130. K. Du, I. Wathuthanthri, W. Mao, W. Xu, **C.-H. Choi**, "Fabrication of Metallic Nanostructures on Large-Area Transparent Substrates", in *Proceedings of Stevens MEMS/NEMS Workshop*, July 26, 2010.
131. Y.-T. Tsai, N. Gao, **C.-H. Choi**, E.-H. Yang, "Droplet Manipulation with Tunable Wetting of Polypyrrole Surfaces via Redox", in *Proceedings of Stevens MEMS/NEMS Workshop*, July 26, 2010.
132. W. Xu, R. Leeladhar, **C.-H. Choi**, "Effects of Micro and Nano Particles on Wetting Dynamics of Evaporating Droplets on Superhydrophobic Surfaces", in *Proceedings of the 7th International Symposium on Contact Angle, Wettability and Adhesion*, June 23-25, 2010, Danbury, CT, USA.
133. Y-T Tsai, **C.-H. Choi**, E-H Yang, "Droplet Actuation in PPy Redox Process", in *Proceedings of Microtech Conference & Expo 2010,* June 21-24, 2010, Anaheim, CA.
134. A.A. El Mel, **C.-H. Choi**, B. Angleraud, E. Gautron, A. Granier, P.Y. Tessier, "Metal-Carbon Composite Nanofibers Elaborated by a Hybrid Plasma Process PVD/PECVD**",** in *Proceedings of E-MRS 2010 Spring Meeting*, June 7-11, 2010, Strasbourg, France.
135. Wei Xu, **C.-H. Choi**, "Drying of Colloidal Droplets on Superhydrophobic Surfaces", in *Proceedings of Faraday Discussion 146: Wetting Dynamics of Hydrophobic and Structured Surfaces*, April 12-14, 2010, Richmond, VA.

136. R. Leeladhar, W. Xu, **C.-H. Choi**, "Effects of Nanofluids on Droplet Evaporation and Wetting on Nanoporous Superhydrophobic Surfaces", in *Proceedings of ASME 2009 2nd Micro/Nanoscale Heat and Mass Transfer (MNHMT) International Conference*, December 18-22, 2009, Shanghai, China.
137. W. Xu, **C.-H. Choi**, "Effects of Structural Topography on Nanofluids Droplet Evaporation on Multifarious Superhydrophobic Surfaces", in *Proceedings of ASME 2009 2nd Micro/Nanoscale Heat and Mass Transfer (MNHMT) International Conference*, December 18-22, 2009, Shanghai, China.
138. I. Wathuthanthri, **C.-H. Choi**, "Tunable Lloyd-Mirror Interferometer for Large-Area Nanopatterning", in *Proceedings of ASME 2009 International Mechanical Engineering Congress (IMECE)*, November 15-19, 2009, Orlando, FL, USA.
139. R. Leeladhar, W. Xu, **C.-H. Choi**, "Evaporation of Nanoparticles Droplets on Nano-Porous Superhydrophobic Surfaces", in *Proceedings of ASME 2009 International Mechanical Engineering Congress (IMECE)*, November 15-19, 2009, Orlando, FL, USA.
140. W. Xu, **C.-H. Choi**, "Nanofluids Evaporation Kinetics on Microstructured Superhydrophobic Surfaces", in *Proceedings of ASME 2009 International Mechanical Engineering Congress (IMECE)*, November 15-19, 2009, Orlando, FL, USA.
141. R. Leeladhar, W. Xu, Y.-T. Tsai, E.-H. Yang, **C.-H. Choi**, "Nanowire Self-Assembly in Droplet Evaporation on Superhydrophobic Surfaces", in *Proceedings of the 13th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2009)*, November 1-5, 2009, Jeju, Korea.
142. W. Xu, **C.-H. Choi**, "Evaporation Kinetics of Nanofluid Droplets on Superhydrophobic Surfaces", in *Proceedings of the 13th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2009)*, November 1-5, 2009, Jeju, Korea.
143. **C.-H. Choi,** C.-J. Kim, "Cell Growth on Three-Dimensional Sharp-Tip Nanostructures of Hydrophilic and Hydrophobic Surfaces", in *Proceedings of the 13th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2009)*, November 1-5, 2009, Jeju, Korea.
144. C. Lee, **C.-H. Choi,** C.-J. Kim, "Structured Surfaces for a Giant Liquid Slip", in *Proceedings of the 7th World Conference on Experimental Heat Transfer, Fluid Mechanics and Thermodynamics,* June 28 - July 3, 2009, Krakow, Poland.
145. **C.-H. Choi**, "Nanofluidic Energy Harvesting", in *Proceedings of E^2 – Alternative Energy Workshop*, June 2, 2009, Hoboken, NJ, USA. (**invited**)
146. **C.-H. Choi,** C.-J. Kim, "Nanostructured Surfaces for Anti-Biofouling/Anti-Microbial Applications", in *Proceedings of the SPIE Defense, Security, and Sensing*, April 13-17, 2009, Orlando, FL, USA.
147. Y.-T. Tsai, W. Xu, E.-H. Yang, **C.-H. Choi**, "Interfacial-Tension-Directed Self-Assembly of Nanowires on a Superhydrophobic Surface", in *Proceedings of ASME 2008 International Mechanical Engineering Congress (IMECE)*, November 2-6, 2008, Boston, MA, USA.
148. C. Lee, **C.-H. Choi,** C.-J. Kim, "Effect of Geometric Parameters of Superhydrophobic Surface on Liquid Slip", in *Proceedings of ASME 2008 International Mechanical Engineering Congress (IMECE)*, November 2-6, 2008, Boston, MA, USA.
149. **C.-H. Choi,** C.-J. Kim, "Droplet Evaporation in Nanostructured Superhydrophobic Surfaces", in *Proceedings of the 12th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2008)*, October 12-16, 2008, San Diego, CA, USA.

150. S. H. Hagvall, **C.-H. Choi,** C.-J. Kim, J. C. Y. Dunn, B. M. Wu, R. E. Beygui, "Cell Interactions with 3D Nanostructures", in *Proceedings of the 7th Annual UC Systemwide Bioengineering Symposium*, June 24-26, 2006, UCLA De Neve Plaza, Los Angeles, CA, USA.
151. S. H. Hagvall, **C.-H. Choi,** J. C. Y. Dunn, B. M. Wu, C.-J. Kim, R. E. Beygui, "Cell Interactions with 3D Nanostructures", in *Proceedings of the International Society for Applied Cardiovascular Biology (ISACB): The 10th Biennial Meeting*, March 8-11, 2006, LaJolla, CA, USA.
152. **C.-H. Choi,** S. H. Hagvall, J. C. Y. Dunn, B. M. Wu, C.-J. Kim, "Cell Adhesions on NanoTurf Surfaces", in *Proceedings of MEMS 2006: The 19th International Conference on Micro Electro Mechanical Systems*, January 22-26, 2006, Istanbul, Turkey.
153. **C.-H. Choi,** C.-J. Kim, "Cell Adhesions on NanoTurf Surfaces", in *Proceedings of the 1st UCLA-Postech Joint Symposium on BioMEMS*, January 19, 2006, Los Angeles, CA, USA.
154. **C.-H. Choi,** C.-J. Kim, "Measurement of Liquid Slip on NanoTurf Surfaces", in *Proceedings of ASME 4th Integrated Nanosystems Conference (NANO2005)*, September 12-14, 2005, University of California, Berkeley, CA, USA.
155. **C.-H. Choi,** C.-J. Kim, "Control of Sidewall Profile of Silicon Nanostructures in Bosch Process and Its Use for Sharp Tip Fabrication", in *Proceedings of UKC2005: The 2005 US-Korea Conference on Science, Technology, & Entrepreneurship*, August 11-13, 2005, Irvine, CA, USA.
156. **C.-H. Choi,** C.-J. Kim, "Fabrication of Silicon Nanostructures with Various Side Wall Profiles and Sharp Tips", in *Proceedings of Transducers'05: The 13th International Conference on Solid-State Sensors, Actuators and Microsystems*, June 5-9, 2005, Seoul, Korea.
157. **C.-H. Choi,** C.-J. Kim, "Fabrication of Silicon Nanostructures with Various Sidewall Profiles and Sharp Tips", in *Proceedings of the 2nd UCLA-Postech Joint Workshop on Current MEMS Research*, June 3, 2005, Pohang, Korea.
158. C.-J. Kim, **C.-H. Choi,** "Nano-Engineered Low Friction Surface for Liquid Flow", in *Proceedings of the 6th KSME-JSME Thermal and Fluids Engineering Conference*, March 20-23, 2005, Jeju, Korea.
159. **C.-H. Choi,** J. Kim, C.-J. Kim, "NanoTurf Surfaces for Reduction of Liquid Flow Drag in Microchannels", in *Proceedings of ASME 2004 3rd Integrated NanoSystems Conference (NANO2004)*, September 22-24, 2004, Pasadena, CA, USA.
160. **C.-H. Choi,** J. Kim, C.-J. Kim, "Nano-engineered Low-friction Surface for Liquid Flow", in *Proceedings of the 14th Korean-American Scientists and Engineers Association South-Western Region Annual Technical Conference*, March 6, 2004, Cerritos, CA, USA.
161. **C.-H. Choi,** J. Kim, U. Ulmanella, C.-M. Ho, C.-J. Kim, "Nano-Engineered Low Flow Friction Surfaces", in *Proceedings of the 1st International NanoSystems Symposium at UCLA*, December 13, 2003, Los Angeles, CA, USA.
162. **C.-H. Choi,** J. Kim, C.-J. Kim, "Nano-Engineered Low Friction Surfaces", in *Proceedings of the DARPA/DMEA CNID (Center for Nanoscience Innovation for Defense) Review*, January 27, 2003, Los Angeles, CA, USA.
163. **C.-H. Choi,** K. J. A. Westin, K. S. Breuer, "To Slip or Not to Slip: Water Flows in Hydrophilic and Hydrophobic Microchannels", in *Proceedings of ASME 2002 International Mechanical Engineering Congress (IMECE)*, November 2002, New Orleans, LA, USA.
164. K. J. A. Westin, **C.-H. Choi,** P. Huang, Z. Cao, K. S. Breuer, B. Caswell, P. Richardson, M. Sibulkin, "Liquid Transport Properties in Submicron Channel Flows", in *Proceedings of ASME 2001 International Mechanical Engineering Congress (IMECE)*, November 2001, New York, NY, USA.

165. K. J. A. Westin, **C.-H. Choi,** K. S. Breuer, "Rheological Shear Experiments in Micron Scale Geometries", in *Proceedings of the 5th International Conference on Micro Total Analysis Systems (MicroTAS2001)*. October 2001, Monterey, CA, USA.
166. J.-M. Choi, S.-W. Choi, **C.-H. Choi,** K.-J. Lee, "Satellite Anomaly and Solar Array Temperature Variation", in *Proceedings of the Korean Society for Aeronautical & Space Sciences (KSAS) Spring Annual Meeting*, April 2000, Korea.
167. **C.-H. Choi,** J.-M. Choi, S.-W. Choi, "Thermal Design & Analysis of Satellite Battery Module", in *Proceedings of the Korean Society for Aeronautical & Space Sciences (KSAS) Fall Annual Meeting*, November 1999, Korea.
168. **C.-H. Choi,** O.-H. Rho, S.-W. Choi, "TRASYS Modeling & Thermal Analysis of KOMPSAT", in *Proceedings of the Korean Society for Aeronautical & Space Sciences (KSAS) Spring Annual Meeting*, April 1996, Korea.

4.1.6 Online Articles

1. **C.-H. Choi**, "3-D Nanopatterning and Nanofabrication: Using Nano-Scalloping Effects in Bosch Deep Reactive Ion Etching", AZoNano, Nanotechnology Thought Leaders Series, 2010 (**invited**). http://www.azonano.com/article.aspx?ArticleId=2714

4.1.7 Research Reports

1. **The 2005 California NanoSystems Institute (CNSI) Annual Research Report**, "Dramatic Slip Effect of Liquids Flowing on Nano-Engineered Surfaces", Page 42.
2. **The 2002 CNSI Annual Research Report**, "Nano-Engineered Low Flow Friction Surfaces: NanoTurf", Page 10.

4.2 Presentations

4.2.1 Conference/Workshop/Symposium Presentations

1. **C.-H. Choi**, "Design of Robust Lubricant-Infused Surfaces", in *Proceedings of IUTAM Symposium on Capillarity and Elastocapillarity in Biology*, August 22-24, 2024, Seoul, Korea. (**invited**)
2. J. Jang, **C.-H. Choi**, S. H. Lee, "Effects of Holding Temperature during Induction Heating Assisted Laser-Directed Energy Deposition of Inconel 718", in *Proceedings of the 42th International Congress on Applications of Lasers and Electro-Optics (ICALEO)*, October 16-19, 2023, Chicago, IL.
3. J. Jung, S. M. Hosseini, **C.-H. Choi**, "Optimization of Direct Energy Deposition Additive Manufacturing Process for Al-Mg-Si Alloy and H13 Steel", in *Proceedings of UKC2023: The 2023 US-Korea Conference on Science, Technology and Entrepreneurship*, August 2-5, 2023, Dallas-Fort Worth, TX.
4. **C.-H. Choi**, "Novel Nanofabrication Processes and Applications via Laser Interference Lithography", in *Proceedings of the 23rd IEEE International Conference on Nanotechnology (IEEE-NANO 2023)*, July 2-5, 2023, Jeju Island, South Korea.
5. J. Jung, S. M. Hosseini, **C.-H. Choi**, "Optimization of Direct Energy Deposition Process for Al-Mg-Si Aluminum Alloy and H13 Steel Bi-metal Structure", in *Proceedings of* the Northeast Regional Conference (NRC) 2023, April 29, 2023, Montclair, NJ.

6. Y. Xi, H. J. Kaper, **C.-H. Choi**, P. K. Sharma, "Biotribology of Microtextured Surfaces: Effects of Material Hydrophilicity and Stiffness", in *Proceedings of the 2nd International Conference on Nature Inspired Surface Engineering (NISE 2022)*, August 17-19**,** 2022, Seoul, South Korea.
7. Y. Xi, H. J. Kaper, **C.-H. Choi**, P. K. Sharma, "Tribological Effects of Textured Hard Implant Surfaces Sliding against Soft Tissue under Physiological Conditions", in *Proceedings of the 7th World Tribology Congress (WTC 2022)*, July 10-15**,** 2022, Lyon, France.
8. J. Son, **C.-H. Choi**, D.-S. Shim, "Thermal Conductivity of HTCS-150 Deposited via Powder-fed DED Technology", in *Proceedings of UKC2021: The 2021 US-Korea Conference on Science, Technology and Entrepreneurship*, December 15-18**,** 2021, Garden Grove, CA.
9. R. Gulfam, D. Orejon, **C.-H. Choi**, P. Zhang, "Thermo-Responsive Enhanced Shedding on Lubricant Infused Surfaces", in *Proceedings of UKHTC 2021: The 17th UK Heat Transfer Conference*, September 5-7**,** 2021, Manchester, UK.
10. J. Son, G. Shin, K. Lee, **C.-H. Choi**, D. Shim, "High-Temperature Properties of Hot-Work Tool Steel (AISI H13) Deposited via Direct Energy Deposition", in *Proceedings of ICTP 2021: The 13th International Conference on the Technology of Plasticity*, July 25-30**,** 2021, Virtual.
11. J. E. Brito, K. Asawa, **C.-H. Choi,** A. K. Andrianov, S. A. Sukhishvili, "All-aqueous Layer-by-layer Coatings of Fluorinated Polyelectrolytes for Controllable Hydrophobicity and Droplet Adhesion", in *Proceedings of ACS Spring 2021*, April 5-16**,** 2021, Virtual.
12. J.-Y. Son, **C.-H. Choi,** K.-Y. Lee, D.-S. Shim, "Experimental Investigation into a Fatigue Failure of Deposited HTCS-150 on H13 by Thermal Cyclic Loadings", in *Proceedings of the 30th KSEA Northeast Regional Conference*, April 3**,** 2021, Virtual.
13. A. Alaei, K. Zong, K. Asawa, T.-M. Chou, A. L. Briseño, **C.-H. Choi**, S. S. Lee, "Directing Organic Semiconductor Crystal Orientation and Shape using Nanoconfining Scaffolds", in *Proceedings of the APS March Meeting,* March 15-19**,** 2021, Virtual.
14. **C.-H. Choi**, K. Asawa, D. Song, "Electrokinetic Energy Harvesting of Streaming Current through Nanotextured Microchannels", in *Proceedings of UKC2020: The 2020 US-Korea Conference on Science, Technology and Entrepreneurship*, December 14-17**,** 2020, Virtual.
15. K. Zong, K. Asawa, **C.-H. Choi**, S. S. Lee, "Graphoepitaxy-Directed Crystallization of Small-Molecule Organic Semiconductors into 3D Structures", in *Proceedings of the 2022 Virtual AlChE Annual Meeting,* November 16-20**,** 2020, Virtual.
16. K. Asawa, S. Kumar, Y. Huang, **C.-H. Choi**, "Optofluidic Waveguide using Oil-Impregnated Nanoporous Surfaces as Cladding Layers", in *Proceedings of the ASME 2019 International Mechanical Engineering Congress & Exposition (IMECE)*, November 8-14**,** 2019, Salt Lake City, Utah, USA.
17. S. S. Lee, K. Zong, K. Asawa, **C.-H. Choi**, N. Sparta, A. Circelli, "Engineering Vertical Crystal Arrays for Efficient Solar Energy Harvesting", in *Proceedings of the Energy Harvesting From Infrastructure and Ocean Systems (EHIOS)*, November 4-6**,** 2019, Hoboken, NJ, USA.
18. J. Lee, **C.-H. Choi**, "Oil-impregnated Nanoporous Oxide Layers for Durable Omniphobicity and Anti-Corrosion for Aluminum", in *Proceedings of UKC2019: The 2019 US-Korea Conference on Science, Technology and Entrepreneurship*, August 14-17**,** 2019, Chicago, IL, USA.
19. J. Lee, **C.-H. Choi**, "Effects of Oil Viscosity on the Anti-Corrosion and Self-Healing Properties of Oil-Impregnated Nanoporous Anodic Aluminum Oxide", in *Proceedings of the Americas International Meeting on Electrochemistry and Solid-State Science (AiMES 2018)*, September 20 – October 4**,** 2018, Cancun, Mexico.
20. K. Du, J. Ding, I. Wathuthanthri, **C.-H. Choi**, "Optofluidic Waveguide using Nanostructured Superhydrophobic Surfaces as Novel Cladding Layers", in *Proceedings of the 8th International Multidisciplinary Conference on Optofluidics (IMCS 2018)*, August 5-8, 2018, Shanghai, China.

