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ACADEMIC EXPERIENCE

12/04 - present	**Seoul National University, Seoul, Korea** Assistant, Associate, then Full Professor.
3/11 - 2/12	**Wyss Institute, Harvard University, Cambridge, MA** Wyss Visiting Fellow.
9/04 - 12/04	**Harvard University, Cambridge, MA** Postdoctoral Fellow, Division of Engineering and Applied Sciences.
4/99 - 8/04	**Korea Institute of Science and Technology, Seoul, Korea** Senior Research Scientist (Military Service), Systems Research Division.
5/03 - 6/03	**University of Cambridge, Cambridge, UK** Visiting Scientist, Department of Applied Mathematics and Theoretical Physics.
9/01 - 11/01	**Massachusetts Institute of Technology, Cambridge, MA** Visiting Scholar, Laboratory for Manufacturing and Productivity.

EDUCATION

9/96 - 2/99	**Massachusetts Institute of Technology, Cambridge, MA** Ph.D., Mechanical Engineering. Thesis title: Spreading behavior of molten metal microdroplets.
9/94 - 8/96	**Massachusetts Institute of Technology, Cambridge, MA** S.M., Mechanical Engineering.
3/90 - 2/94	**Seoul National University, Seoul, Korea** B.S., Mechanical Engineering.

HONORS AND AWARDS

2022	SNU President's Award for Research Excellence, **Seoul National University**
2022	Teaching Excellence Award, **SNU College of Engineering**
2020	Best Poster Award, **Gordon Research Conference on Robotics**
2018	Best Paper Award, **Korean Society of Mechanical Engineers**
2018	Namheon Award for Research Excellence, **Korean Society of Mechanical Engineers**
2017	Fellow, **American Physical Society**
2015, 2017	Best Paper Award, **Korean Society of Mechanical Engineers**
2014	Gasan Award for Research Excellence, **Korean Society of Mechanical Engineers**
2014	Shinyang Award for Research Excellence, **SNU College of Engineering**
2014	Best Paper Award, **Korean Society of Visualization**
2014	Best Paper Award, **National Conference of Fluids Engineering**

2012, 2014	Outstanding Research Award, **SNU College of Engineering**
2013	Industrial Collaboration Award, **Semes, Inc.**

PROFESSIONAL ACTIVITIES

2022 - present	Organizer, **IUTAM Symposium on Capillarity and Elastocapillarity in Biology**
2022 - present	Local Organizing Committee, **The 26th International Congress of Theoretical and Applied Mechanics**
2021 - present	Associate Editor, **Droplet (Wiley)**
2021 - 2022	Track Chair, **World Congress on Biomechanics 2022**
2020 - present	Chair, **International Conference on Nature Inspired Surface Engineering**
2019 - present	Vice President, **KSME Division of Fluids Engineering**
2018 - present	Editorial Board Member, **JMST Advances (Springer)**
2004 - present	Life Member, **American Physical Society**
2000 - present	Member, **American Society of Mechanical Engineers**
2008 - 2015	Organizer, **International Colloquium on Biomimetic Mechanical Systems**
2014 - 2015	Guest Editor, **Journal of Nanomaterials**
2010 - 2014	Editorial Board Member, **International Journal of Air-Conditioning and Refrigeration**
2004 - present	Referee for over 40 journals including **Nature**, **Science Robotics**, **Science Advances**, **Nature Communications**, **PNAS**, **Physical Review Letters**, **Journal of Fluid Mechanics**, **Physical Review Fluids**, **Physics of Fluids**, **Journal of Fluids Engineering**, **Appled Physics Letters**, **Langmuir**, **Soft Matter**, **Journal of Chemical Physics**, **Journal of Colloid and Interface Science**, **Sensors and Actuators A**, **Experiments in Fluids**, **Bioinspiration and Biomimetics**, and **IEEE Transactions on Robotics**

INVITED TALKS (selected)

11/2022	**APS DFD** (American Physical Society Division of Fluid Dynamics) Annual Meeting Special Session, Indianapolis, IN, USA
12/2021	**Asia-Pacific Conference on Biomechanics**, Kyoto, Japan (virtual)
10/2021	Mechanical Science and Engineering Department Seminar, **University of Illinois at Urbana-Champaign**, Urbana, IL, USA
8/2021	**ICTAM** (International Congress of Theoretical and Applied Mechanics), Virtual
4/2021	**MRS Spring Meeting**, Virtual
1/2020	**Gordon Research Conference on Robotics**, Ventura, CA, USA
6/2019	**NISE 2019** (International Conference on Nature-Inspired Surface Engineering), Hoboken, NJ, USA
9/2018	**Summer Davos Forum**, Tianjin, China
6/2018	**ASME 2018 ICNMM** (International Conference on Nanochannels, Microchannels, and Minichannels), Dubrovnik, Croatia
6/2018	Fluid Mechanics Seminar, **Technical University of Denmark**
7/2017	**Droplets 2017**, Los Angeles, CA, USA

1/2017	**Gordon Research Conference on Micro & Nanoscale Phase Change Heat Transfer**, Galveston, TX, USA
11/2016	**APS DFD** (American Physical Society Division of Fluid Dynamics) Annual Meeting, Portland, OR, USA
5/2016	**ICMF** (International Conference on Multiphase Flow), Firenze, Italy
2/2016	Applied Physics Seminar, **Nanyang Technological University**, Singapore
7/2015	**AJK-FED** (ASME-JSME-KSME Joint Fluids Engineering Conference), Seoul, Korea
6/2014	**Dynamics at Interfaces Workshop**, Okinawa Institute of Science and Technology, Okinawa, Japan
11/2013	Physical Mathematics Seminar, **MIT**, Cambridge, MA, USA
11/2013	Rowland Institute Seminar, **Harvard University**, Cambridge, MA, USA
8/2013	**BAMN** (The World Congress on Biomimetics, Artificial Muscles and Nano-Bio), Jeju Island, Korea
2/2012	Squishy Physics Seminar, **Harvard University**, Cambridge, MA, USA
2/2012	Nanotechnology Graduate Program Seminar, **Stevens Institute of Technology**, Hoboken, NJ, USA
1/2012	Mechanical and Industrial Engineering Departmental Seminar, **University of Illinois at Chicago**, Chicago, IL, USA
10/2011	Oxford Centre for Soft and Biological Matter Seminar, **University of Oxford**, Oxford, UK

PRESS RELEASES (selected)

4/2022	"Dressed for success: soft gel cloaked in membrane can snap brick," Research Highlights, **Nature**
3/2022	"Morphing of particle rafts," Backscatter, **Physics Today**
3/2018	"An absorbing study on the maths of sponges," Research Highlights, **Nature**
1/2018	"An inchworm robot powered by humidity," Research Highlights, **Nature**
12/2016	"Never mind walking; Some insects can jump on water," **New York Times**
9/2014	"An electric power plant on the roof of your car?" **LA Times**
6/2014	"Gill-on-a-chip illuminates evolution," Editor's Choice, **Science**
3/2014	"Water's tough skin," News Focus, **Science**
3/2014	"3D printing goes nanoscale," Research Highlights, **Nature**
12/2011	"Let it flow," Research Highlights, **Nature Physics**
6/2010	"Petite Pottery," Research Highlights, **Nature**
6/2010	"Sticky materials from bent pillars," **Highlights in Chemical Science**, Royal Society of Chemistry
12/2007	"Scientists crack how insect bounces on water," **The Telegraph**, UK

SELECTED PUBLICATIONS

1. D.-G. Lee and H.-Y. Kim, "Impact of a superhydrophobic sphere onto water," *Langmuir* **24**, 142-145 (2008).
> Featured in Science as Editor's Choice, Daily Telegraph (UK), Science News, KBS News 9, etc.

2. M. Lee, Y. S. Chang, and H.-Y. Kim, "Drop impact on micro-wetting patterned surfaces," *Physics of Fluids* **22** 072101 (2010).
> Selected as journal cover.

3. H.-Y. Kim, M. Lee, K. J. Park, and S. Kim, and L. Mahadevan, "Nanopottery: Coiling of electrospun polymer nanofibers," *Nano Letters* **10**, 2138-2140 (2010).
> Featured in Nature as Research Highlights, NPG Asia Materials etc.

4. J. Kim, M.-W. Moon, K.-R. Lee, L. Mahadevan, and H.-Y. Kim, "Hydrodynamics of writing with ink," *Physical Review Letters* **107**, 264501 (2011).
> Featured in Nature Physics as Research Highlights, Science On, Asia Pacific Physics Newsletter, etc.