21. G. Sun, **C.-H. Choi**, "Nanopillars by Deep Reactive Ion Etching using Silica Nanoparticles as Masks", in *Proceedings of the ACS Publications Symposium: Innovation in Materials Science*, July 29-31, 2018, Shanghai, China.
22. Y. Jiang, Y. Sun, J. W. Drelich, **C.-H. Choi**, "Droplet Adhesion on Patterned Hydrophobic Surfaces in a Fakir State: Topography-Dependent Effective Contact Line", in *Proceedings of the 11th International Symposium on Contact Angle, Wettability and Adhesion*, July 13-15, 2018, Hoboken, NJ, USA.
23. D. Song, Y. Jiang, T. Chou, K. Asawa, **C.-H. Choi**, "Water Droplet Impact and Freezing on an Extremely Cold Surface", in *Proceedings of the 11th International Symposium on Contact Angle, Wettability and Adhesion*, July 13-15, 2018, Hoboken, NJ, USA.
24. Y. Jiang, Y. Sun, J. W. Drelich, **C.-H. Choi**, "Spontaneous Spreading of a Droplet: The Role of Solid Continuity and Advancing Contact Angle", in *Proceedings of the 11th International Symposium on Contact Angle, Wettability and Adhesion*, July 13-15, 2018, Hoboken, NJ, USA.
25. R. Ozbay, Y. Jiang, **C.-H. Choi**, "Contact Line Dynamics of a Bubble on Superaerophobic Surfaces", in *Proceedings of the 11th International Symposium on Contact Angle, Wettability and Adhesion*, July 13-15, 2018, Hoboken, NJ, USA.
26. F. Hizal, **C.-H. Choi**, "Nanofabricated Biomaterial Surfaces for Anti-Bacterial Adhesion", in *Proceedings of the 5th Nano Today Conference*, December 6-10, 2017, Hawaii, USA.
27. J. Lee, **C.-H. Choi**, "Multifunctional Omniphobicity of Oil-Impregnated Nanoporous Anodic Oxide Surfaces", in *Proceedings of the 1st International Symposium on Surface Treatment & Modification Technologies (STMT2017)*, November 21-25**,** 2017, Jeju, Korea.
28. D. Song, **C.-H. Choi**, "Spontaneous De-icing Phenomena on Extremely Cold Surfaces", in *Proceeding of the 70th Annual Meeting of the APS Division of Fluid Dynamics*, November 19-21, 2017, Denver, CO, USA.
29. Y. Jiang, L. Cao, Z. Guo, **C.-H. Choi**, "Droplet Sliding on Inclined Superhydrophobic Surfaces: The Effect of Anisotropic Contact Line", in *Proceeding of the 70th Annual Meeting of the APS Division of Fluid Dynamics*, November 19-21, 2017, Denver, CO, USA.
30. R. Ozbay, Y. Jiang, A. Kibar, **C.-H. Choi**, "Dynamics of Contact Line Pinning/Depinning of Sliding Bubble on Super-Aerophobic Surfaces", in *Proceeding of the 70th Annual Meeting of the APS Division of Fluid Dynamics*, November 19-21, 2017, Denver, CO, USA.
31. J. Lee, **C.-H. Choi**, "Oil-Impregnated Nanoporous Oxide Layer of Metals for Omniphobic and Anti-Corrosive Surfaces", in *Proceedings of the 4th International Symposium on Hybrid Materials and Processing (HyMaP 2017)*, November 5-8**,** 2017, Busan, Korea.
32. J. Lee, **C.-H. Choi**, "Anodized Stainless Steel for Omniphobicity and Anti-Corrosion", in *Proceedings of UKC2017: The 2017 US-Korea Conference on Science, Technology and Entrepreneurship*, August 9-12**,** 2017, Washington, DC, USA.
33. J. Lee, **C.-H. Choi**, "Enhancement of Radiative Heat Dissipation of Aluminum Alloy by Anodizing and Sealing", in *Proceedings of UKC2017: The 2017 US-Korea Conference on Science, Technology and Entrepreneurship*, August 9-12**,** 2017, Washington, DC, USA.
34. Y. Jiang, Z. Guo, **C.-H. Choi**, "The Origin of Droplets' Retention on Superhydrophobic Surfaces", in *Proceedings of the 3rd International Conference on Droplets (Droplet 2017)*, July 24-26**,** 2017, Los Angeles, CA, USA.
35. J. Lee, **C.-H. Choi**, "Bio-Inspired Nanoporous Composite Oxide Layer with Oil Impregnation for Anticorrosion", in *Proceedings of the 25th Annual International Conference on Composites/Nano Engineering (ICCE-25)*, July 16-22**,** 2017, Rome, Italy.

36. Y. Jiang, J. Xu, E.-H. Yang, **C.-H. Choi**, "Effects of Nanostructures on Tunable Droplet Mobility on Conjugated Polymer Surfaces", in *Proceedings of the 91th ACS Colloid & Surface Science Symposium*, July 9-12, 2017, New York, NY, USA.
37. W. Xu, J. Xu, X. Li, Y. Tian, **C.-H. Choi**, Eui-Hyeok Yang, "Lateral Actuation of an Organic Droplet on Conjugated Polymer Electrodes", in *Proceedings of the 91th ACS Colloid & Surface Science Symposium*, July 9-12, 2017, New York, NY, USA.
38. W. Xu, A. Palumbo, J. Xu, Y. Jiang, **C.-H. Choi**, Eui-Hyeok Yang, "On-Demand Capture and Release of Organic Droplets on Surfactant-Doped Polypyrrole Surfaces", in *Proceedings of the 91th ACS Colloid & Surface Science Symposium*, July 9-12, 2017, New York, NY, USA.
39. D. Song, **C.-H. Choi**, "Spontaneous De-Icing Phenomena on Extremely Cold Surfaces", in *Proceedings of the 7th International Colloids Conference*, June 18-21, 2017, Sitges, Barcelona, Spain.
40. F. Hizal, **C.-H. Choi**, "Bacterial Transmission Between Smooth and Nanopillared Surfaces", in *Proceedings of the 7th International Colloids Conference*, June 18-21, 2017, Sitges, Barcelona, Spain.
41. Y. Jiang, Z. Guo, **C.-H. Choi**, "Retention of Particle-Laden Droplets on Superhydrophobic Surfaces: The Role of Capillary Bridge Rupture", in *Proceedings of the 7rd Northeast Complex Fluids and Soft Matter Workshop (NCS7)*, May 26**,** 2017, Princeton, NJ, USA.
42. J. Lee, Y. Jiang, **C.-H. Choi**, "Oil-Impregnated Nanoporous Oxide Layer of Anodized Stainless Steel for Omniphobic and Anti-Corrosive Surfaces", in *Proceedings of PRiME 2016: Pacific Rim Meeting on Electrochemical and Solid-State Science*, Oct. 2-7, 2016, Honolulu, HI.
43. J. Lee, **C.-H. Choi**, "Oil-Impregnated Aluminum Anodic Oxide Layer with Bottle-Shaped Pores for Enhanced Anti-Corrosion and Self-Healing Properties", in *Proceedings of PRiME 2016: Pacific Rim Meeting on Electrochemical and Solid-State Science*, Oct. 2-7, 2016, Honolulu, HI.
44. J. Lee, **C.-H. Choi**, "Oil-Impregnated Anodic Aluminum Oxide Layer for Enhanced Anti-Corrosion and Self-Healing Properties", in *Proceedings of UKC2016: The 2016 US-Korea Conference on Science, Technology and Entrepreneurship*, August 10-13**,** 2016, Dallas, TX, USA. (**invited**)
45. G.H. Ban, J. Lee, J. Lee, Y. Li, **C.-H. Choi**, S. Jun, "Nano-Engineered Sanitation Surfaces for Prevention of Bacterial Adhesion", in *Proceedings of the International Association for Food Protection Annual Meeting (IAFP 2016)*, August 1-2, 2016, St. Louis, MO, USA.
46. M. Sarshar, C. Swartz, **C.-H. Choi**, "Icephobicity of Superhydrophobic Surfaces: Effects of Environmental Conditions", in *Proceedings of the 10th International Symposium on Contact Angle, Wettabiity and Adhesion*, July 13-15, 2016, Hoboken, NJ, USA.
47. R. Ozbay, A. Kibar, **C.-H. Choi**, "Bubble Adhesion on Superaerophobic Surfaces: Effects of Surface Morphology", in *Proceedings of the 10th International Symposium on Contact Angle, Wettabiity and Adhesion*, July 13-15, 2016, Hoboken, NJ, USA.
48. J. Lee, Y. Jiang, **C.-H. Choi**, "Oil-Impregnated Anodic Aluminum Oxide Layers for Omniphobic Surfaces", in *Proceedings of the 10th International Symposium on Contact Angle, Wettabiity and Adhesion*, July 13-15, 2016, Hoboken, NJ, USA.
49. A. Kibar, R. Ozbay, **C.-H. Choi**, "Air Bubble Detachment on Superhydrophobic Surfaces", in *Proceedings of the 10th International Symposium on Contact Angle, Wettabiity and Adhesion*, July 13-15, 2016, Hoboken, NJ, USA.
50. R. Ozbay, A. Kibar, **C.-H. Choi**, "Adhesion and Sliding Dynamics of Air Bubbles on Superhydrophobic Surfaces", in *Proceedings of the 9th International Conference on Multiphase Flow*, May 22-27, 2016, Firenze, Italy.

51. Y. Jiang, W. Xu, K. Connington, **C.-H. Choi**, "Effects of Nanoparticles on the Depinning Force of a Receding Droplet on Micropatterned Superhydrophobic Surfaces", in *Proceedings of the 9th International Conference on Multiphase Flow*, May 22-27, 2016, Firenze, Italy.
52. M. Sarshar, **C.-H. Choi**, "Depinning of Water Droplets on Pillared Superhydrophobic Surfaces under Dynamic Icing Conditions", in *Proceedings of the 9th International Conference on Multiphase Flow*, May 22-27, 2016, Firenze, Italy.
53. A. Chauvin, C. Delacote, L. Molina-Luna, M. Boujtita, D. Thiry, K. Du, J. Ding, **C.-H. Choi**, B. Humbert, J.-Y. Mevellec, P.-Y. Tessier, and A.-A. El Mel, "Two-Step Approach for the Nanofabrication of Highly Ordered Ultra-Long Porous Gold Nanowires with an Adjustable Porosity for SERS-based Sensors", in *Proceedings of the 2016 TechConnect World Innovation Conference and Expo*, May 22-25, 2016, National Harbor, Maryland, USA.
54. A. Kibar, R. Ozbay, **C.-H. Choi**, "Air Bubble Departure on a Superhydrophobic Surface", in *Proceedings of the 8th Ege Energy Symposium and Exhibition*, May 11-13, 2016, Afyonkarahisar, Turkey.
55. A.-A. El Mel, L. Molina-Luna, M. Buffière, P.-Y. Tessier, K. Du, **C.-H. Choi**, H.-J. Kleebe, S. Konstantinidis, C. Bittencourt, R. Snyders, "Steering Atomic Diffusion in Oxide Nanotubes in situ via a Direct Control of Local Defects Created by E-beam Irradiation" in *Proceedings of the European Materials Research Society Spring Meeting*, May 2-6, 2016, Lille, France.
56. A. Chauvin, C. Delacote, L. Molina-Luna, E. Gautron, N. Gautier, M. Boujtita, D. Thiry, J. Ding, **C.-H. Choi**, P.Y. Tessier, A.-A. El Mel, "Surface Engineering of Nanowire by Direct Control of Defects on the Nanoscale" in *Proceedings of the European Materials Research Society Spring Meeting*, May 2-6, 2016, Lille, France.
57. **C.-H. Choi**, "Hydrodynamic Friction Reduction in Microfluidics: From Droplet to Channel Flow", in *Proceedings of the 8th Workshop of Chemical and Biological Micro Laboratory Technology (CBM-8)*, February 23-26, 2016, Ilmenau, Germany. (**invited**)
58. F. Hizal, I. Zhuk, S. Sukhishvili, H. J. Busscher, H. C. van der Mei, **C.-H. Choi**, "Bacteria-Triggered Self-Defensive Antibiotic Coating: Effect of 3D Hierarchical Nanostructures", in *Proceedings of the 9th International Symposium on Nature-Inspired Technology*, January 13-15**,** 2016, Daejeon, Korea. (**invited**)
59. **C.-H. Choi**, "Multifunctional Superhydrophobic Coatings for Naval Applications", in *Proceedings of the Pacific Polymer Conference 14*, December 9-13, 2015, Kauai, Hawaii, USA. (**invited**)
60. **C.-H. Choi**, "Bioinspired Nanoengineering of Multifunctional Superhydrophobic Surfaces", in *Proceedings of the Korean Society of Surface Engineering Fall Workshop*, November 25-27, 2015, Gwangju, Gyeonggi, Korea. (**invited**)
61. **C.-H. Choi**, "Icing on Superhydrophobic Surfaces", in *Proceedings of the Korean Society of Thermal Engineering Workshop*, November 26, 2015, Seoul, Korea. (**invited**)
62. **C.-H. Choi**, "Nanoengineering of Bioinspired Multifunctional Surfaces", in *Proceedings of the Korea Institute of Machinery and Materials Workshop*, August 18, 2015, Gangneung, Gangwon, Korea. (**invited**)
63. F. Hizal, N. Rungraeng, S. Jun, **C.-H. Choi**, "Nanoengineered Surfaces for Prevention of Bacteria Adhesions", in *Proceedings of UKC2015: The 2015 US-Korea Conference on Science, Technology and Entrepreneurship*, July 29 – August 1**,** 2015, Atlanta, GA, USA. (**invited**)
64. F. Hizal, N. Rungraeng, S. Jun, **C.-H. Choi**, "Nanoengineered Surfaces for Prevention of Bacteria Adhesions", in *Proceedings of the 3rd Stevens Conference on Bacteria-Material Interactions*, June 17-18**,** 2015, Hoboken, NJ, USA. (**invited**)

65. **C.-H. Choi**, "Superhydrophobic Surfaces for Microfluidics and Lab-on-a-Chip Applications", in *Proceedings of the Microfluidic and Lab-on-a-Chip India*, January 22-23, 2015, Mumbai, India. (**invited for Keynote Presentation**)
66. **C.-H. Choi**, "Ultra-Low-Voltage Manipulation of Microdroplets using Electrochemical Redox Process of Smart Polymers", in *Proceedings of the Microfluidic and Lab-on-a-Chip India*, January 22-23, 2015, Mumbai, India. (**invited**)
67. **C.-H. Choi**, "Hydrodynamic Frictions on Superhydrophobic Surfaces", in *Proceedings of the Northeast Complex Fluids and Soft Matter Workshop*, January 16, 2015Newark, NJ, USA. (**Invited for Plenary Talk**).
68. W. Xu, X. Li, Y. Tian, H. Bisaria, A. Palumbo, E. Cook, **C.-H. Choi**, E.-H. Yang, "Manipulation of Microdroplets at Ultra-Low Voltages on Conjugated Polymer", in *Proceedings of ASME 2014 International Mechanical Engineering Congress (IMECE)*, November 14-20, 2014, Montreal, Canada.
69. F.T. Fisher, R. S. Besser, K. Sheppard, **C.-H. Choi**, and E.H. Yang, "An Approach for Introducing Concepts of Nanotechnology within the Undergraduate Curriculum", in *Proceedings of ASEE Mid-Atlantic Section Fall 2014 Conference*, November 14-15, 2014, Swarthmore, PA, USA.
70. Y. Lu, M. A. Sarshar, K. Du, T. Chou, **C.-H. Choi**, S. A. Sukhishvili, "Reversible Wetting Transitions enabled by pH-Responsive Layer-by-Layer Hydrogels", in *Proceedings of the Layer-by-Layer Assemblies: Science and Technology*, June 23-25, 2014, Hoboken, NJ
71. M. A. Sarshar, Y. Jiang, W. Xu, **C.-H. Choi**, "Theoretical Models for Depinning Forces of Evaporating Droplets on Pillared Superhydrophobic Surfaces", in *Proceedings of the 88th ACS Colloid & Surface Science Symposium*, June 22-25, 2014, Philadelphia, PA, USA.
72. Y. Jiang, M. A. Sarshar, W. Xu, **C.-H. Choi**, "Effects of Three-Phase Contact Line on Contact Angle Hysteresis and Depinning Force on Micro-Porous Hydrophobic Surfaces", in *Proceedings of the 88th ACS Colloid & Surface Science Symposium*, June 22-25, 2014, Philadelphia, PA, USA.
73. R. Ozbay, A. Kibar, **C.-H. Choi**, "Bubble Adhesions on Micropillared Super-Aerophobic Surfaces", in *Proceedings of the 88th ACS Colloid & Surface Science Symposium*, June 22-25, 2014, Philadelphia, PA, USA.
74. W. Xu, **C.-H. Choi**, E.-H. Yang, "Tunable Wetting and Adhesion of Doped Polypyrrole Surface for Ultra-Low-Voltage Manipulation of Microdroplets", in *Proceedings of the 88th ACS Colloid & Surface Science Symposium*, June 22-25, 2014, Philadelphia, PA, USA.
75. M. A. Sarshar, Y. Jiang, W. Xu, **C.-H. Choi**, "Analytical Models of Depinning Forces of Evaporating Droplets on Superhydrophobic Surfaces", in *Proceedings of the 9th International Symposium on Contact Angle, Wettabiity and Adhesion*, June 16-18, 2014, Bethlehem, PA, USA.
76. Y. Jiang, M. A. Sarshar, W. Xu, **C.-H. Choi**, "Contact Angle Hysteresis and Depinning Force on Hydrophobic Porous Surfaces", in *Proceedings of the 9th International Symposium on Contact Angle, Wettabiity and Adhesion*, June 16-18, 2014, Bethlehem, PA, USA.
77. R. Ozbay, A. Kibar, **C.-H. Choi**, "Bubble Adhesions on Surfaces of Various Wettabilities: Effect of Bubble Volumes", in *Proceedings of the 9th International Symposium on Contact Angle, Wettabiity and Adhesion*, June 16-18, 2014, Bethlehem, PA, USA.
78. W. Xu, **C.-H. Choi**, E.-H. Yang, "Transportation of Microdroplet at Ultra-Low Voltages by Tunable Wetting on Conjugated Polymer Electrodes", in *Proceedings of the 9th International Symposium on Contact Angle, Wettabiity and Adhesion*, June 16-18, 2014, Bethlehem, PA, USA.
79. K. Du, J. Ding, I. Wathuthanthri, **C.-H. Choi**, "Patterning of High-Aspect-Ratio Nanostructures on Microtrenches using Stencil Lithography of Free-Standing Tri-Layer Membrane", in Proceeding of the 58th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), May 27-30, 2014, Washington DC, USA.