5. E. Yang and H.-Y. Kim, "Jumping hoops," *American Journal of Physics* **80**, 19-23 (2012).
> Selected as journal cover.

6. K. Park, W. Kim, and H.-Y. Kim, "Optimal lamellar arrangement in fish gills," *Proceedings of the National Academy of Sciences* **111**, 8067-8070 (2014).
> Featured in Science as Editor's Choice, DongA Science, etc.

7. M. Lee and H.-Y. Kim, "Toward nanoscale three-dimensional printing: Nanowalls built of electrospun nanofibers," *Langmuir* **30**, 1210-1214 (2014).
> Featured in Nature as Research Highlights, Nanowerk, DongA Science, etc.

8. J. Bae, J. Lee, S. M. Kim, J. Ha, B.-S. Lee, Y. J. Park, C. Choong, J.-B. Kim, Z. L. Wang, H.-Y. Kim, J.-J. Park, and U.-I. Chung, "Flutter-driven triboelectrification for harvesting wind energy," *Nature Communications* **5**, 4929 (2014).
> Featured in LA Times, Nature Asia, Wired, Business Insider, Techxplore, etc.

9. J.-S. Koh, E. Yang, G.-P. Jung, S.-P. Jung, J. H. Son, S.-I. Lee, P. G. Jablonski, R. J. Wood, H.-Y. Kim, and K.-J. Cho, "Jumping on water: Surface tension-dominated jumping of water striders and robotic insects," *Science* **349**, 517-521 (2015).
> Featured in Science as Perspectives, New York Times, NBC, BBC, Spiegel, etc.

10. E. Yang, J. H. Son, S. Lee, P. G. Jablonski, and H.-Y. Kim, "Water striders adjust leg movement speed to optimize takeoff velocity for their morphology," *Nature Communications* **7**, 13698 (2016).
> Featured in Science Daily, Phys Org, Asian Scientist, Altmetric, etc.

11. S. Park, Y. Jung, S. Y. Son, I. Cho, Y. Cho, H. Lee, H.-Y. Kim, and S. J. Kim,"Capillarity ion concentration polarization as spontaneous desalting mechanism," *Nature Communications* **7**, 11223 (2016).
> Featured in DongA Science, ETNews, Focus News, etc.

12. B. Shin, J. Ha, M. Lee, K. Park, G. H. Park, T. H. Choi, K.-J. Choi, and H.-Y. Kim, "Hygrobot: A self-locomotive ratcheted actuator powered by environmental humidity," *Science Robotics* **3**, eaar2629 (2018).
> Featured in Nature as Research Highlights, Physics Central, Australia's Science Channel, etc.

13. S. Kim, J. Kim, and H.-Y. Kim, "Dewetting of liquid film via vapour-mediated Marangoni effect," *Journal of Fluid Mechanics* **872** 100-114 (2019).
> Selected as journal cover.

14. Y. Lee, W. J. Song, Y. Jung, H. Yoo, M.-Y. Kim, H.-Y. Kim, and J.-Y. Sun, "Ionic spiderwebs," *Science Robotics* **15**, eeez5405 (2020).
> Selected as journal cover. Featured in Physicsworld, Chosun Daily, etc.

15. S. Kim, M.-Y. Moon, and H.-Y. Kim, "Liquid spreading along nanostructured superhydrophilic lanes," *Physical Review Fluids* **6**, 034002 (2021).
> Selected as Editors' Suggestion.

16. J. H. Lee, S. Kim, J. Kim, H. Kim, and H.-Y. Kim, "From an elongated cavity to funnel by the impact of a drop train," *Journal of Fluid Mechanics* **921**, A8 (2021).
> Featured in Focus on Fluids.

17. H. Na, Y.-W. Kang, C. S. Park, S. Jung, H.-Y. Kim, and J.-Y. Sun, "Hydrogel-based strong and fast actuators by electroosmotic turgor pressure," *Science* **376**, 301-307 (2022).
> Featured in both Nature and Science as Research Highlights.

18. J. H. Lee, B. Jung, G.-S. Park, and H.-Y. Kim, "Condensation and wicking of water on solid nanopatterns," *Physical Review Fluids* **7**, 024202 (2022).
> Selected as Editors' Suggestion.

19. B. Shin, Y. Jung, M. Choi, and H.-Y. Kim, "Thermodynamics of hygroresponsive soft engines: cycle analysis and work ratio," *Physical Review Applied* **18**, 044061 (2022).
> Featured in APS News.

FULL PUBLICATIONS

1. H.-Y. Kim, Z. C. Feng, and J.-H. Chun, "Instability of a liquid jet emerging from a droplet upon collision with a solid surface," *Physics of Fluids* **12**, 531-541 (2000).

2. H.-Y. Kim, B. H. Kang, and D.-Y. Lee, "A parametric study on the cooling characteristics of an infrared detector cryochamber," *Cryogenics* **40**, 779-788 (2000).

3. H.-Y. Kim and J.-H. Chun, "The recoiling of liquid droplets upon collision with solid surfaces," *Physics of Fluids* **13**, 643-659 (2001).

4. H.-Y. Kim, H. J. Lee, and B. H. Kang, "Sliding of liquid drops down an inclined solid surface," *Journal of Colloid and Interface Science* **247**, 372-380 (2002).

5. Y.-S. Yang, H.-Y. Kim, and J.-H. Chun, "Spreading and solidification of a molten microdrop in the solder jet bumping process," *IEEE Transactions on Components and Packaging Technologies* **26**, 215-221 (2003).

6. H.-Y. Kim, S.-Y. Park, and K. Min, "Imaging the high-speed impact of microdrop on solid surface," *Review of Scientific Instruments* **74**, 4930-4937 (2003).

7. H.-Y. Kim and B. H. Kang, "Effects of hydrophilic surface treatment on evaporation heat transfer at the outside wall of horizontal tubes," *Applied Thermal Engineering* **23**, 449-458 (2003).

8. H.-Y. Kim, Y. G. Kim, and B. H. Kang, "Enhancement of natural convection and pool boiling heat transfer via ultrasonic vibration," *International Journal of Heat and Mass Transfer* **47**, 2831-2840 (2004).

9. H.-Y. Kim, T. Karahalios, T. Qiu, and J.-H. Chun, "Microsensor for impact of molten metal microdrops," *Sensors and Actuators A* **116**, 417-423 (2004).

10. H. J. Lee and H.-Y. Kim, "Control of drop rebound with solid target motion," *Physics of Fluids* **16**, 3715-3719 (2004).

11. H.-Y. Kim, J.-H. Kim, and B. H. Kang, "Meandering instability of a rivulet," *Journal of Fluid Mechanics* **498**, 245-256 (2004).

12. H.-Y. Kim, "Drop fall-off from vibrating ceiling," *Physics of Fluids* **16**, 474-477 (2004).

13. D. Vella, H.-Y. Kim, and L. Mahadevan, "The wall-induced motion of a floating flexible train," *Journal of Fluid Mechanics* **502**, 89-98 (2004).

14. H.-Y. Kim and L. Mahadevan, "Capillary rise between elastic sheets," *Journal of Fluid Mechanics* **548**, 141-150 (2006).

15. J. H. Moon, B. H. Kang, and H.-Y. Kim, "The lowest oscillation mode of a pendant drop," *Physics of Fluids* **18**, 021702 (2006).

16. D. Vella, D.-G. Lee, and H.-Y. Kim, "Sinking of a horizontal cylinder," *Langmuir* **22**, 2972-2974 (2006).

17. D. Vella, H.-Y. Kim, P. Aussillous, and L. Mahadevan, "Dynamics of surfactant-driven fracture of particle rafts," *Physical Review Letters* **96**, 178301 (2006).

18. D. Vella, D.-G. Lee, and H.-Y. Kim, "The load supported by small floating objects," *Langmuir* **22**, 5979-5981 (2006).

19. H. Cho, H.-Y. Kim, J. Y. Kang, and T. S. Kim, "How the capillary burst microvalve works," *Journal of Colloid and Interface Science* **306**, 379-385 (2007).

20. D.-W. Oh, J. S. Jin, J. H. Choi, H.-Y. Kim, and J. S. Lee, "A microfluidic chaotic mixer using ferrofluid," *Journal of Micromechanics and Microengineering* **17**, 2077-2083 (2007).

21. H. J. Lee, Y. S. Chang, Y. P. Lee, K.-H. Jeong, and H.-Y. Kim, "Deflection of microcantilever by growing vapor bubble," *Sensors and Actuators A* **136**, 717-722 (2007).