80. J. Ding, K. Du, I. Wathuthanthri, **C.-H. Choi**, F. Fisher, E.-H. Yang, "Patterning of Large-Area Graphene Nanostructures via Holographic Lithography and O2 Plasma Etching", in Proceeding of the 58th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), May 27-30, 2014, Washington DC, USA.
81. I. Wathuthanthri, K. Du, **C.-H. Choi**, "Nanoparticles-Decorated Nanocone Array of Gold for Anti-Reflective Enhancement of SERS Sensing", in Proceeding of the 58th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), May 27-30, 2014, Washington DC, USA.
82. W. Xu, X. Li, A. Palumbo, **C.-H. Choi**, E.-H. Yang, "Bi-Directional Switching of Microdroplet Adhesion on Doped Polypyrrole Microstructures", in Proceedings of the Hilton Head 2014 Solid-State Sensors, Actuators & Microsystems Workshop, June 8-12, 2014, Hilton Head Island, SC.
83. F. Hizal, N. Rungraeng, S. Jun, **C.-H. Choi**, "Nano-Engineered Alumina Surfaces for Prevention of Bacteria Adhesions", in *Proceeding of the 9th IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS)*, April 13-16, 2014, Waikiki Beach, Hawaii, USA. (**Best Student Paper Award**)
84. A.-A. El Mel, M. Buffière, P.-Y. Tessier, K. Du, **C.-H. Choi**, L. Molina-Luna, S. Schildt, H. J. Kleebe, S. Konstantinidis, C. Bittencourt, R. Snyders, "Fabrication and Controlled *in situ* Morphological Transformation of Highly Ordered Hollow Oxide Nanostructures Based on Nanoscale Kirkendall Effect", in *Proceedings of AVS 60th International Symposium & Exhibition*, October 27-November 1, 2013, Long Beach, California.
85. A.-A. El Mel, M. Buffière, S. Konstantinidis, P.-Y. Tessier, W. Xu, K. Du, **C.-H. Choi**, C. Bittencourt, R. Snyders, "Understanding the Kirkendall Effect at the Nanoscale in Cu/CuO", in *Proceedings of IVC-19/ICSS-15 and ICN+T 2013*, September 9-13, 2013, Paris, France.
86. L. Molina-Luna, S. Schildt, M. Buffière, K. Du, **C.-H. Choi**, H. J. Kleebe, R. Snyders, C. Bittencourt, A.-A. El Mel, "*In vivo* Study of the Morphological Transformation of Hollow Oxide Nanostructures upon *in situ* Annealing in a Transmission Electron Microscope", in *Proceedings of Microscopy Conference (MC) 2013*, August 25-30, 2013, Regensburg, Germany.
87. W. Xu, Y. Tian, H. Bisaria, P. Ahn, **C.-H. Choi**, E.-H. Yang, "Transportation of a Liquid Droplet at Ultra-Low Voltages by Tunable Wetting on Conjugated Polymer Electrodes", in *Proceedings of Transducers 2013 & Eurosensors XXVII: The 17th International Conference on Solid-State Sensors, Actuators and Microsystems*, June 16-20, 2013, Barcelona, Spain.
88. K. Du, Y. Liu, I. Wathuthanthri, **C.-H. Choi**, "Fabrication of Hierarchical Nanostructures using Free-Standing Tri-Layer Membrane", in *Proceeding of the 57th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)*, May 28-31, 2013, Nashville, Tennessee, USA.
89. Y. Liu, K. Du, I. Wathuthanthri, **C.-H. Choi**, "Fabrication of Nano-Bowl Arrays via Simple Holographic Patterning and Lift-off Process", in *Proceeding of the 56th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)*, May 28-31, 2013, Nashville, Tennessee, USA.
90. I. Wathuthanthri, K. Du, **C.-H. Choi**, "Plasmonic Nanogap Arrays Fabricated via Moiré Holographic Lithography", in *Proceeding of the 56th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)*, May 28-31, 2013, Nashville, Tennessee, USA.
91. A. Kibar, R. Ozbay, M. A. Sarshar, Y. T. Kang, **C.-H. Choi**, "Air Bubble Movement over and under Hydrophobic Surfaces in Water", in *Proceedings of the 8th International Conference on Multiphase Flow*, May 26-31, 2013, Jeju, Korea.

92. W. Xu, Y. Tian, H. Bisaria, P. Ahn, X. Li, Y.-T. Tsai, **C.-H. Choi**, E.-H. Yang, "A Low-Voltage Manipulation via Tunable Wetting on Polypyrrole(DBS) surface", in *Proceedings of TechConnect World 2013 – Nanotech, Microtech, Biotech, Cleantech Joint 2013 Conferences,* May 12-16, 2013, National Harbor, Maryland.
93. A.-A. El Mel, M. Buffière, P.-Y. Tessier, W. Xu, K. Du, **C.-H. Choi**, S. Konstantinidis, C. Bittencourt, R. Snyders, "Fabrication of Highly Ordered Hollow Oxide Nanostructures Based on Nanoscale Kirkendall Effect and Oswald Ripening", in *Proceedings of the 5th IEEE International Nanoelectronics Conference (INEC 2013)*, January 2-4, 2012, Singapore.
94. **C.-H. Choi**, "Nano-Engineered Surfaces for Energy Saving Applications", in *Proceedings of the International Symposium on Nature-Inspired Technology (ISNIT 2013)*, January 6-9**,** 2013, Yongpyong, Gangwon, Korea. (**invited**)
95. Y.-T Tsai, **C.-H. Choi**, E.-H. Yang, "Water Droplet Manipulation by Tunable Wetting on Smart Polymer at Ultra-Low Voltages", in *Proceedings of the 16th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2012)*, October 28 - November 1, 2012, Okinawa, Japan.
96. C. Jeong, W. Xu, K. Du, **C.-H. Choi**, "Corrosion Resistance of Nanoporous Superhydrophobic Surfaces of Anodic Aluminum Oxide", in *Proceedings of PRiME 2012: Pacific Rim Meeting on Electrochemical and Solid-State Science*, Oct. 7-12, 2012, Honolulu, HI.
97. C. Jeong, **C.-H. Choi**, "Stepwise Anodizing Processes for Hierarchical Nanoporous Structures", in *Proceedings of PRiME 2012: Pacific Rim Meeting on Electrochemical and Solid-State Science*, Oct. 7-12, 2012, Honolulu, HI.
98. C. Jeong, **C.-H. Choi**, "Anodizing of Pillar-on-Pore Hybrid Nanostructures for Superhydrophobic Surfaces of Aluminum", in *Proceedings of UKC2012: The 2012 US-Korea Conference on Science, Technology, & Entrepreneurship*, August 8-11**,** 2012, Los Angeles, CA.
99. **C.-H. Choi**, "Characterization of Superhydrophobic Surfaces for Anti-Icing in Dynamic Flow Conditions", in *Proceedings of ASME 2012 10th International Conference on Nanochannels, Microchannels and Minichannels (ICNMM)*, July 8-12, 2012, Puerto Rico, USA.
100. **C.-H. Choi**, "Evaporation Kinetics of Sessile Droplets on Superhydrophobic Surfaces", in *Proceedings of ASME 2012 10th International Conference on Nanochannels, Microchannels and Minichannels (ICNMM)*, July 8-12, 2012, Puerto Rico, USA.
101. W. Xu, **C.-H. Choi**, "Is a Superhydrophobic Surface Really Slippery?: A New Criterion to Determine the Stickiness of Superhydrophobic Surfaces", in *Proceedings of the 8th International Symposium on Contact Angle, Wettabiity and Adhesion*, June 13-15, 2012, Quebec City, Quebec, Canada.
102. M. A. Sarshar, C. F. Swarctz, **C.-H. Choi**, "Ice Adhesion on Superhydrophobic Surfaces", in *Proceedings of the 8th International Symposium on Contact Angle, Wettabiity and Adhesion*, June 13-15, 2012, Quebec City, Quebec, Canada.
103. W. Xu, **C.-H. Choi**, "Dryout Pattern of Colloid Droplet on Superhydrophobic Surfaces", in *Proceedings of the 86th ACS Colloid & Surface Science Symposium*, June 10-13, 2012, Baltimore, Maryland, USA.
104. K. Du, Y. Liu, I. Wathuthanthri, **C.-H. Choi**, "Effects of Hydrophobic Coatings on the Superhydrophobic Wetting Properties of 3-D Hierarchical Nanostructures", in *Proceedings of the 86th ACS Colloid & Surface Science Symposium*, June 10-13, 2012, Baltimore, Maryland, USA.
105. Y. Liu, K. Du, I. Wathuthanthri, **C.-H. Choi**, "From Nanocone to Nanodisk: Structural Transformation of Nanoarrays via Mechanical Stresses", in *Proceeding of the 56th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)*, May 29 - June 1, 2012, Waikoloa, Hawaii, USA.

106. K. Du, Y. Liu, I. Wathuthanthri, W. Xu, **C.-H. Choi**, "Fabrication of Polymer Nanostructures via Maskless O_2 Plasma Etching", in *Proceeding of the 56th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)*, May 29 - June 1, 2012, Waikoloa, Hawaii, USA.
107. K. Du, Y. Liu, I. Wathuthanthri, W. Xu, **C.-H. Choi**, "Nanopatterning of Disconnected Metal Nanostructures on Polydimethylsiloxane (PDMS) Substrate by Using Free-Standing Photoresist Film as Stencil Lithography Mask", in *Proceeding of the 56th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)*, May 29 - June 1, 2012, Waikoloa, Hawaii, USA.
108. K. Du, Y. Liu, I. Wathuthanthri, W. Xu, **C.-H. Choi**, "Nanopatterning of PDMS Substrates via Novel Lift-off Process of Free-Standing Photoresist Film", in *Proceedings of the 3nd Conference on Advances in Microfluidics and Nanofluidics (AMN)*, May 23-26, 2012, Dalian, China.
109. E. Aljallis, M. A. Sarshar, **C.-H. Choi**, "Measurement of Skin Friction Drag in High Reynolds Number Turbulent Flow over Superhydrophobic Flat Plates", in *Proceedings of the Eighth KSME-JSME Thermal and Fluids Engineering Conference*, March 18-21, 2012, Incheon, Korea.
110. M. A. Sarshar, C. Swarctz, **C.-H. Choi**, "Anti-Icing Mechanics on Nanostructured Superhydrophobic Surfaces: Effects of Contact Angle Hysteresis", in *Proceedings of the Eighth KSME-JSME Thermal and Fluids Engineering Conference*, March 18-21, 2012, Incheon, Korea.
111. W. Xu, **C.-H. Choi**, "Sessile Droplet Evaporation on Superhydrophobic Surfaces: Effects of a Contact Line on Depinning Forces", in *Proceedings of the Eighth KSME-JSME Thermal and Fluids Engineering Conference*, March 18-21, 2012, Incheon, Korea.
112. Y-T Tsai, **C.-H. Choi**, E-H Yang, "Ultra-Low-Voltage Droplet Manipulation via Tunable Wetting of Polypyrrole Polymers for Digital Microfluidics", in *Proceedings of the Eighth KSME-JSME Thermal and Fluids Engineering Conference*, March 18-21, 2012, Incheon, Korea.
113. Y. Liu, K. Du, I. Wathuthanthri, W. Xu, **C.-H. Choi**, "3-D Nanofabrication using Nanostructured Photoresist Film as Free-Standing Appliqué", in *Proceedings of MEMS 2012: The 25th International Conference on Micro Electro Mechanical Systems*, January 29 - February 2, 2012, Paris, France.
114. E. Aljallis, M. A. Sarshar, R. Datla, S. Hunter, J. Simpson, V. Sikka, A. Jones, **C.-H. Choi**, "Measurement of hydrodynamic friction drag on superhydrophobic flat plates in high Reynolds number flows", in *Proceedings of ASME 2011 International Mechanical Engineering Congress (IMECE)*, November 11-17, 2011, Denver, Colorado, USA.
115. M. A. Sarshar, C. Swarctz, S. Hunter, J. Simpson, **C.-H. Choi**, "Superhydrophobic surface properties for anti-icing", in *Proceedings of ASME 2011 International Mechanical Engineering Congress (IMECE)*, November 11-17, 2011, Denver, Colorado, USA.
116. A.-A. El Mel, A. Achour, W. Xu, **C.-H. Choi**, E. Gautron, B. Angleraud, A. Granier, L. Le Brizoual, M. A. Djouadi, P.-Y. Tessier, "Hierarchical Carbon Nanostructures Design: Ultra-Long Carbon Nanofibers Decorated with Carbon Nanotubes", in *Proceedings of NanoteC11 Carbon Nanoscience and Nanotechnology*, August 31 - September 3, 2011, Nantes, France.
117. A.A. El Mel, E. Gautron, B. Angleraud, A. Granier, W. Xu, **C.-H. Choi**, K. J. Briston, B. J. Inkson, P.Y. Tessier, "Template Assisted Plasma Deposition Method for the Synthesis of Ordered Nanowires Array", in *Proceedings of the 18th International Colloquium on Plasma Processes*, July 4-8, 2011, Nantes, France.
118. I. Wathuthanthri, **C.-H. Choi**, "Single-Step Interferometric Patterning of High-Aspect-Ratio Three-Dimensional Nanostructures", in *Proceeding of the 55th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)*, May 31 - June 3, 2011, Las Vegas, Nevada, USA.

119. K. Du, I. Wathuthanthri, W. Xu, **C.-H. Choi**, "Large-Area Pattern Transfer of Metal Nanostructures via Interference Lithography", in *Proceeding of the 55th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)*, May 31 - June 3, 2011, Las Vegas, Nevada, USA.
120. A.A. El Mel, W. Xu, **C.-H. Choi**, E. Gautron, B. Angleraud, A. Granier, P.Y. Tessier, "Non-Catalytic Method to Prepare Organized Nickel-Carbon Nanofibers on Nanopatterned Silicon Substrates**",** in *Proceedings of the International Conference on Metallurgical Coatings and Thin Films,* May 2-6, 2011, San Diago, CA, USA.
121. W. Mao, I. Wathuthanthri, **C.-H. Choi**, "Tunable Two-Mirror Interference Lithography System for Large-Area Nano-Patterning", in *Proceedings of SPIE Advanced Lithography,* February 27 - March 3, 2011, San Jose, CA, USA.
122. E. Aljallis, **C.-H. Choi,** "Nanofluidic Energy Harvesting: Electrokinetic Energy Conversion Efficiency in Hydrodynamic Slip Boundary Conditions", in *Proceedings of the 2nd conference on Advances in Microfluidics and Nanofluidics (AMN) and Asian-Pacific International Symposium on Lab on Chip (APLOC)*, January 5-7, 2011, Singapore.
123. K. Du, W. Xu; I. Wathuthanthri, **C.-H. Choi**, "Large-Area Pattern Transfer of Metal Nanostructures on PDMS via Interference Nanolithography", in *Proceedings of the 2nd conference on Advances in Microfluidics and Nanofluidics (AMN) and Asian-Pacific International Symposium on Lab on Chip (APLOC)*, January 5-7, 2011, Singapore (**invited**).
124. C. Swarctz, E. Aljallis, S. Hunter, J. Simpson, **C.-H. Choi**, "Characterization of Superhydrophobic Surfaces for Anti-Icing in a Low-Temperature Wind Tunnel", in *Proceedings of ASME 2010 International Mechanical Engineering Congress (IMECE)*, November 12-18, 2010, Vancouver, British Columbia, Canada.
125. C.-H. Wang, **C.-H. Choi**, "Optimized Design of Regenerative Blowers for Enhanced Efficiency", in *Proceedings of ASME 2010 International Mechanical Engineering Congress (IMECE)*, November 12-18, 2010, Vancouver, British Columbia, Canada.
126. A.A. El Mel, M. Buffiere, F. Massuyeau, E. Gautron, **C.-H. Choi**, W. Xu, B. Angleraud, A. Granier, N. Barreau, J. Wery, E. Faulques, P.Y. Tessier, "Microstructure and Photoluminescence Study of ZnO Nanofibers Deposited by Plasma Process", in *Proceedings of Materiaux 2010*, October 18-22, 2010, Nantes, France.
127. K. Du, I. Wathuthanthri, W. Mao, W. Xu, **C.-H. Choi**, "Fabrication of Metallic Nanostructures on Large-Area Transparent Substrates", in *Proceedings of Stevens MEMS/NEMS Workshop*, July 26, 2010.
128. Y.-T. Tsai, N. Gao, **C.-H. Choi**, E.-H. Yang, "Droplet Manipulation with Tunable Wetting of Polypyrrole Surfaces via Redox", in *Proceedings of Stevens MEMS/NEMS Workshop*, July 26, 2010.
129. W. Xu, R. Leeladhar, **C.-H. Choi**, "Effects of Micro and Nano Particles on Wetting Dynamics of Evaporating Droplets on Superhydrophobic Surfaces", in *Proceedings of the 7th International Symposium on Contact Angle, Wettability and Adhesion*, June 23-25, 2010, Danbury, CT, USA.
130. Y-T Tsai, **C.-H. Choi**, E-H Yang, "Droplet Actuation in PPy Redox Process", in *Proceedings of Microtech Conference & Expo 2010,* June 21-24, 2010, Anaheim, CA.
131. A.A. El Mel, **C.-H. Choi**, B. Angleraud, E. Gautron, A. Granier, P.Y. Tessier, "Metal-Carbon Composite Nanofibers Elaborated by a Hybrid Plasma Process PVD/PECVD**",** in *Proceedings of E-MRS 2010 Spring Meeting*, June 7-11, 2010, Strasbourg, France.
132. Wei Xu, **C.-H. Choi**, "Drying of Colloidal Droplets on Superhydrophobic Surfaces", in *Proceedings of Faraday Discussion 146: Wetting Dynamics of Hydrophobic and Structured Surfaces*, April 12-14, 2010, Richmond, VA.