22. H.-Y. Kim, K.-H. Jeong, S. Ko, H. J. Lee, Y. P. Lee, and Y. S. Chang, "Life of thermal bubble on platinum microheater," *Journal of Applied Physics* **102**, 034903 (2007).

23. H.-Y. Kim, "On thermocapillary propulsion of microliquid slug," *Nanoscale and Microscale Thermophysical Engineering* **11**, 351-362 (2007).

24. D.-G. Lee and H.-Y. Kim, "Impact of a superhydrophobic sphere onto water," *Langmuir* **24**, 142-145 (2008).

25. H.-M. Kwon, H.-Y. Kim, J. Puell, and L. Mahadevan, "Equilibrium of an elastically confined liquid drop," *Journal of Applied Physics* **103**, 093519 (2008).

26. K. J. Park and H.-Y. Kim, "Bending of floating flexible legs," *Journal of Fluid Mechanics* **610**, 381-390 (2008).

27. D.-G. Lee and H.-Y. Kim, "The role of superhydrophobicity in the adhesion of a floating cylinder," *Journal of Fluid Mechanics* **624**, 23-32 (2009).

28. W. Kim T.-H. Kim, J. Choi, and H.-Y. Kim, "Mechanism of particle removal by megasonic waves," *Applied Physics Letters* **94**, 081908 (2009).

29. C. P. Huang, J. Lu, H. Seon, A. P. Lee, L. A. Flanagan, H.-Y. Kim, A. J. Putnam, and N. L. Jeon, "Engineering microscale cellular niches for three-dimensional multicellular co-cultures," *Lab on a Chip* **9**, 1740-1748 (2009).

30. P. Kim, H.-Y. Kim, J. K. Kim, G. Reiter, and K. Y. Suh, "Multi-curvature liquid meniscus in a nanochannel: evidence of interplay between intermolecular and surface forces," *Lab on a Chip* **9**, 3255-3260 (2009).

31. T.-G. Cha, J. W. Yi, M.-W. Moon, K.-R. Lee, and H.-Y. Kim,"Nanoscale patterning of micro-textured surfaces to control superhydrophobic robustness," *Langmuir* **26**, 8319-8326 (2010).

32. H.-Y. Kim, M. Lee, K. J. Park, and S. Kim, and L. Mahadevan, "Nanopottery: Coiling of electrospun polymer nanofibers," *Nano Letters* **10**, 2138-2140 (2010).

33. M.-W. Moon, T.-G. Cha, K.-R. Lee, A. Vaziri, and H.-Y. Kim, "Tilted Janus polymer pillars," *Soft Matter* **6**, 3926-3929 (2010).

34. S. F. Ahmed, G.-H. Rho, J. Y. Lee, S. J. Kim, H.-Y. Kim, Y.-J. Jang, M.-W. Moon, and K.-R. Lee, "Nano-embossed structure on polypropylene induced by low energy Ar ion beam irradiation," *Surface and Coatings Technology* **205**, S104-S108 (2010).

35. W. Kim, K. Park, J. Oh, J. Choi, and H.-Y. Kim, "Visualization and minimization of disruptive bubble behavior in ultrasonic field," *Ultrasonics* **50** 798-802 (2010).

36. M. Lee, Y. S. Chang, and H.-Y. Kim, "Drop impact on micro-wetting patterned surfaces," *Physics of Fluids* **22** 072101 (2010).

37. J. W. Yi, M.-W. Moon, S. F. Ahmed, H. Kim, T.-G. Cha, H.-Y. Kim, S.-S. Kim, and K.-R. Lee, "Long-lasting hydrophilicity on nanostructured Si-incorporated diamond-like carbon films," *Langmuir* **26**, 17203-17209 (2010).

38. Y. S. Chang, K.-H. Jeong, H. J. Lee, Y. P. Lee, and H.-Y. Kim, "Behavior of thermal bubbles formed from a single nucleation site," *Journal of Mechanical Science and Technology* **24**, 415-420 (2010).

39. H. Song, Y. Lee, S. Jin, H.-Y. Kim, and J. Y. Yoo, "Prediction of sessile drop evaporation considering surface wettability," *Microelectronic Engineering* **88**, 3249-3255 (2011).

40. D.-G. Lee and H.-Y. Kim, "Sinking of small sphere at low Reynolds number through interface," *Physics of Fluids* **23**, 072104 (2011).