133. R. Leeladhar, W. Xu, **C.-H. Choi**, "Effects of Nanofluids on Droplet Evaporation and Wetting on Nanoporous Superhydrophobic Surfaces", in *Proceedings of ASME 2009 2nd Micro/Nanoscale Heat and Mass Transfer (MNHMT) International Conference*, December 18-22, 2009, Shanghai, China.
134. W. Xu, **C.-H. Choi**, "Effects of Structural Topography on Nanofluids Droplet Evaporation on Multifarious Superhydrophobic Surfaces", in *Proceedings of ASME 2009 2nd Micro/Nanoscale Heat and Mass Transfer (MNHMT) International Conference*, December 18-22, 2009, Shanghai, China.
135. I. Wathuthanthri, **C.-H. Choi**, "Tunable Lloyd-Mirror Interferometer for Large-Area Nanopatterning", in *Proceedings of ASME 2009 International Mechanical Engineering Congress (IMECE)*, November 15-19, 2009, Orlando, FL, USA.
136. R. Leeladhar, W. Xu, **C.-H. Choi**, "Evaporation of Nanoparticles Droplets on Nano-Porous Superhydrophobic Surfaces", in *Proceedings of ASME 2009 International Mechanical Engineering Congress (IMECE)*, November 15-19, 2009, Orlando, FL, USA.
137. W. Xu, **C.-H. Choi**, "Nanofluids Evaporation Kinetics on Microstructured Superhydrophobic Surfaces", in *Proceedings of ASME 2009 International Mechanical Engineering Congress (IMECE)*, November 15-19, 2009, Orlando, FL, USA.
138. R. Leeladhar, W. Xu, Y.-T. Tsai, E.-H. Yang, **C.-H. Choi**, "Nanowire Self-Assembly in Droplet Evaporation on Superhydrophobic Surfaces", in *Proceedings of the 13th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2009)*, November 1-5, 2009, Jeju, Korea.
139. W. Xu, **C.-H. Choi**, "Evaporation Kinetics of Nanofluid Droplets on Superhydrophobic Surfaces", in *Proceedings of the 13th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2009)*, November 1-5, 2009, Jeju, Korea.
140. **C.-H. Choi,** C.-J. Kim, "Cell Growth on Three-Dimensional Sharp-Tip Nanostructures of Hydrophilic and Hydrophobic Surfaces", in *Proceedings of the 13th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2009)*, November 1-5, 2009, Jeju, Korea.
141. C. Lee, **C.-H. Choi,** C.-J. Kim, "Structured Surfaces for a Giant Liquid Slip", in *Proceedings of the 7th World Conference on Experimental Heat Transfer, Fluid Mechanics and Thermodynamics,* June 28 - July 3, 2009, Krakow, Poland.
142. **C.-H. Choi**, "Nanofluidic Energy Harvesting", in *Proceedings of E^2 – Alternative Energy Workshop*, June 2, 2009, Hoboken, NJ, USA. (**invited**)
143. **C.-H. Choi,** C.-J. Kim, "Nanostructured Surfaces for Anti-Biofouling/Anti-Microbial Applications", in *Proceedings of the SPIE Defense, Security, and Sensing*, April 13-17, 2009, Orlando, FL, USA.
144. Y.-T. Tsai, W. Xu, E.-H. Yang, **C.-H. Choi**, "Interfacial-Tension-Directed Self-Assembly of Nanowires on a Superhydrophobic Surface", in *Proceedings of ASME 2008 International Mechanical Engineering Congress (IMECE)*, November 2-6, 2008, Boston, MA, USA.
145. C. Lee, **C.-H. Choi,** C.-J. Kim, "Effect of Geometric Parameters of Superhydrophobic Surface on Liquid Slip", in *Proceedings of ASME 2008 International Mechanical Engineering Congress (IMECE)*, November 2-6, 2008, Boston, MA, USA.
146. **C.-H. Choi,** C.-J. Kim, "Droplet Evaporation in Nanostructured Superhydrophobic Surfaces", in *Proceedings of the 12th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2008)*, October 12-16, 2008, San Diego, CA, USA.

147. S. H. Hagvall, **C.-H. Choi,** C.-J. Kim, J. C. Y. Dunn, B. M. Wu, R. E. Beygui, "Cell Interactions with 3D Nanostructures", in *Proceedings of the 7th Annual UC Systemwide Bioengineering Symposium*, June 24-26, 2006, UCLA De Neve Plaza, Los Angeles, CA, USA.
148. S. H. Hagvall, **C.-H. Choi,** J. C. Y. Dunn, B. M. Wu, C.-J. Kim, R. E. Beygui, "Cell Interactions with 3D Nanostructures", in *Proceedings of the International Society for Applied Cardiovascular Biology (ISACB): The 10th Biennial Meeting*, March 8-11, 2006, LaJolla, CA, USA.
149. **C.-H. Choi,** S. H. Hagvall, J. C. Y. Dunn, B. M. Wu, C.-J. Kim, "Cell Adhesions on NanoTurf Surfaces", in *Proceedings of MEMS 2006: The 19th International Conference on Micro Electro Mechanical Systems*, January 22-26, 2006, Istanbul, Turkey.
150. **C.-H. Choi,** C.-J. Kim, "Cell Adhesions on NanoTurf Surfaces", in *Proceedings of the 1st UCLA-Postech Joint Symposium on BioMEMS*, January 19, 2006, Los Angeles, CA, USA.
151. **C.-H. Choi,** C.-J. Kim, "Measurement of Liquid Slip on NanoTurf Surfaces", in *Proceedings of ASME 4th Integrated Nanosystems Conference (NANO2005)*, September 12-14, 2005, University of California, Berkeley, CA, USA.
152. **C.-H. Choi,** C.-J. Kim, "Control of Sidewall Profile of Silicon Nanostructures in Bosch Process and Its Use for Sharp Tip Fabrication", in *Proceedings of UKC2005: The 2005 US-Korea Conference on Science, Technology, & Entrepreneurship*, August 11-13, 2005, Irvine, CA, USA.
153. **C.-H. Choi,** C.-J. Kim, "Fabrication of Silicon Nanostructures with Various Side Wall Profiles and Sharp Tips", in *Proceedings of Transducers'05: The 13th International Conference on Solid-State Sensors, Actuators and Microsystems*, June 5-9, 2005, Seoul, Korea.
154. **C.-H. Choi,** C.-J. Kim, "Fabrication of Silicon Nanostructures with Various Sidewall Profiles and Sharp Tips", in *Proceedings of the 2nd UCLA-Postech Joint Workshop on Current MEMS Research*, June 3, 2005, Pohang, Korea.
155. C.-J. Kim, **C.-H. Choi,** "Nano-Engineered Low Friction Surface for Liquid Flow", in *Proceedings of the 6th KSME-JSME Thermal and Fluids Engineering Conference*, March 20-23, 2005, Jeju, Korea.
156. **C.-H. Choi,** J. Kim, C.-J. Kim, "NanoTurf Surfaces for Reduction of Liquid Flow Drag in Microchannels", in *Proceedings of ASME 2004 3rd Integrated Nanosystems Conference (NANO2004)*, September 22-24, 2004, Pasadena, CA, USA.
157. **C.-H. Choi,** J. Kim, C.-J. Kim, "Nano-engineered Low-friction Surface for Liquid Flow", in *Proceedings of the 14th Korean-American Scientists and Engineers Association South-Western Region Annual Technical Conference*, March 6, 2004, Cerritos, CA, USA.
158. **C.-H. Choi,** J. Kim, U. Ulmanella, C.-M. Ho, C.-J. Kim, "Nano-Engineered Low Flow Friction Surfaces", in *Proceedings of the 1st International NanoSystems Symposium at UCLA*, December 13, 2003, Los Angeles, CA, USA.
159. **C.-H. Choi,** J. Kim, C.-J. Kim, "Nano-Engineered Low Friction Surfaces", in *Proceedings of the DARPA/DMEA CNID (Center for Nanoscience Innovation for Defense) Review*, January 27, 2003, Los Angeles, CA, USA.
160. **C.-H. Choi,** K. J. A. Westin, K. S. Breuer, "To Slip or Not to Slip: Water Flows in Hydrophilic and Hydrophobic Microchannels", in *Proceedings of ASME 2002 International Mechanical Engineering Congress (IMECE)*, November 2002, New Orleans, LA, USA.
161. K. J. A. Westin, **C.-H. Choi,** P. Huang, Z. Cao, K. S. Breuer, B. Caswell, P. Richardson, M. Sibulkin, "Liquid Transport Properties in Submicron Channel Flows", in *Proceedings of ASME 2001 International Mechanical Engineering Congress (IMECE)*, November 2001, New York, NY, USA.

162. K. J. A. Westin, **C.-H. Choi,** K. S. Breuer, "Rheological Shear Experiments in Micron Scale Geometries", in *Proceedings of the 5th International Conference on Micro Total Analysis Systems (MicroTAS2001)*. October 2001, Monterey, CA, USA.
163. J.-M. Choi, S.-W. Choi, **C.-H. Choi,** K.-J. Lee, "Satellite Anomaly and Solar Array Temperature Variation", in *Proceedings of the Korean Society for Aeronautical & Space Sciences (KSAS) Spring Annual Meeting*, April 2000, Korea.
164. **C.-H. Choi,** J.-M. Choi, S.-W. Choi, "Thermal Design & Analysis of Satellite Battery Module", in *Proceedings of the Korean Society for Aeronautical & Space Sciences (KSAS) Fall Annual Meeting*, November 1999, Korea.
165. **C.-H. Choi,** O.-H. Rho, S.-W. Choi, "TRASYS Modeling & Thermal Analysis of KOMPSAT", in *Proceedings of the Korean Society for Aeronautical & Space Sciences (KSAS) Spring Annual Meeting*, April 1996, Korea.

4.2.2 Invited Talks/Seminars/Lectures

1. **IUTAM Symposium on Capillarity and Elastocapillarity in Biology**, Seoul, Korea, August 22, 2024, "Design of Robust Lubricant-Infused Surfaces".
2. **M. I. Tech**, Suwon, Korea, August 20, 2024, "Tribological Properties of Micro/Nano-Textured Surfaces under Physiological Conditions".
3. **Research Institute of Intelligent Manufacturing & Materials Technology, Korea Institute of Industrial Technology (KITECH)**, Incheon, Korea, August 19, 2024, "Nature Inspired Surface Engineering".
4. **Sogang University,** Seoul, Korea, August 16, 2024, "Nature Inspired Surface Engineering".
5. **Yonsei University**, Seoul, Korea, August 16, 2024, "Nature Inspired Surface Engineering for Aerospace Systems".
6. **Biomedical Manufacturing Technology Center (BMTC), Korea Institute of Industrial Technology (KITECH)**, Yeongcheon, Korea, August 12, 2024, "Tribological Properties of Micro/Nano-Textured Surfaces under Physiological Conditions".
7. **Korea Advanced Institute of Science and Technology (KAIST)**, Daejeon, Korea, August 5, 2024, "Icephobic Surfaces: Anti-Icing or De-Icing?".
8. **National Nanofab Center (NNFC)**, Daejeon, Korea, August 5, 2024, "Nanofabrication via Laser Interference Lithography".
9. **Changwon National University**, Changwon, Korea, July 25, 2024, "Nature Inspired Surface Engineering".
10. **Korea Institute of Materials Science (KIMS)**, Changwon, Korea, July 24, 2024, "Nature Inspired Surface Engineering".
11. **Jeonbuk University**, Jeonju, Korea, July 22, 2024, "Superhydrophobic Drag Reduction: From Droplet Movement to Boundary Layer Flows".
12. **University of Nebraska-Lincoln**, Lincoln, NE, October 31, 2023, "Nature-Inspired Surface Engineering".
13. **Biomedical Manufacturing Technology Center (BMTC), Korea Institute of Industrial Technology (KITECH)**, Virtual, October 17, 2023, "Nature-Inspired Surface Engineering for Antibacterial Materials".
14. **Dong Yang Piston**, Ansan, Korea, October 11, 2023, "Machining and Surface Engineering of Multifunctional Metallic Materials".
15. **Korea Aerospace Research Institute (KARI)**, Daejeon, Korea, August 16, 2023, "Machining and Surface Engineering of Multifunctional Metallic Materials".

16. **Hanyang University**, Seoul, Korea, August 11, 2023: "Nature-Inspired Surface Engineering".
17. **Kyung Hee University**, Yongin, Korea, August 8, 2023, "Tribological Properties of Micro/Nano-Textured Surfaces under Physiological Conditions".
18. **Incheon National University**, Incheon, Korea, August 8, 2023, "Nature-Inspired Surface Engineering".
19. **Korea Institute of Machinery and Materials (KIMM)**, Daejeon, Korea, August 2, 2023, "Tribological Properties of Micro/Nano-Textured Surfaces under Physiological Conditions".
20. **Korea Advanced Institute of Science and Technology (KAIST)**, Daejeon, Korea, August 1, 2023, "Nature-Inspired Surface Engineering".
21. **Korea Institute of Industrial Technology (KITECH)**, Siheung, Korea, July 28, 2023, "Machining and Surface Engineering of Multifunctional Metallic Materials".
22. **Hanyang University**, Seoul, Korea, July 28, 2023, "Machining and Surface Engineering of Multifunctional Metallic Materials".
23. **Seoul National University**, Seoul, Korea, July 27, 2023, "Rougher is More Slippery: Nature-Inspired Surface Engineering".
24. **23rd IEEE International Conference on Nanotechnology (IEEE-NANO 2023)**, Jeju Island, South Korea, July 2-5, 2023, "Novel Nanofabrication Processes and Applications via Laser Interference Lithography".
25. **3rd International Conference on Fluid Flow and Thermal Science (ICFFTS'22)**, Seoul, South Korea, October 27-29, 2022, "Superhydrophobic Drag Reduction: From Droplet Movement to Boundary Layer Flows" (**Keynote talk**).
26. **Agency for Defense Development (ADD)**, Daejeon, Korea, August 25, 2022, "Nanoengineering of Bioinspired Slippery Surfaces".
27. **Kyung Hee University**, Yongin, Korea, August 24, 2022, "Robust Lubricant-Infused Surfaces for Anti-Corrosion".
28. **Seoul National University**, Seoul, Korea, August 23, 2022, "Robust Lubricant-Infused Anti-Corrosion Surfaces".
29. **Korea Maritime and Ocean University**, Busan, Korea, August 22, 2022, "Robust Lubricant-Infused Surfaces for Anti-Corrosion".
30. **Korea Institute of Industrial Technology (KITECH)**, Siheung, Korea, August 11, 2022, "Nature-Inspired Surface Engineering".
31. **Korea Institute of Industrial Technology (KITECH)**, Cheonan, Korea, August 3, 2022, "Nanoengineering of Bioinspired Slippery Surfaces".
32. **Korea Advanced Institute of Science and Technology (KAIST)**, Daejeon, Korea, August 1, 2022, "Robust Lubricant-Infused Surfaces for Anti-Corrosion".
33. **K-BioX**, Virtual, July 28, 2022, "Nature-Inspired Surface Engineering for Antibacterial Materials".
34. **Korea Institute of Industrial Technology (KITECH)**, Pusan, Korea, July 27, 2022, "Nature-Inspired Surface Engineering: Design, Fabrication, and Applications".
35. **Ulsan National Institute of Science and Technology (UNIST)**, Ulsan, Korea, July 26, 2022, "Nanoengineering of Bioinspired Slippery Surfaces".
36. **Pusan National University**, Pusan, Korea, July 20-21, 2022, "Nature-Inspired Surface Engineering: Design, Fabrication, and Applications".
37. **Jeonbuk University**, Jeonju, Korea, July 13, 2022, "Nanoengineering of Bioinspired Slippery Surfaces".
38. **POSTECH (Pohang University of Science and Technology)**, Pohang, Korea, July 12, 2022, "Nanoengineering of Bioinspired Slippery Surfaces".