41. S. J. Kim, M.-W. Moon, K.-R. Lee, D.-Y. Lee, Y. S. Chang, and H.-Y. Kim, "Liquid spreading on superhydrophilic micropillar arrays," *Journal of Fluid Mechanics* **680**, 477-487 (2011).

42. J. Kim, M.-W. Moon, K.-R. Lee, L. Mahadevan, and H.-Y. Kim, "Hydrodynamics of writing with ink," *Physical Review Letters* **107**, 264501 (2011).

43. T.-J. Ko, E. K. Her, B. Shin, H.-Y. Kim, K.-R. Lee, B. K. Hong, S. H. Kim, K. H. Oh, M.-W. Moon, "Water condensation behavior on the surface of a network of superhydrophobic carbon fibers with high-aspect-ratio nanostructures," *Carbon* **50**, 5085-5092 (2012).

44. Y.-J. Park, U. Jeong, J. Lee, S. R. Kwon, H.-Y. Kim, and K.-J. Cho, "Kinematic condition for maximizing the thrust of a robotic fish using a compliant caudal fin," *IEEE Transactions on Robotics* **28**, 1216-1227 (2012).

45. B. Shin, K.-R. Lee, M.-W. Moon, and H.-Y. Kim, "Extreme water repellency of nanostructured low-surface-energy non-woven fabrics," *Soft Matter* **8**, 1817-1823 (2012).

46. A. Lee, M.-W. Moon, H. Lim, W.-D. Kim, and H.-Y. Kim, "Water harvest via dewing," *Langmuir* **28**, 10183-10191 (2012).

47. J. Kim and H.-Y. Kim, "On the dynamics of capillary imbibition," *Journal of Mechanical Science and Technology* **26**, 3795-3801 (2012).

48. E. Yang and H.-Y. Kim, "Jumping hoops," *American Journal of Physics* **80**, 19-23 (2012).

49. E. K. Her, T.-J. Ko, B. Shin, H. Roh, W. Dai, W. K. Seong, H.-Y. Kim, K.-R. Lee, K. H. Oh, and M.-W. Moon, "Superhydrophobic transparent surface of nanostructured poly(methyl methacrylate) enhanced by a hydrolysis reaction," *Plasma Processes and Polymers* **10**, 481-488 (2013).

50. W. Dai, S. J. Kim, W.-K. Seong, S. H. Kim, K.-R. Lee, H.-Y. Kim, and M.-W. Moon, "Porous carbon nanoparticle networks with tunable absorbability," *Scientific Reports* **3**, 2524 (2013).

51. D.-G. Lee, J. Park, J. Bae, and H.-Y. Kim, "Dynamics of a microliquid prism actuated by electrowetting," *Lab on a Chip* **13**, 274-279 (2013).

52. J. Park, J. Park, H. Lim, and H.-Y. Kim, "Shape of a large drop on a rough hydrophobic surface," *Physics of Fluids* **25**, 022102 (2013).

53. J. Lee, Y.-J. Park, U. Jeong, K.-J. Cho, and H.-Y. Kim, "Wake and thrust of an angularly reciprocating plate," *Journal of Fluid Mechanics* **720**, 545-557 (2013).

54. S. Kim, M.-W. Moon, and H.-Y. Kim, "Drop impact on super-wettability-contrast annular patterns," *Journal of Fluid Mechanics* **730**, 328-342 (2013).

55. S. J. Kim, J. Kim, M.-W. Moon, K.-R. Lee, and H.-Y. Kim, "Experimental study of drop spreading on textured superhydrophilic surfaces," *Physics of Fluids* **25**, 092110 (2013).

56. M. Lee and H.-Y. Kim, "Toward nanoscale three-dimensional printing: Nanowalls built of electrospun nanofibers," *Langmuir* **30**, 1210-1214 (2014).

57. W. Jung, W. Kim, and H.-Y. Kim, "Self-burial mechanics of hygroscopically responsive awns," *Integrative and Comparative Biology* **54**, 1034-1042 (2014).

58. T.-H. Kim and H.-Y. Kim, "Disruptive bubble behaviour leading to microstructure damage in an ultrasonic field," *Journal of Fluid Mechanics* **750**, 355-371 (2014).

59. K. Park, W. Kim, and H.-Y. Kim, "Optimal lamellar arrangement in fish gills," *PNAS* **111**, 8067-8070 (2014).

60. A. Lee, and H.-Y. Kim, "Does liquid slippage within a rough channel always increase the flow rate?," *Physics of Fluids* **26**, 07002 (2014).

61. J. Bae, J. Lee, S. M. Kim, J. Ha, B.-S. Lee, Y. J. Park, C. Choong, J.-B. Kim, Z. L. Wang, H.-Y. Kim, J.-J. Park, and U.-I. Chung, "Flutter-driven triboelectrification for harvesting wind energy," *Nature Communications* **5**, 4929 (2014).

62. B. Shin, M.-W. Moon, and H.-Y. Kim, "Rings, igloos and pebbles of salt formed by drying saline drops," *Langmuir* **30**, 12837?12842 (2014).

63. Z. Wei, T. M. Schneider, J. Kim, H.-Y. Kim, J. Aizenberg, and L. Mahadevan, "Elastocapillary coalescence of plates and pillars," *Proceedings of the Royal Society A* **471**, 20140593 (2015).

64. M. Kang, W. Park, S. Na, S. Paik, H. Lee, J. Park, H.-Y. Kim, and N. L. Jeon, "Capillarity guided patterning of microliquids," *Small* **11**, 2789-2797 (2015).

65. S. J. Kim, J. W. Choi, M.-W. Moon, K.-R. Lee, Y. S. Chang, D.-Y. Lee, and H.-Y. Kim, "Wicking and flooding of liquids on vertical porous sheets," *Physics of Fluids* **27**, 032105 (2015).

66. H. Kim, J. Lee, T.-H. Kim, and H.-Y. Kim, "Spontaneous Marangoni mixing of miscible liquids at a liquid-liquid-air contact line," *Langmuir* **31**, 8726?8731 (2015).

67. J.-S. Koh, E. Yang, G.-P. Jung, S.-P. Jung, J. H. Son, S.-I. Lee, P. G. Jablonski, R. J. Wood, H.-Y. Kim, and K.-J. Cho, "Jumping on water: Surface tension-dominated jumping of water striders and robotic insects," *Science* **349**, 517-521 (2015).

68. J. Choi, K. Huh, D. J. Moon, H. Lee, S. Y. Son, K. Kim, H. C. Kim, J.-H. Chae, G. Y. Sung, H.-Y. Kim, J. W. Hong, and S. J. Kim, "Selective preconcentration and online collection of charged molecules using ion concentration polarization," *RSC Advances* **5**, 66178-66184 (2015).

69. D. H. Kim, M. C. Jung, S.-H. Cho, S. H. Kim, H.-Y. Kim, H. J. Lee, K. H. Oh, and M.-W. Moon, "UV-responsive nano-sponge for oil absorption and desorption," *Scientific Reports* **5**, 12908 (2015).

70. J. Lee, H. Choi, and H.-Y. Kim, "A scaling law for the lift of hovering insects," *Journal of Fluid Mechanics* **782**, 479-490 (2015).

71. J. Choi, T.-H. Kim, H.-Y. Kim, and W. Kim, "Ultrasonic washing of textiles," *Ultrasonics Sonochemistry* **29**, 563-567 (2016).

72. T.-H. Kim, J. Kim, and H.-Y. Kim, "Evaporation-driven clustering of microscale pillars and lamellae," *Physics of Fluids* **28**, 022003 (2016).

73. M. Lee, S. Kim, H.-Y. Kim, and L. Mahadevan, "Bending and buckling of wet paper," *Physics of Fluids* **28**, 042101 (2016).

74. S. Park, Y. Jung, S. Y. Son, I. Cho, Y. Cho, H. Lee, H.-Y. Kim, and S. J. Kim, "Capillarity ion concentration polarization as spontaneous desalting mechanism," *Nature Communications* **7**, 11223 (2016).

75. I. Cho, W. Kim, J. Kim, H.-Y. Kim, H. Lee, and S. J. Kim, "Non-negligible diffusio-osmosis inside an ion concentration polarization layer," *Physical Review Letters* **116**, 254501 (2016).

76. J. Kim, H.-Y. Kim, H. Lee, and S. J. Kim, "Pseudo 1-D micro/nanofluidic device for exact electrokinetic responses," *Langmuir* **32**, 6478-6485 (2016).

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BOOK CHAPTER

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