39. **Pusan National University**, Pusan, Korea, July 6, 2022, "Machining and Surface Engineering of Metals".
40. **N.I.C.E. (Nature Inspires Creativity Engineers) Conference**, Nice, France, June 21-23, 2022, "Robust Lubricant-Infused Anti-Corrosion Surfaces" (**Keynote talk**).
41. **The 65th International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication (EIPBN)**, New Orleans, Louisiana, May 31 – June 3, 2022, "Nanofabrication via Laser Interference Lithography".
42. **Rochester Institute of Technology (RIT)**, Rochester, New York, April 7, 2022, "Nanoengineering of Bioinspired Slippery Surfaces".
43. **Korea Maritime and Ocean University**, Busan, Korea, August 9, 2021, "Bioinspired Nanoporous Surfaces for Anticorrosion and Antibiofouling".
44. **Korean Society of Mechanical Engineers Bioengineering Spring Workshop**, Korea, April 15th, 2021, "Nature-Inspired Surface Engineering for Antibacterial Applications". (**Plenary talk**).
45. **Ben-Gurion University of the Negev**, Beer-Sheva, Israel, January 21, 2021, "Nanoengineering of Bioinspired Slippery Surfaces".
46. **Virtual Research Forum**, Hoboken, NJ, December 4, 2020, "Nature-Inspired Surface Engineering for Water, Food, Energy, Environment, and Health Applications".
47. **Tsinghua University**, Beijing, China, August 18, 2020, "Interfacial Phenomena on Textured Surfaces".
48. **College of Staten Island**, Staten Island, NY, November 21, 2019, "Nanoengineering of Bioinspired Slippery Surfaces".
49. **Dalian University of Technology**, Dalian, China, August 12, 2019, "Nanoengineering of Bioinspired Slippery Surfaces".
50. **Ulsan National Institute of Science and Technology**, Ulsan, Korea, August 6, 2019, "Nanoengineering of Bioinspired Slippery Surfaces".
51. **Pusan National University**, Pusan, Korea, August 5, 2019, "Nanoengineering of Bioinspired Slippery Surfaces".
52. **Seoul National University**, Seoul, Korea, August 2, 2019, "Nature Inspired Surface Engineering for Military Systems".
53. **Korea University**, Seoul, Korea, July 29 - August 1, 2019, "Interfacial Phenomena on Textured Surfaces (I-VIII)".
54. **Korea Institute of Machinery and Materials (KIMM)**, Daejeon, Korea, July 23, 2019, "Bioinspired Nanoporous Surfaces for Anticorrosion and Antibiofouling".
55. **Chung-ang University**, Seoul, Korea, July 22, 2019, "Nanoengineering of Bioinspired Multifunctional Surfaces".
56. **Yonsei University**, Seoul, Korea, July 22, 2019, "Nanoengineering of Bioinspired Slippery Surfaces".
57. **University of Hong Kong**, Hong Kong, China, July 19, 2019, "Nanoengineering of Bioinspired Slippery Surfaces".
58. **City University of Hong Kong**, Hong Kong, China, July 18, 2019, "Nanoengineering of Bioinspired Slippery Surfaces".
59. **Nano and Advanced Materials Institute in Hong Kong**, Hong Kong, China, July 18, 2019, "Nanoengineering of Bioinspired Slippery Surfaces".
60. **Hong Kong University of Science and Technology**, Hong Kong, China, July 17, 2019, "Nanoengineering of Bioinspired Slippery Surfaces".

61. **Tsinghua University**, Beijing, China, July 12, 2019, "Bioinspired Nanoporous Surfaces for Anticorrosion and Antibiofouling".
62. **Nankai University**, Tianjin, China, July 10, 2019, "Nanoengineering of Bioinspired Slippery Surfaces".
63. **N.I.C.E. (Nature Inspires Creativity Engineers) Conference**, Nice, France, October 14-17, 2018, "Bioinspired Slippery Surfaces: Oil-Impregnated Nanoporous Alumina Coating for Anticorrosion and Antibiofouling" (**Keynote talk**).
64. **Sungkyunkwan University**, Suwon, Korea, August 20, 2018, "Nanoengineering of Bioinspired Multifunctional Surfaces".
65. **Korea Institute of Industrial Technology (KITECH)**, Yangsan, Korea, August 16, 2018, "Bioinspired Nanoporous Surfaces for Anticorrosion and Antibiofouling".
66. **Pusan National University**, Pusan, Korea, August 16, 2018, "Water-Repelling Slippery Surfaces".
67. **Korea Institute for Advancement of Technology (KIAT)**, Seoul, Korea, August 12, 2018, "Development of Multifunctional Metal Materials via Wet Surface Treatment".
68. **University of Shanghai for Science and Technology**, Shanghai, China, August 7, 2018, "Nanoengineering of Bioinspired Multifunctional Surfaces".
69. **Shanghai Jian Tong University**, Shanghai, China, August 6, 2018, "Nanoengineering of Bioinspired Multifunctional Surfaces".
70. **Southeast University**, Nanjing, China, August 2, 2018, "Nanoengineering of Bioinspired Multifunctional Surfaces".
71. **The 8th International Multidisciplinary Conference on Optofluidics (IMCO 2018)**, Shanghai, China, August 8, 2018, "Optofluidic Waveguide using Nanostructured Superhydrophobic Surfaces as Novel Cladding Layers".
72. **Nankai University**, Tianjin, China, June 25, 2018, "Spontaneous Spreading of a Droplet: The Role of Solid Continuity and Advancing Contact Angle".
73. **Tsinghua University**, Beijing, China, June 20, 2018, "Nanoengineering of Bioinspired Multifunctional Surfaces".
74. **Manipal University**, Manipal, India, March 16, 2018, "Nanoengineering of Bioinspired Multifunctional Surfaces".
75. **Indian Institute of Science (IISc)**, Bangalore, India, March 15, 2018, "Nanoengineering of Bioinspired Multifunctional Surfaces".
76. **Indian Institute of Technology Delhi**, Delhi, India, March 14, 2018, "Nanoengineering of Bioinspired Multifunctional Surfaces".
77. **Korea Institute of Ceramic Engineering and Technology (KICET)**, Jinju, Gyeongsangnam-do, Korea, November 9, 2017, "Nanoengineering of Bioinspired Multifunctional Superhydrophobic Surfaces".
78. **The 4th International Conference & Exhibition for Nanotechnology (Nanopia 2017)**, Changwon, Gyeongsangnam-do, Korea, November 9, 2017, "Nanoengineered Superhydrophobic Surfaces for Hydrodynamic Friction Reduction".
79. **DongEui University**, Pusan, Korea, November 8, 2017, "Bioinspired Nanoporous Surfaces for Anticorrosion and Antibiofouling".
80. **Pusan National University**, Pusan, Korea, November 8, 2017, "Bioinspired Nanoporous Surfaces for Anticorrosion and Antibiofouling".
81. **University of Erlangen-Nuremberg**, Erlangen, Germany, August 21, 2017, "Bioinspired Nanoporous Oxide Surfaces for Anticorrosion".

82. **Hamburg University of Technology (TUHH)**, Hamburg, Germany, August 15, 2017, "Nanoengineering of Bioinspired Multifunctional Superhydrophobic Surfaces".
83. **Nankai University**, Tianjin, China, August 1, 2017, "Bioinspired Nanoporous Surfaces with Oil Impregnation for Anticorrosion".
84. **Max Planck Institute of Colloids and Interfaces**, Potsdam, Germany, June 30, 2017, "Nanoengineering of Bioinspired Multifunctional Superhydrophobic Surfaces".
85. **Nanotech 2017 Conference & Expo**, Washington, DC, May 16, 2017, "Nano-Engineering of Anodic Oxide Coatings for Anti-Corrosion and Anti-Biofouling" (**Keynote talk**).
86. **The 26th KSEA Northeast Regional Conference (NRC 2017)**, Newark, NJ, April 29, 2017, "Nanoengineering of Bioinspired Multifunctional Surfaces".
87. **SUNY Binghamton University, State University of New York**, Binghamton, NY, USA, October 12, 2016, "Nanoengineering of Bioinspired Multifunctional Superhydrophobic Surfaces".
88. **New Jersey Institute of Technology (NJIT)**, Newark, NJ, USA, October 5, 2016, "Nanoengineering of Bioinspired Multifunctional Superhydrophobic Surfaces".
89. **The Benjamin Levich Institute for Physico-Chemical Hydrodynamics, The City College of New York (CCNY)**, New York, NY, September 27, 2016: "Hydrodynamic Friction Reduction on Superhydrophobic Surfaces"
90. **University of Colorado Boulder**, Boulder, CO, USA, September 22, 2016, "Nanoengineering of Bioinspired Multifunctional Superhydrophobic Surfaces".
91. **American Bureau of Shipping (ABS)**, Huston, TX, USA, August 12, 2016, "Bioinspired Superhydrophobic Surfaces for Naval Applications".
92. **2016 US-Korea Conference on Science, Technology and Entrepreneurship (UKC 2016)**, Dallas, TX, USA, August 11, 2016, "Oil-Impregnated Anodic Aluminum Oxide Layer for Enhanced Anti-Corrosion and Self-Healing Properties".
93. **Microcity**, Neuchatel, Switzerland, June 13, 2016, "Nanoengineering of Bioinspired Multifunctional Superhydrophobic Surfaces".
94. **EPFL**, Lausanne, Switzerland, June 1, 2016, "Nanoengineering of Bioinspired Multifunctional Superhydrophobic Surfaces".
95. **Italian Institute of Technology (IIT)**, Genova, Italy, May 27, 2016, "Bioinspired Nanoengineering of Multifunctional Superhydrophobic Surfaces".
96. **University of Edinburgh**, Edinburgh, UK, April 22, 2016, "Nanoengineering of Multifunctional Superhydrophobic Surfaces".
97. **Technical University (TU) Delft**, Delft, the Netherlands, April 5, 2016, "Nanoengineering of Multifunctional Superhydrophobic Surfaces".
98. **University of Chemistry and Technology (VSCHT)**, Prague, Czech Republic, March 29, 2016, "Nanoengineering of Multifunctional Superhydrophobic Surfaces".
99. **Charles University in Prague**, Prague, Czech Republic, March 29, 2016, "Nanoengineering of Multifunctional Superhydrophobic Surfaces".
100. **Max Planck Institute for Polymer Research**, Mainz, Germany, March 24, 2016, "Nanoengineering of Multifunctional Superhydrophobic Surfaces".
101. **Technical University (TU) Darmstadt**, Darmstadt, Germany, February 17, 2016, "Nanoengineering of Multifunctional Superhydrophobic Surfaces".
102. **The 8th Workshop of Chemical and Biological Micro Laboratory Technology (CBM 8)**, Ilmenau, Germany, February 23-26, 2016, "Hydrodynamic Friction Reduction in Microfluidics: From Droplet to Channel Flow". (**Keynote talk**)
103. **Korea Aerospace Research Institute (KARI)**, Daejeon, Korea, December 18, 2015, "Superhydrophobic Surfaces for Anti- and De-Icing Applications".

104. **Samsung Heavy Industries**, Deajeon, Korea, December 18, 2015, "Multifunctional Superhydrophobic Coatings for Naval Applications".
105. **Pacific Polymer Conference 14**, Kauai, Hawaii, USA, "Multifunctional Superhydrophobic Coatings for Naval Applications".
106. **Korean Society of Surface Engineering Fall Workshop**, Gwangju, Gyeonggi, Korea, November 27, 2015, "Bioinspired Nanoengineering of Multifunctional Superhydrophobic Surfaces". (**Plenary talk**).
107. **Korean Society of Thermal Engineering Workshop**, Seoul, Korea, November 26, 2015, "Icing on Superhydrophobic Surfaces".
108. **Korea Maritime and Ocean University**, Busan, Korea, November 19, 2015, "Nanoengineered Superhydrophobic Surfaces for Naval Applications".
109. **Seoul National University**, Seoul, Korea, November 4, 2015, "Hydrodynamic Friction Reduction on Superhydrophobic Surfaces".
110. **Kyung Hee University**, Yongin, Gyeonggi, Korea, "Nanoengineering of Multifunctional Superhydrophobic Surfaces".
111. **Sungkyunkwan University**, Suwon, Gyeonggi, Korea, October 29, 2015, "Nanoengineering of Multifunctional Superhydrophobic Surfaces".
112. **Seoul National University of Science and Technology**, Seoul, Korea, October 12, 2015, "Nanoengineering of Multifunctional Superhydrophobic Surfaces".
113. **Korea Research Institute of Ships and Ocean Engineering (KRISO)**, Daejeon, Korea, October 2, 2015, "Air-Impregnated Oxide Nanostructures for Corrosion Protection of Light Metals".
114. **Kyung Hee University**, Yongin, Gyeonggi, Korea, September 21, 2015, "Air-Impregnated Oxide Nanostructures for Corrosion Protection of Light Metals".
115. **Korea University**, Seoul, Korea, September 16, "Nanoengineering of Multifunctional Superhydrophobic Surfaces"
116. **Korea Institute of Science and Technology (KIST)**, Seoul, Korea, August 26, 2015, "Nanoengineering of Multifunctional Superhydrophobic Surfaces".
117. **Korea University**, Seoul, Korea, August 21, 2015, "Large-Area 3D Nanopatterning".
118. **Korea Institute of Machinery and Materials (KIMM) Workshop**, Gangneung, Gangwon, Korea, August 18, 2015, "Nanoengineering of Bioinspired Multifunctional Surfaces".
119. **US-Korea Conference on Science, Technology, and Entrepreneurship (UKC)**, Atlanta, GA, USA, July 31, 2015: "Nanoengineered Surfaces for Prevention of Bacteria Adhesion".
120. **Pusan National University**, Pusan, Korea, July 21, 2015: "Nanoengineered Surfaces: Design, Fabrications, and Applications".
121. **Nankai University**, Tianjin, China, July 15, 2015: "Nanoengineered Surfaces: Design, Fabrications, and Applications".
122. **Tsinghua University**, Beijing, China, July 10, 2015: "Nanoengineering of Bioinspired Multifunctional Surfaces".
123. **Beijing Institute of Nanoenergy and Nanosystems, Chinese Academy of Sciences (BINN CAS), International Summer School**, Beijing, China, July 8, 2015: "Nanoengineering of Bioinspired Multifunctional Surfaces".
124. **Peking University**, Beijing, China, July 8, 2015: "Nanoengineering of Bioinspired Multifunctional Surfaces".
125. **Institute of Electronics, Chinese Academy of Science (IE CAS)**, Beijing, China, July 7, 2015: "Nanoengineering of Bioinspired Multifunctional Surfaces".

126. **Institute of Semiconductor, Chinese Academy of Science (Semi CAS)**, Beijing, China, July 7, 2015: "Nanoengineering of Bioinspired Multifunctional Surfaces".
127. **The 3rd Stevens Conference on Bacteria-Material Interactions**, Hoboken, NJ, June 18, 2015: "Nano-Engineered Surfaces for Prevention of Bacteria Adhesion".
128. **Indian Institute of Technology (IIT) Bombay**, Powai, Mumbai, India, January 23, 2015: "Bioinspired Nanoengineered Surfaces for Multifunctional Applications".
129. **Microfluidics & Lab on a Chip India**, Mumbai, India, January 22, 2015: "Ultra-Low-Voltage Manipulation of Microdroplets using Electrochemical Redox Process of Smart Polymers".
130. **Microfluidics & Lab on a Chip India**, Mumbai, India, January 22, 2015: "Superhydrophobic Surfaces for Microfluidics and Lab-on-a-Chip Applications" (**Keynote talk**).
131. **The Northeast Complex Fluids and Soft Matter Workshop**, Newark, NJ, January 16, 2015: "Hydrodynamic Frictions on Superhydrophobic Surfaces" (**Plenary talk**).
132. **The City College of New York (CCNY)**, New York, NY, September 18, 2014: "Energy-Efficient Nanoengineered Surfaces"
133. **Houghton International, Inc.**, Norristown, PA, August 19, 2014: "Nano-Engineered Multifunctional Surfaces and Coatings for Industrial Pipe Systems".
134. **Korea University**, Seoul, Korea, July 4, 2014: "From Super-Hydrophobicity to Super-Icephobicity".
135. **Hanyang University**, Seoul, Korea, July 4, 2014: "Bioinspired Nanoengineered Surfaces".
136. **Korea Aerospace University**, Goyang, Korea, July 3, 2014: "Bioinspired Nanoengineered Surfaces: From Aerospace to Navy Ships".
137. **Hyundai Heavy Industries**, Ulsan, Korea, July 2, 2014: "Nano-Engineered Multifunctional Surfaces and Coatings for Naval Applications".
138. **North Carolina State University (NCSU)**, Raleigh, NC, November 22, 2013: "Bioinspired Nanoengineered Surfaces: From Design to Manufacturing to Applications".
139. **Michigan Technology University (MTU)**, Houghton, MI, October 17, 2013: "Bioinspired Nanoengineering of Multifunctional Surfaces".
140. **Korea Institute of Ocean Science and Technology (KIOST)**, Daejeon, Korea, July 19, 2013: "Bioinspired Nanoengineered Surfaces for Naval Applications".
141. **Ulsan National Institute of Science and Technology (UNIST)**, Ulsan, Korea, July 18, 2013: "Nanoengineering of Bioinspired Multifunctional Surfaces".
142. **Korea Institute of Materials Science (KIMS)**, Changwon, Korea, July 18, 2013: "Nanoengineering of Bioinspired Multifunctional Surfaces".
143. **Seoul National University**, Seoul, Korea, July 15, 2013: "Nanoengineering of Bioinspired Multifunctional Surfaces".
144. **Korea Institute of Science and Technology (KIST)**, Seoul, Korea, July 10, 2013: "Bioinspired Nanoengineered Surfaces for Low Friction and Adhesion".
145. **Sungkyunkwan University**, Suwon, Korea, July 1, 2013: "Bioinspired Multifunctional Nanoengineered Surfaces".
146. **Seoul National University**, Seoul, Korea, June 13, 2013: "Hydrodynamic Friction Reduction using Superhydrophobic Surfaces".
147. **University of Connecticut**, Storrs, CT, April 2, 2013: "Nanoengineered Surfaces: Design, Fabrications, and Applications".
148. **Rutgers University,** Piscataway Township, NJ, March 27, 2013, "Nanofabrication for Multi-Functional 3D Nanostructures"

149. **CRDF Global Workshop:** "A Shift in Power: Developments in Energy Research and Collaboration between the U.S. and Uzbekistan", Tashkent, Uzbekistan, February 20-22, 2013: "Nanoengineered Surfaces for Energy Applications"
150. **University of Pennsylvania**, Philadelphia, PA, February 5, 2013: "Nature-Inspired Nano-Textured Surfaces: Design, Fabrications, and Applications".
151. **International Symposium on Nature-Inspired Technology (ISNIT),** Yongpyeong, Korea, January 6-9, 2013: "Nano-Engineered Surfaces for Energy Saving Applications"
152. **Myongji University,** Yongin, Korea, January 4, 2013: "Nanoengineering of Textured Surfaces for Multifunctional Applications".
153. **University of Pittsburgh,** Pittsburgh, PA, September 6, 2012: "Nano-Engineered Surfaces for Energy Applications"
154. **US-Korea Conference on Science, Technology, and Entrepreneurship (UKC)**, Los Angeles, CA, August 11, 2012: "Anodizing of Pillar-on-Pore Hybrid Nanostructures for Superhydrophobic Surfaces of Aluminum"
155. **Korea Institute of Machinery & Materials (KIMM)**, Daejeon, Korea, May 29, 2012: "Bio-Inspired Multifunctional Nanostructures: Design, Fabrication and Applications"
156. **Kyung Hee University**, Yongin, Korea, May 29, 2012: "Nano-Engineered Surfaces for Energy Applications"
157. **The Third Conference on Advances in Microfluidics and Nanofluidics (AMN 2012)**, Dalian, China, May 24, 2012: "Bio-Inspired Nano-Engineered Surfaces for Micro/Nano-Fluidics"
158. **Yeungnam University**, Gyeongsan, Korea, May 22, 2012: "Bioinspired Nanoengineered Surfaces for Micro/Nano Fluidics"
159. **POSTECH (Pohang University of Science and Technology)**, Pohang, Korea, May 21, 2012: "Bioinspired Multifunctional Nanostructures: Design, Fabrication and Applications"
160. **Seoul National University**, Seoul, Korea, May 18, 2012: "Bioinspired Nanoengineered Surfaces for Multifunctional Multiscale Applications"
161. **Yonsei University**, Seoul, Korea, May 17, 2012: "Bioinspired Multifunctional Nanostructures: Design, Fabrication and Applications"
162. **Hyundai Motor Group**, Hwaseong, Korea, May 16, 2012: "Nano-Engineered Superhydrophobic Coatings for Anti-Corrosion"
163. **Seoul National University**, Seoul, Korea, March 15, 2012: "Multifunctional Nanostructured Surfaces for Naval Applications"
164. **Korea Advanced Institute of Science and Technology (KAIST)**, Daejeon, Korea, March 14, 2012: "Scalable Nanomanufacturing of Multifunctional Nanostructured Surfaces for Energy Applications"
165. **University of Nantes**, Nantes, France, February 2, 2012: "Scalable Nanomanufacturing of Multifunctional Nanostructured Surfaces for Multiscale Scientific and Engineering Applications"
166. **University of Claude Bernard Lyon 1**, Lyon, France, January 27, 2012: "Scalable Nanomanufacturing of Multifunctional Nanostructured Surfaces for Multiscale Scientific and Engineering Applications"
167. **NSF Pan-American Advanced Studies Institute (PASI) program: Scalable, Functional Nanomaterials**, Costa Rica, August 3-13, 2011: "Large-Area 3D Nanopatterning and Nanostructure Fabrication"
168. **Picatinny Arsenal**, NJ, May 4, 2011: "Nanofluidic Energy Harvesting: Electrokinetic Energy Conversion in Hydrodynamic Slip Boundary Conditions"

169. **New Jersey Institute of Technology (NJIT),** Newark, NJ, March 7, 2011: "Multi-Functional 3D Nanostructures: Design, Fabrication, and Applications"
170. **The Second Conference on Advances in Microfluidics and Nanofluidics and Asian-Pacific International Symposium on Lab on Chip (AMP/APLOC)**, Singapore, January 5, 2011: "Large-Area Pattern Transfer of Metal Nanostructures on PDMS via Interference Nanolithography"
171. **Pusan University,** Pusan, Korea, December 22, 2010: "Multi-Functional 3D Nanostructures: Design, Fabrication, and Applications"
172. **Sogang University,** Seoul, Korea, December 21, 2010: "Multi-Functional 3D Nanostructures: Design, Fabrication, and Applications"
173. **Korea University,** Seoul, Korea, December 16, 2010: "Multi-Functional 3D Nanostructures: Design, Fabrication, and Applications"
174. **ASME IMECE Nano Energy Roundtable**, Vancouver, Canada, November 17, 2010: "Nanoengineering for Energy"
175. **Rutgers University,** Piscataway Township, NJ, October 13, 2010, "Multi-Functional 3D Nanostructures: Design, Fabrication, and Applications"
176. **The Sixth International Conference on Mathematical Modeling and Computer Simulations of Materials Technologies,** Ariel University Center of Samaria, Ariel, Israel, August 24, 2010: "Cell Adhesion on Three-Dimensional Nanostructures" (**Plenary talk**)
177. **The Sixth International Conference of Mathematical Modeling and Computer Simulation of Materials Technologies**, Ariel University Center of Samaria, Ariel, Israel, August 24, 2010: "Evaporation Kinetics and Wetting Dynamics of Nanofluid Droplets on Superhydrophobic Surfaces"
178. **Auburn University,** Auburn, AL, March 25, 2010: "Multi-Functional 3D Nanostructures: Design, Fabrication, and Applications"
179. **Korea Polytechnic University**, Siheung, Korea, November 2, 2009: "Multi-Functional Nanostructures: Design, Fabrication, and Applications"
180. **Gwangju Institute of Science and Technology (GIST)**, Gwangju, Korea, October 30, 2009: "Multi-Functional Nanostructures: Design, Fabrication, and Applications"
181. **E2 – Alternative Energy Workshop**, Stevens Institute of Technology, Hoboken, NJ, June 2, 2009, "Nanofluidic Energy Harvesting"
182. **Advanced Technology Laboratory at Johns Hopkins Laboratory**, Baltimore, MD, May 6, 2009: "Nano-Textured Multi-Functional Superhydrophobic Surfaces"
183. **U.S. Naval Research Lab**, Washington, DC, September 19, 2008: "Multi-Functional Superhydrophobic Surfaces for Naval Applications"
184. **University of Glasgow**, Glasgow, UK, May 21, 2008: "Nanoengineered Surfaces for Low Friction and Adhesion"
185. **The City College of New York (CCNY)**, New York, NY, September 6, 2007: "Nanoengineered Surfaces for Microfluidic and Biomedical Applications"
186. **Korea Advanced Institute of Science and Technology (KAIST)**, Daejeon, Korea, July 5, 2006: "Three Dimensional Nanostructures: Design, Fabrication, and Application to Microfluidics and Tissue Engineering"
187. **Stevens Institute of Technology**, Hoboken, NJ, May 30, 2006: "NanoTurf – A Nanoengineered Surface: Design, Fabrication, and Application to Microfluidics and Bioengineering"
188. **Washington State University Vancouver**, Vancouver, WA, April 6, 2006: "NanoTurf – A Nanoengineered Surface: Design, Fabrication, and Application"

189. **University of California, Berkeley**, Berkeley, CA, September 16, 2005: "NanoTurf: A Nanoengineered Surface for Low Friction in Liquid Flow"
190. **Seoul National University**, Seoul, Korea, June 14, 2005: "NanoTurf – A Nanoengineered Surface: Design, Fabrication, and Application to Microfluidics and Biotechnology"
191. **Korea Advanced Institute of Science and Technology (KAIST)**, Daejeon, Korea, June 13, 2005: "NanoTurf – A Nanoengineered Surface: Design, Fabrication, and Application to Microfluidics and Biotechnology"

4.3 News in Media

1. **The New York Times**, "Dirth Ice May Be Ugly, but It Has One Advantage", February 22, 2024. **(**https://www.nytimes.com/2024/02/22/science/ice-removal-contaminants.html?unlocked_article_code=1.XU0.bvdI.RZ_1k-ZpuHV8&smid=url-share**)**
2. **DugDug**, "Evaporation Kinetics of Sessile Water Droplets on Micropillared Superhydrophobic Surfaces", November 28, 2013. (http://www.dugdug.com/dr-choi-and-dr-xu-discuss-evaporation-kinetics)
3. **Advances in Engineering**, "Wafer-Scale Pattern Transfer of Metal Nanostructures on Polydimethysiloxane (PDMS) Substrates via Holographic Nanopatterns", March 9, 2013. (http://advanceseng.com/mechanical-engineering/wafer-scale-pattern-transfer-of-metal-nanostructures-on-polydimethylsiloxane-pdms-substrates-via-holographic-nanopatterns/)
4. **Soft Matter World Newsletter**, "Cotton Fabrics with Single-faced Superhydrophobicity", February, 2013, #49. **(**http://www.softmatterworld.org/archives/2013newsletter/SMWNewsletter49_February2013.pdf**)**
5. **Nanowerk**, "A step forward in techniques for the arrangement of nanowires", February 25, 2011. (http://www.nanowerk.com/news/newsid=20301.php)
6. **Nature Careers Q&A**, "From aerospace to Navy ships: Design for anti-corrosive vessel surfaces earns award for nanoengineer", *Nature* **465**, 385 (19 May 2010). (http://www.nature.com/naturejobs/2010/100520/full/nj7296-385a.html) (http://www.nature.com/naturejobs/2010/100520/pdf/nj7296-385a.pdf)
7. **Nature Research Highlights**, "Fluid dynamics: Slip and slide", *Nature* **454**, 920 (21 August 2008). (http://www.nature.com/nature/journal/v454/n7207/full/454920d.html) (http://www.nature.com/nature/journal/v454/n7207/pdf/454920d.pdf)
8. **Biomaterials**, "Biomaterials 2007 - The Year in Images", 2007. (http://www.elsevier.com/wps/find/P10.cws_home/biomat2007)
9. **Nanowerk**, "Novel method simplifies large-scale nanofabrication process", October 27, 2006. (http://www.nanowerk.com/spotlight/spotid=962.php)
10. **UCLA Engineer**, "Researchers Discover No-slip Condition Does Not Hold at the Nanoscale", Issue No. 16, Page 8-9, Fall 2006. (http://www.bioeng.ucla.edu/resources/forms/news/NoslipBWUarticle.pdf)
11. **Deutschlandfunk: German National Public Radio**, "Weniger Reibung durch spitze Nadeln", March 8, 2006. (http://www.dradio.de/dlf/sendungen/forschak/477408/)
12. **Material News: MRS (Materials Research Society)**, "New superhydrophobic surface developed", February 8, 2006.
13. **Physics News Update: The AIP Bulletin of Physics News**, "A Superhydrophobic Surface", Number 764 #1, February 6, 2006. (http://www.aip.org/pnu/2006/split/764-1.html)
14. **BBC News**, "Science plans 'non-stick' submarine", October 10, 2003.

(http://news.bbc.co.uk/2/hi/3178136.stm)

15. **UCLA Engineer**, "Nanoengineered Surfaces: Enabling Nanotechnologies", Issue No. 10, Page 6-7, Fall 2003. (http://ndl.ee.ucr.edu/FENA.pdf)

4.4 Sponsored/Awarded Research Projects

4.4.1 Past Support

1. **Development of Multi-stage Press Casting Process and Dissimilar Material Deposition Mold Technology for Eco-friendly Car Parts**
   - Role: PI
   - Source of Support: Korea Evaluation Institute of Industrial Technology (KEIT)
   - Total Award Amount: $300,000
   - Total Award Period Covered: 5/1/20-12/31/23

2. **Regional I-Corps: Omniphobic Anodic Coatings**
   - Role: PI
   - Source of Support: National Science Foundation (NSF)
   - Total Award Amount: $3,000
   - Total Award Period Covered: 4/6/23-5/2/23

3. **I-Corps: Artificial Cornea of Microtextured pHEMA Hydrogel**
   - Role: PI
   - Source of Support: National Science Foundation (NSF)
   - Total Award Amount: $50,000
   - Total Award Period Covered: 9/1/19-8/31/22

4. **DURIP: Laser Metal Deposition System for Additive Manufacturing and Corrosion Study of Metals**
   - Role: PI
   - Source of Support: Office of Naval Research (ONR)
   - Total Award Amount: $372,600
   - Total Award Period Covered: 6/15/18-6/14/21

5. **Rejuvenating Conjugated Polymer Membranes for Oily Water Treatment**
   - Role: Co-PI (PI: Prof. Eui-Hyeok Yang, Department of Mechanical Engineering, Stevens)
   - Source of Support: American Chemical Society (ACS) Petroleum Research Fund (PRF)
   - Total Award Amount: $110,000
   - Total Award Period Covered: 9/1/16-8/31/19

6. **Structured Surfaces for Prevention of Ice Adhesion and Growth**
   - Role: PI
   - Source of Support: National Science Foundation (NSF)
   - Total Award Amount: $316,399
   - Total Award Period Covered: 9/1/15-8/31/19

7. **Hydropower Plant on a Chip: Frictionless Nanochannel Systems for Hydroelectric Power Generation**
   - Role: PI
   - Source of Support: National Science Foundation (NSF)
   - Total Award Amount: $199,990
   - Total Award Period Covered: 6/1/15-5/31/19

8. **Prevention of Microbial Adhesion in Food Processing Environment using Multifunctional Nanopillared Surfaces**
   - Role: Co-PI (PI: Prof. Soojin Jun, Department of Human Nutrition, Food and Animal Sciences, University of Hawaii at Manoa)
   - Source of Support: U. S. Department of Agriculture (UDSA)
   - Total Award Amount: $499,516
   - Total Award Period Covered: 1/1/15-12/31/17

9. **Oil-Impregnated Oxide Nanostructures for Aluminum Corrosion Prevention**
   - Role: PI
   - Source of Support: Office of Naval Research (ONR)
   - Total Award Amount: $361,260
   - Total Award Period Covered: 6/1/14-9/30/17

10. **DURIP: Molecular Vapor Deposition Systems for Vapor-Phase Self-Assembled Monolayer Superhydrophobic Coatings**
    - Role: PI
    - Source of Support: Office of Naval Research (ONR)
    - Total Award Amount: $399,500
    - Total Award Period Covered: 6/15/13-6/14/14

11. **Tunable Wetting on Smart Polymers for Ultra-Low Voltage Digital Microfluidics**
    - Role: Co-PI (PI: Prof. Eui-Hyeok Yang, Department of Mechanical Engineering, Stevens)
    - Source of Support: National Science Foundation (NSF)
    - Total Award Amount: $359,995
    - Total Award Period Covered: 9/1/12-5/31/15

12. **DURIP: Small Angle X-Ray Scattering (SAXS) Instrument for Nondestructive Characterization of Nanobubble Kinetics and Dynamics on Nanostructured Surfaces**
    - Role: PI
    - Source of Support: Office of Naval Research (ONR)
    - Total Award Amount: $498,550
    - Total Award Period Covered: 6/15/12-12/14/13

13. **DURIP: Environmental Scanning Electron Microscope for In-Situ Wetting Dynamics Study of Nanostructured Surfaces**
    - Role: PI
    - Source of Support: Office of Naval Research (ONR)
    - Total Award Amount: $325,109
    - Total Award Period Covered: 6/15/11-6/14/12

14. **MRI: Acquisition of a Nanoimprint Lithography System for Nanoscience Research and Education based on Low-Dimensional Materials**
    - Role: Co-PI (PI: Prof. Eui-Hyeok Yang, Department of Mechanical Engineering, Stevens)
    - Source of Support: National Science Foundation (NSF)
    - Total Award Amount: $170,000
    - Total Award Period Covered: 1/1/11-12/31/13

15. **Nano-Engineering of Superhydrophobic Surfaces for Light Metal Anti-Corrosion (Young Investigator Award)**
    - Role: PI
    - Source of Support: Office of Naval Research (ONR)
    - Total Award Amount: $511,704
    - Total Award Period Covered: 5/1/10-11/30/13
    - Featured in **Nature Careers Q&A**, "From aerospace to Navy ships: Design for anti-corrosive vessel surfaces earns award for nanoengineer", *Nature* **465**, 385 (19 May 2010)

16. **DURIP: Configurable and Multi-Modal Thin Film Deposition System for Multi-Functional Nanostructured Surfaces**
    - Role: PI
    - Source of Support: Office of Naval Research (ONR)
    - Total Award Amount: $242,300
    - Total Award Period Covered: 4/15/10-4/14/11

17. **Energy Harvesting from Energetic Materials**
    - Role: Co-PI (PI: Prof. Souran Manoochehri, Department of Mechanical Engineering, Stevens)
    - Source of Support: US Army Picatinny (ARDEC)
    - Total Award Amount: $401,166

- Total Award Period Covered: 9/24/09-9/23/11

18. Bubble Detachment on Micro/Nano Structured Solid Surfaces in Energy Applications

- Role: Co-PI (PI: Prof. Sungkwon Cho, Department of Mechanical Engineering & Materials Science, University of Pittsburgh)
- Source of Support: American Chemical Society (ACS)
- Total Award Amount: $100,000 ($40,000 to Stevens)
- Total Award Period Covered: 9/01/09-8/31/11

19. Infused Teflon Films for Multi-Functional Appliqué

- Role: PI
- Source of Support: Johns Hopkins University / Defense Advanced Research Projects Agency (DARPA)
- Total Award Amount: $178,487
- Total Award Period Covered: 7/1/09-6/30/10

20. Nano-Engineered Superhydrophobic Aluminum Surfaces for Marine Anti-Corrosion

- Role: PI
- Source of Support: Office of Naval Research (ONR)
- Total Award Amount: $75,104
- Total Award Period Covered: 6/01/09-5/31/10

21. Characterization of Superhydrophobic Coatings for Hydrodynamic Drag Reduction

- Role: PI
- Source of Support: Ross Technology Corporation
- Total Award Amount: $9,956
- Total Award Period Covered: 3/1/09-12/31/09

22. Nanostructured Superhydrophobic Coatings for Breakthrough Energy Savings

- Role: PI
- Source of Support: Oak Ridge National Laboratory (ORNL) / Department of Energy (DOE)
- Total Award Amount: $200,000
- Total Award Period Covered: 2/20/09-9/30/11

23. MRI: Acquisition of an Inductively Coupled Plasma Etching System for Nano/Micro Device Fabrication

- Role: Co-PI (PI: Prof. Yong Shi, Department of Mechanical Engineering, Stevens)
- Source of Support: National Science Foundation (NSF)
- Total Award Amount: $190,000
- Total Award Period Covered: 9/1/08-8/30/11

24. **Design, Simulation, and Testing of Regenerative Blowers for Optimized Efficiency**
    - Role: PI
    - Source of Support: Air Tech, Inc.
    - Total Award Amount: $63,650
    - Total Award Period Covered: 9/1/08-8/31/09

4.4.2 Current Support

1. **Collaborative Research: Capillary-Controlled Thermal Diode using Heterogeneous Nanostructures**
    - Role: PI
    - Source of Support: National Science Foundation (NSF)
    - Total Award Amount: $260,719
    - Total Award Period Covered: 6/1/24-5/31/27

2. **I-Corps: Omniphobic Anodic Coatings**
    - Role: PI
    - Source of Support: National Science Foundation (NSF)
    - Total Award Amount: $50,000
    - Total Award Period Covered: 5/15/23-4/30/25

4.4.3 Pending Support

2. **Equipment: Track 1: Acquisition of Ultra High Performance Electron Beam Lithography System for North Jersey Region**
    - Role: Co-PI
    - Source of Support: National Science Foundation (NSF)
    - Total Award Amount: $671,139
    - Total Award Period Covered: 7/1/24-6/30/27

4.5 Collaborators

4.5.1 University

1. **City College of City University of New York**
    - Prof. Taehun Lee, Department of Mechanical Engineering
2. **Johns Hopkins University**
    - Dr. Dennis Nagle, Advanced Technology Lab

3. **KAIST, Korea**
   - Prof. Seung Seob Lee, School of Mechanical, Aerospace and Systems Engineering
   - Prof. Bong Jae Lee, School of Mechanical, Aerospace and Systems Engineering
4. **Korea University, Korea**
   - Prof. Sungsoo Na, Department of Mechanical Engineering
   - Prof. Yong Tae Kang, Department of Mechanical Engineering
5. **Kyung Hee University, Korea**
   - Prof. Youngsuk Nam, Department of Mechanical Engineering
   - Prof. Choongyeop Lee, Department of Mechanical Engineering
6. **Michigan Technological University**
   - Prof. Jaroslaw Drelich
7. **Nankai University, China**
   - Prof. Guangyi Sun
8. **Princeton University**
   - Prof. Howard Stone, Department of Mechanical and Aerospace Engineering
9. **Pusan University, Korea**
   - Prof. Wonsub Chung, School of Materials Science and Engineering
10. **Stevens Institute of Technology**
    - Prof. Raju Datla, Department of Ocean Engineering
    - Prof. Frank Fisher, Department of Mechanical Engineering
    - Prof. Woo Lee, Department of Chemical Engineering and Materials Science
    - Prof. Junfeng Liang, Department of Chemistry, Chemical Biology & Biomedical Engineering
    - Prof. Souran Manoochehri, Department of Mechanical Engineering
    - Prof. Keith Sheppard, Department of Chemical Engineering and Materials Science
    - Prof. Yong Shi, Department of Mechanical Engineering
    - Prof. Stefan Strauf, Department of Physics and Engineering Physics
    - Prof. Svetlana Sukhishvili, Department of Chemistry, Chemical Biology & Biomedical Engineering
    - Prof. Eui-Hyeok Yang, Department of Mechanical Engineering
11. **TU Darmstadt, Germany**
    - Prof. Steffen Hardt
    - Prof. Tobias, Baier
12. **University of Edinburgh, UK**
    - Prof. Khellil Sefiane, School of Engineering
13. **University of California at Los Angeles (UCLA)**
    - Prof. Chang-Jin Kim, Department of Mechanical and Aerospace Engineering
14. **University of Hawaii at Manoa**
    - Prof. Soojin Jun, Department of Human Nutrition, Food and Animal Sciences
15. **University of Lyon, France**
    - Prof. Lyderic Bocquet

16. **University Medical Center Groningen (UMCG), The Netherlands**
    - Prof. Henk Busscher, Department of Biomedical Engineering
    - Prof. Henny van der Mei, Department of Biomedical Engineering
17. **University of Nante, France**
    - Prof. Pierre-Yves Tessier
    - Prof. Abdelaziz El Mel
18. **University of Pennsylvania**
    - Prof. Daeyeon Lee, Department of Chemical and Biomolecular Engineering
19. **University of Pittsburgh**
    - Prof. Sung Kwon Cho
20. **York University**
    - Prof. Alidad Amirfazli

4.5.2 Research Lab

1. **Oak Ridge National Laboratory**
    - Dr. John Simpson
    - Dr. Scott Hunter
2. **KIST, Korea**
    - Dr. Myung Woon Moon, Materials and Life Science Research Division
3. **Max Planck Institute, Germany**
    - Dr. Hans-Jürgen Butt

4.5.3 Industry

1. **Luna Innovations**
    - Dr. Bryan Koene
3. **Ross Nanotechnology Corporation**
    - Dr. Vinod Sikka
4. **Wavefront Technology, Inc.**
    - Dr. Philip Chu

5. Teaching

5.1 Classroom Teaching and Material Development

5.1.1 Undergraduate Level

1. E101 Engineering Experiences
2. NANO 200 Introduction to Nanotechnology (co-developed)
3. ENGR 234 Thermodynamics
4. ME 234 Mechanical Engineering Thermodynamics
5. NANO 325 Introduction to Nanofabrication and Characterization (co-developed)
6. ME 342 Fluid Mechanics
7. ME 354 Heat Transfer
8. ME 423/424 Engineering Design VII/VIII
9. ME 470 Mechanical Engineering Systems Laboratory (co-developed)

5.1.2 Graduate Level

1. NANO 600 Nanoscale Science and Technology (co-developed)
2. NANO 625 Techniques of Surface and Nanostructure Characterization
3. ME/NANO 680 Fundamentals of Micro/Nano Fluidics (developed)

5.2 Research Supervision

5.2.1 Visiting Scholars

1. Prof. Hongsung Kim (Gyeonggi University of Science and Technology, Korea), 2024
2. Prof. Sun Min Kim (Inha University, Korea), 2020-2021
3. Prof. Youngseo Park (Gyeonggi College of Science and Technology, Korea), 2018-2019, Project: “Surface Finish in 3D Metal Printing”.
4. Prof. Jongsuk Lee (Gangneung-Wonju National University, Korea), 2017-2018, Project: “Icing Phenomena on Structured Surfaces”.
5. Prof. Wonsub Chung (Pusan University, Korea), 2016, Project: “Heat Transfer of Leidenfrost Droplets”.
6. Prof. Sungsoo Na (Korea University, Korea), 2014-2015, Project: “Biosensors”.
7. Prof. Hyunbo Shim (Yeungnam University, Korea), 2012-2013, Project: “Nanoimprinting”.
8. Dr. Ali Kibar (Kocaeli University, Turkey), 2011-2012, Project: “Air Bubble Dynamics on Superhydrophobic Surfaces”.

5.2.2 Post-Doctoral Training Supervised

1. Dr. Jeki Jung, Sep. 2022 – Aug. 2023, Project: "Metal Additive Manufacturing for Dissimilar Materials".
2. Dr. Jongyoun Son, Nov. 2020 – Dec. 2021, Project: "Metal Additive Manufacturing for Dissimilar Materials".
3. Dr. Song Dong, Aug. 2016 – Sept. 2018, Project: "Nanofluidic Energy Harvesting".
4. Dr. Junghoon Lee, Nov. 2014 – Aug. 2017, Project: "Oil-Impregnated Oxide Surfaces for Corrosion Prevention".
5. Dr. Yuyang Liu, Feb. 2010 – Jul. 2012, Project: "Adaptable Superhydrophobic Surfaces".
6. Dr. Weidong Mao, Jul. 2009 – Mar. 2011, Project: "Tunable Interference Lithography for Large-Area Nanopatterning".

5.2.3 Post-Doctoral Training Co-Supervised

1. Dr. Wei Xu, Aug. 2012 – May 2017, Project: "Tunable Wetting on Smart Polymers for Ultra-Low Voltage Digital Microfluidics" (Main Advisor: Prof. E.-H. Yang, Department of Mechanical Engineering, Stevens).

5.2.4 Doctoral Theses Supervised

1. Ashkan Farazin, Department of Mechanical Engineering, Sep. 2023 – May 2027 (*expected*), Tentative Title: "TBD".
2. Shima Rastgordani, Department of Mechanical Engineering, Sep. 2023 – May 2027 (*expected*), Tentative Title: "TBD".
3. Nima Kalantari, Department of Mechanical Engineering, Jan. 2022 – May 2026 (*expected*), Tentative Title: "TBD".
4. Seyed Mohammad Hosseini, Department of Mechanical Engineering, Jan. 2022 – May 2026 (*expected*), Tentative Title: "TBD".
5. Kaustubh Asawa, Department of Mechanical Engineering, Aug. 2015 – May 2025 (*expected*), Tentative Title: "Liquid-Core and Fluid-Cladding Waveguide Platforms for Optofluidics".
6. Yiwen Xi, Department of Mechanical Engineering, Aug. 2014 – May 2024, Title: "Tribological Effects of Micro/Nano Texturing in Biomimetic Aqueous Environments".
7. Ridvan Ozbay, Department of Mechanical Engineering, Aug. 2011 – May 2018, Title: "Bubble Adhesion and Dynamics on Aerophilic, Aerophobic, and Superaerophobic Surfaces".
8. Youhua Jiang, Department of Mechanical Engineering, Aug. 2014 – May 2018, Title: "Droplet Retention on Superhydrophobic Surfaces: Fundamentals and Applications".
9. Ferdi Hizal, Department of Mechanical Engineering, Aug. 2010 – Dec. 2017, Title: "Nanoengineering of Metal Surfaces for Prevention of Bacterial Adhesion".
10. Mohammad Amin Sarshar, Department of Mechanical Engineering, Aug. 2009 – May 2016, Title: "Icephobic Properties of Superhydrophobic Surfaces".
11. Ishan Wathuthanthri, Department of Mechanical Engineering, Aug. 2007 – May 2015, Title: "Laser Interference Lithography Systems for Large-Area Patterning and the Fabrication of Functional Nanostructures". (Awarded Stevens Innovation & Entrepreneurship Doctoral Fellowship)
12. Ke Du, Department of Mechanical Engineering, Aug. 2009 – May 2014, Title: "Nanofabrication via Interference Lithography: From Patterning to Pattern Transfer". (Awarded Stevens Innovation & Entrepreneurship Doctoral Fellowship)

13. Chanyoung Jeong, Interdisciplinary PhD Program (co-advisor: Prof. Sheppard, Department of Chemical Engineering and Materials Science), Aug. 2008 – May 2013, Title: "Nano-Engineered Aluminum Surfaces for Anti-Corrosion".
14. Wei Xu, Department of Mechanical Engineering, Aug. 2007 – May 2012, Title: "Droplet Evaporation on Superhydrophobic Surfaces: Fundamentals and Application for Nanomaterials Assembly". (Awarded Stevens Innovation & Entrepreneurship Doctoral Fellowship)

5.2.5 Doctoral Theses Co-Supervised

1. Yingtao Wang, Department of Mechanical Engineering (Main Advisor: Prof. Annie Xian Zhang), 2024 – present, Title: "Advancements in Thermal Transport Characterization and Manipulation of Two-Dimensional Materials: From Experimentation to Simulation".
2. Ke Xu, Department of Mechanical Engineering (Main Advisor: Prof. Souran Manoochehri), 2023 – present, Title: "Sensor-based Monitoring and Data-Driven Quality Prediction in Additive Manufacturing".
3. Robert Bauer, Department of Mechanical Engineering (Main Advisor: Prof. Yong Shi), 2021 – present, Title: "Scalable Sensor for Non-invasive Recording of Action Potential Signals from Groups of Neurons".
4. Linh Le, Department of Chemical Engineering and Materials Science (Main Advisor: Prof. W. Lee), 2011 – present.
5. Jiang Du, Department of Civil, Environmental and Ocean Engineering (Main Advisor: Prof. Weina Meng), 2023, Title: "Challenges and Opportunities of Developing Ultra-High-Performance Concrete (UHPC) for Bridge Deck Overlay Applications".
6. Fucheng Zhang, Department of Mechanical Engineering (Main Advisor: Prof. Robert Chang), 2023, Title: "Design, Fabrication, and Characterization of Melt Electrowriting Enabled 3D Structured Materials".
7. Dong Zhang, Department of Civil, Environmental, and Ocean Engineering (Main Advisor: Prof. Valentina Prigiobbe), 2021, Title: "Modeling and Measuring the Transport and the Aggregation of Microorganisms in Porous Media under Variable Chemical Conditions".
8. Kai Zong, Department of Chemical Engineering and Materials Science (Main Advisor: Prof. Stephanie Lee), 2020. Title: "Engineering Solution-Phase Organic Semiconductor Crystallization Using Nanoconfining Scaffolds".
9. Jian Xu, Department of Mechanical Engineering (Main Advisor: Prof. E.-H. Yang), 2019, Title: "Controlled Adhesion of Oil Droplets on PPy(DBS) Surfaces for Durable Oil Collection and Self-Regeneration".
10. Junjun Lee, Department of Mechanical Engineering (Main Advisor: Prof. F. Fisher), 2017, Title: "Nanofabrication and Nanopatterning of Carbon Nanomaterials for Flexible Electronics".
11. Yiming Lu, Department of Chemistry, Chemical Biology and Biomedical Engineering (Main Advisor: Prof. S. Sukhishvili), 2015, Title: "Responsive Polymer Coatings with Controlled Wetting and Biologically Active Properties".
12. Justin Lorio, Department of Ocean Engineering (Main Advisor: Prof. R. Datla), 2015, Title: "Determination of Trimaran Maneuvering Derivatives at Varying Longitudinal Ama Positions".
13. Xi Zhang, Department of Physics and Engineering Physics (Main Advisor: Prof. S. Strauf), 2013, Title: "Holographic Lithography for Plasmonics".
14. Andrew Ihnen, Department of Chemical Engineering and Materials Science (Main Advisor: Prof. W. Lee), 2012, Title: "Multi-Scale Architecture Control in Inkjet-Printed Organic Composite Materials".

15. Yao-Tsan Tsai, Department of Mechanical Engineering (Main Advisor: Prof. E.-H. Yang), 2011, Title: "A Study on Electrically Triggered Tunable Wetting on Conjugated Polymers for Digital Microfluidics".
16. Riddhi Kharidia, Department of Chemistry, Chemical Biology and Biomedical Engineering (Main Advisor: Prof. J. Liang), 2010, Title: "Modified Cationic Antimicrobial Peptides as Therapeutics against *Staphylococcus aureus*".
17. Adrian S. Onas, Department of Ocean Engineering (Main Advisor: Prof. R. Datla), 2009, Title: "Nonlinear Roll Motions of a Frigate-Type Trimaran and Susceptibility to Parametric Roll Resonance".

5.2.6 Master Theses Supervised

1. Shuai Yu, Department of Mechanical Engineering, Jan. 2022 – May 2023, Title: "Fabrication and Characterization of Nano-Patterned pHEMA Hydrogels for Potential Tissue Engineering Applications".
2. Yang He, Department of Mechanical Engineering, Aug. 2014 – Dec. 2016, Title: "Fabrication of Hierarchical Micro- and Nanostructures via the Manipulation of Optical Effects".
3. Lile Cao, Department of Mechanical Engineering, Aug. 2014 – Dec. 2016, Title: "Effects of Surface Patterns on Depinning Force of a Droplet on Superhydrophobic Surfaces in Inclination".
4. Zongqi Guo, Department of Mechanical Engineering, Aug. 2014 – May 2016, Title: "Effects of Microparticles on Depinning Force of Evaporating Droplets on Superhydrophobic Surfaces".
5. Kaustubh Asawa, Department of Mechanical Engineering, Aug. 2012 – May 2015, Title: "Nanoscale Metal-Assisted Wet Etching of Silicon Combined with Laser Interference Lithography".
6. Youhua Jiang, Department of Mechanical Engineering, Aug. 2012 – May 2014, Title: "Contact Angle Hysteresis and Depinning Force of Sessile Droplets on Hydrophobic Pore Patterns".
7. Insub Cho, Department of Mechanical Engineering, Aug. 2012 – May 2014, Title: "Lubricant-Impregnated Porous Aluminum Oxide Nanostructure for Anti-Corrosion".
8. Ferdi Hizal, Department of Mechanical Engineering, Aug. 2008 – May 2011, Title: "Effects of Anodizing Parameters on Nano-Porous Patterning of Aluminum in Phosphoric Acid".
9. Rajesh Leeladhar, Department of Mechanical Engineering, Aug. 2008 – May 2011, Title: "Drying of Nanoparticle Colloidal Droplet on Nano-Porous Superhydrophobic Surfaces".
10. Chien-Hsaing Wang, Department of Mechanical Engineering, Aug. 2008 – May 2011, Title: "Design, Modeling, and Simulation of Regenerative Blowers for Higher Energy Efficiency".
11. Elias Aljallis, Department of Mechanical Engineering, Aug. 2008 – May 2010, Title: "Characterization of Superhydrophobic Surfaces for Hydrodynamic Drag Reduction and Anti-Icing".

5.2.7 Master Research Supervised (no Theses)

1. Tuhao Xu, Department of Mechanical Engineering, Sept. 2022 – present.
2. Seungmin Han, Department of Mechanical Engineering, Sept. 2022 – present.
3. Yang Zhang, Department of Chemical Engineering and Materials Science, Jan. 2022 – May. 2022 (*expected*), Project: "Antibacterial pHEMA Hydrogel".
4. Charles Freundlich, Department of Mechanical Engineering, 2010-2011, Project: "Energy Harvesting with Ion Selective Nanopores".

5. Himanshu Shah, Department of Mechanical Engineering, 2009-2010, Project: "Nanotextured Antimicrobial Surfaces".
6. Yizhou Xiang, Department of Mechanical Engineering, 2008-2009, Project: "Fabrication of Nanostructures using Ferrofluids".
7. Ertan Serince, Department of Mechanical Engineering, 2007-2008, Project: "Turbulent Hydrodynamics Drag Reduction of Superhydrophobic Surfaces".
8. Sarath Kumar Palani, Department of Mechanical Engineering, 2007, Project: "Nanopatterned Superhydrophobic Surfaces for Optofluidic Waveguides".

5.3 Sponsored/Awarded Educational Projects

5.3.1 Undergraduate Education

1. NUE: Nanotechnology Exposure for Undergraduate Students (NANO-NEXUS)

- Role: Co-PI (PI: Prof. Yang, Department of Mechanical Engineering, Stevens)
- Source of Support: National Science Foundation (NSF)
- Total Award Amount: $200,000
- Total Award Period Covered: 9/1/11-8/30/13

6. Service

6.1 Departmental (Mechanical Engineering, Stevens)

6.1.1 Faculty Award Nomination Committee

- Period: 2024 - present

6.1.2 ME Research Committee

- Period: 2023 - present

6.1.3 ME Nominating Committee

- Period: 2023

6.1.4 Teaching Faculty Search Committee

- Period: 2023

6.1.5 Departmental Strategic Planning Committee

- Period: 2022

6.1.6 Search Committee for the Department Director

- Period: 2017 – 2018

6.1.7 Search Committee for the New Faculty

- Period: 2017 – 2018

6.1.8 ME Graduate Committee

- Period: 2010 – present

6.1.9 Ph.D. Qualifying Examination Committee

- Period: 2008 – present

6.1.10 Micro Device Laboratory (MDL)

- Committee: 2008 – 2020
- Director: 2020 – present

6.1.11 Freshman Faculty Advisor

- Period: 2008 – present

6.1.12 Graduate Students Faculty Advisor

- Period: 2007 – present

6.1.13 Seminar/Meeting Organization

1. Organized the 1th Stevens ME Dept. MEMS/NEMS Student Meeting, October 19, 2007
2. Organized and hosted ME/NGP seminar speakers: More than 30 scholars for the past 10 years

6.1.14 Others

1. Session Chair, The 4th Annual DMI/ME Research Conference, May 16-17, 2007.

6.2 Institutional (Stevens)

6.2.1 University Laboratory Safety Committee (ULSC)

- Period: 2024 – present

6.2.2 Review Committee for the Department Director

- Period: 2022

6.2.3 Board of Trustee Nomination and Corporate Governance Committee

- Period: 2019 – 2021

6.2.4 SES Honors & Awards Committee

- Period: 2018 – 2020

6.2.5 Institute Curriculum Committee

- Period: 2017 – 2019

6.2.6 Academic Operations and Affairs Committee

- Period: 2013 – 2015

6.2.7 Academic Appeals Committee

- Period: 2012 – 2014

6.2.8 Undergraduate Academic Standards Committee

- Period: 2010 – 2012

6.2.9 Graduate Student Club Faculty Advisor

- Period: 2010 – present

6.2.10 Others

1. Coordinator, Workshops on Stevens Biomaterials Sciences and Engineering, 2007.

6.3 Professional

6.3.1 Professional Membership

1. American Chemical Society (ACS), 2012 – present
2. Electrochemical Society (ECS), 2012 – present
3. American Vacuum Society (AVS), 2011 – present
4. New York Academy of Science (NYAS), 2010 – present
5. Society of Photo-Optical Instrumentation Engineers (SPIE), 2009 – present
6. New Jersey Technology Council (NJTC), 2008 – present
7. Institute of Electrical and Electronics Engineers (IEEE), 2005 – present
8. Korean-American Scientists and Engineers Association (KSEA), 2005 – present
9. American Society of Mechanical Engineers (ASME), 2005 – present

6.3.2 Journal Editors

1. Guest Editor, Collection in "Additive Manufacturing", *Scientific Reports*, 2024
2. Guest Editor, Special Issue in "Laser Additive Manufacturing of Metallic Materials, 2nd Edition", *Micromachines*, 2024
3. Associate Editor, *Frontiers in Lab on a Chip Technologies*, 2023 – present
4. Editorial Board, *Droplet*, 2022 – present
5. Guest Editor, Special Issue in "Design, Fabrication and Applications of Nanoporous Materials", *Nanomaterials*, 2022
6. Guest Editor, Special Issue in "Laser Additive Manufacturing of Metallic Materials", *Micromachines*, 2021
7. Guest Editor, Special Issue in "Selected Papers from the 2nd Coatings and Interfaces Web Conference (CIWC2020)", *Coatings*, 2021
8. Editorial Board, *Nanomaterials*, 2020 – present
9. Advisory Board, *Journal of Colloid and Interface Science*, 2020 – present
10. Guest Editor, Special Issue in "Fabrication and Application of Micro/Nano-Textured Surfaces", *Micromachines*, 2020
11. Editorial Board, *Coatings*, 2019 – present
12. Editorial Board, *Materials*, 2018 – present
13. Editorial Board, *Scientific Reports*, 2017 – present
14. Editorial Board, *International Journal of Wettability Science and Technology*, 2016 – present
15. Editorial Board, *Micromachines*, 2016 – present
16. Guest Editor, Special Issue in "Scalable Micro/Nano Patterning", *Micromachines*, 2017
17. Guest Editor, Special Issue in "Superhydrophobicity of Materials", *Materials*, 2015

6.3.3 Technical Program Committee

1. **Technical Program Committee**, The 67th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), 2024.
2. **Technical Program Committee**, The 19th IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS), 2024.
3. **Technical Program Committee**, The 66th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), 2023.
4. **Technical Program Committee**, The 18th IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS), 2023.
5. **Technical Program Committee**, The 65th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), 2022.
6. **Technical Program Committee**, The 17th IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS), 2022.
7. **Technical Abstract Review Committee**, TechConnect World Innovation Conference & Expo, 2020.
8. **Scientific Advisory Committee**, The 2nd Coatings and Interfaces Web Conference (CIWC 2020, May 15-31, 2020).
9. **Technical Program Committee**, The 64th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), 2019.
10. **Technical Abstract Review Committee**, TechConnect World Innovation Conference & Expo, 2019.
11. **Technical Program Committee**, The 14th IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS), 2019.
12. **Technical Program Committee**, The 63th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), 2018.
13. **Technical Abstract Review Committee**, TechConnect World Innovation Conference & Expo, 2018.
14. **Technical Program Committee**, The 13th IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS), 2018.
15. **Technical Program Committee**, The 62th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), 2017.
16. **Technical Program Committee**, The 61th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), 2016.
17. **Technical Program Committee**, The 11th IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS), 2016.
18. **Technical Program Committee**, The 60th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), 2015.
19. **Technical Program Committee**, The 59th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), 2014.
20. **Technical Program Committee**, The 9th IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS), 2014.
21. **Technical Program Committee**, The 58th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), 2013.
22. **Technical Program Committee**, The 7th World Congress on Biomimetics, Artificial Muscles and Nano-Bio (BAMN), 2013.

23. **Korea R&D Technology Innovation Technical Committee**, Ministry of Trade, Industry & Energy, Korea (KEIT), 2013 – present
24. **Technical Program Committee**, The 57th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), 2012.
25. **Technical Program Committee**, The 8th Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS), 2012.
26. **Technical Program Committee** (Abstract Coordinator), The 2nd Metro Area MEMS/NEMS Workshop, July 26, 2010.
27. **MEMS Division Technical Committee**, American Society of Mechanical Engineers (ASME), 2008 – present.
28. **Fluid Engineering Division Micro and Nanoscale Fluid Dynamics Technical Committee**, American Society of Mechanical Engineers (ASME), 2008 – present.
29. **Technical Program Committee** (Abstract Coordinator), The 1st Metro Area MEMS/NEMS Workshop, July 23, 2007.

6.3.4 Conference/Forum/Program/Track/Topic/Session Organizer and Chair

1. **Conference Organizer**, The 3rd International Conference on Nature Inspired Surface Engineering, Granada, Spain, November 20-22, 2024.
2. **Conference Organizer**, 2024 BrainLink X-Lab Day: Advanced Technologies for Next Generation Aerospace Systems: Materials, Manufacturing, and Process Standardization & Certification, Busan, South Korea, September 30 - October 3, 2024.
3. **Conference Organizer**, 2023 BrainLink X-Lab Day: Metal Additive Manufacturing and Materials for Nuclear Power, Pyeongchang, South Korea, October 9-11, 2023.
4. **Conference Organizer**, The 2nd International Conference on Nature Inspired Surface Engineering, Seoul, South Korea, August 17-19, 2022.
5. **Conference Organizer**, The 1st International Conference on Nature Inspired Surface Engineering, Hoboken, NJ, USA, June 12-14, 2019.
6. **Symposium Organizer**, The 11th International Symposium on Contact Angle, Wettability and Adhesion, Hoboken, NJ, USA, June 13-15, 2018.
7. **Symposium Organizer**, The 10th International Symposium on Contact Angle, Wettability and Adhesion, Hoboken, NJ, USA, July 13-15, 2016.
8. **Track Organizer**, Micro/Nano-Fabrication Technologies and Lab-on-Chip Device Manufacturing, An International Conference of Microfluidics, Nanofluidics and Lab-on-a-Chip, Dalian, China, June 10-12, 2016.
9. **Symposium Co-Organizer**, Korea University / Stevens Nano-Bio Joint Symposium, 2014.
10. **Workshop Organizer**, Korean Institute of Ocean Sciences and Technology (KIOST) / Korean Maritime and Ocean University (KMOU) / Stevens Joint Workshop on Ocean Science and Technology, 2014.
11. **Track Co-Organizer**, Surface Engineering for Phase-Change Heat Transfer, ASME 2014 12th International Conference on Nanochannels, Microchannels, and Minichannels (ICNMM), 2014
12. **Session Co-Organizer**, The 4th ASME International Conference of Micro/Nanoscale Heat and Mass Transfer (MNHMT-13), 2013
13. **Session Chair**, Particle: Bubble and Drop Dynamics, The 8th International Conference on Multiphase Flow (ICMF), 2013
14. **Session Moderator**, Nanoscale Science and Engineering and Advanced Materials, US-Korea

Conference on Science, Technology, and Entrepreneurship (UKC), 2012

15. **Track Organizer**, Surface Tension Driven Transport Processes, ASME 2012 10th International Conference on Nanochannels, Microchannels, and Minichannels (ICNMM), 2012
16. **Track Co-Organizer**, Microfluidics 2012 Forum: Fluid Engineering in Micro and Nanosystems, ASME 2012 International Mechanical Engineering Congress & Exposition (IMECE), 2012
17. **Session Organizer**, The 3rd International Conference on Advances in Microfluidics & Nanofluidics (AMN 2012), 2012
18. **Session Organizer**, Droplet & Spray, The 8th KSEM-JSME Thermal and Fluids Engineering Conference, 2012
19. **Track Organizer**, Microfluidics 2011: Fluid Engineering in Micro and Nanosystems, ASME 2011 International Mechanical Engineering Congress & Exposition (IMECE), 2011
20. **Track Co-Organizer**, Interfacial Phenomena at Micro and Nanoscale, ASME 2011 9th International Conference on Nanochannels, Microchannels, and Minichannels (ICNMM), 2011
21. **Track Co-Organizer**, Surface Tension Driven Transport Processes, ASME 2011 9th International Conference on Nanochannels, Microchannels, and Minichannels (ICNMM), 2011
22. **Track Co-Organizer**, Microfluidics 2010 Forum: Fluid Engineering in Micro and Nanosystems, ASME 2010 International Mechanical Engineering Congress & Exposition (IMECE), 2010.
23. **Topic Organizer**, Energy and Power in Micro and Nano Systems, ASME 2010 International Mechanical Engineering Congress & Exposition (IMECE), 2010.
24. **Topic Organizer**, Energy and Power in Micro and Nano Systems, ASME 2009 International Mechanical Engineering Congress & Exposition (IMECE), 2009.
25. **Session Organizer**, Micro/Nano Devices for Fluidic Applications, ASME 2009 International Mechanical Engineering Congress & Exposition (IMECE), 2009.
26. **Session Organizer**, Microfluidics: Surface-Based Micro- and Nanofluidic Applications, ASME 2009 International Mechanical Engineering Congress & Exposition (IMECE), 2009.
27. **Session Organizer**, Microfluidics: Micro- and Nanofluidic Sensors and Actuators, ASME 2009 International Mechanical Engineering Congress & Exposition (IMECE), 2009.

6.3.5 Reviewer, *Grant Application*

1. National Science Foundation (NSF):
   - ECCS Electronics, Photonics and Device Technologies Program
   - CBET Thermal Transport Phenomena Program
   - CMMI Materials Engineering and Processing Program
   - DMR Electronic and Photonic Materials Program
   - International Research Experience for Students Program
   - SBIR program
2. U.S. Army Corps of Engineers: Engineer Research and Development Centers (ERDC)
3. U.S. Department of Energy: Office of Energy Efficiency and Renewable Energy (EERE)
4. U.S. Department of Energy: National Renewable Energy Lab (NREL), American-Made Solar Desalination Prize.
5. ACS Petroleum Research Fund
6. National Nuclear Security Administration (NNSA) Minority Serving Institution Partnership Program (MSIPP)
7. NASA Postdoctoral Program (NPP)

8. CRDF Global
9. European Research Council (ERC)
10. Swiss NSF
11. The Research Council of Norway (RCN)
12. The Academy of Finland
13. Czech Science Foundation (GACR)
14. Science Fund of the Republic of Serbia (SF)
15. The Research Grants Council (RGC) of Hong Kong
16. King Abdullah University of Science and Technology (KAUST) Competitive Research Grants (CRG) program
17. The City University of New York Internal Research Award Program
18. Maryland Industrial Partnerships Program (MIPS)
19. Center for Functional Nanomaterials at Brookhaven National Laboratory: Proposal Review Panel

6.3.6 Reviewer, *Book*

1. "Contact Angle, Wettability and Adhesion, Vol. 1", Scrivener Publishing (2012)
2. "Biomimetic Design of Engineering Materials", Wiley (2012)
3. "Fluid Mechanics", McGraw Hill (2012)
4. "Smart Nanomaterials for Sensor Applications", Bentham Science Publishers (2010)
5. "Laminar Drag Reduction", Bentham Science Publishers (2011)

6.3.7 Reviewer, *Journal*

1. ACS Applied Bio Materials
2. ACS Applied Materials & Interface
3. ACS Nano
4. ACS Omega
5. Acta Biomaterialia
6. Advances in Colloid and Interface Science
7. Advanced Functional Materials
8. Advanced Materials
9. Advanced Materials Interfaces
10. Advanced Materials Technologies
11. Advanced Optical Materials
12. Analytical Chemistry
13. Applied Surface Science
14. Biofouling
15. Biomaterials
16. Chemical Science
17. Colloid and Polymer Science
18. Colloids and Surface A: Physicochemical and Engineering Aspects
19. Colloids and Surfaces B: Biointerfaces

20. Current Applied Physics
21. Droplet
22. EPL (Europhysics Letters)
23. Experiments in Fluids
24. Experimental Thermal and Fluid Science
25. Frontiers of Mechanical Engineering
26. IEEE Sensors Journal
27. IEEE Spectrum
28. International Journal of Heat and Mass Transfer
29. International Journal of Precision Engineering and Manufacturing
30. Journal of Adhesion Science and Technology
31. Journal of Colloid and Interface Science
32. Journal of Fluids Engineering
33. Journal of Fluid Mechanics
34. Journal of Laser Micro/Nanoengineering
35. Journal of Manufacturing Processes
36. Journal of Microelectromechanical Systems
37. Journal of Micromechanics and Microengineering
38. Journal of Micro-Nano Mechatronics
39. Journal of Nanoscience and Nanotechnology
40. Journal of Physical Chemistry
41. Journal of Vacuum Science and Technology B
42. Lab on a Chip
43. Langmuir: *Selected as the top 20% of reviewers*
44. Materials
45. Microfluidics and Nanofluidics
46. Micromachines
47. Molecules
48. Nanoscale
49. Nanoscale Research Letters
50. Nanotechnology
51. Nanoscience and Nanotechnology Letters
52. Nature Communications
53. Nature Materials
54. Optics Express
55. Philosophical Transactions of Royal Society
56. Physical Chemistry Chemical Physics (PCCP)
57. Physical Review Applied
58. Physical Review E
59. Physical Review Fluids
60. Physical Review Letters

61. Physics of Fluids
62. RSC Advances
63. Science Advances
64. Scientific Reports
65. Sensors & Actuators: B. Chemical
66. Soft Matter
67. Surface and Coatings Technology
68. Surface Innovations
69. Thin Solid Films

6.3.8 Reviewer, *Conference Proceeding*

1. ASME International Mechanical Engineering Congress & Exposition (IMECE)
2. ASME International Conference on Nanochannels, Microchannels, and Minichannels (ICNMM)
3. European Conference on Microfluidics
4. ASME-JSME-KSME Joint Fluids Engineering Conference
5. International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN)
6. The IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE-NEMS).
7. International Conference of Microfluidics, Nanofluidics and Lab-on-a-Chip