

# DAE-HYEONG KIM

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## EDUCATION

- UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN, Urbana-Champaign, Illinois 2009  
*Doctor of Philosophy, Materials Science and Engineering*  
~ Advisor: Prof. John A. Rogers  
~ Thesis: "Materials Strategies and Devices for Flexible and Stretchable Electronics"
- SEOUL NATIONAL UNIVERSITY, Seoul, Korea 2002  
*Master of Science, Chemical Engineering*  
~ Advisor: Prof. Hyun-Ku Rhee  
~ Thesis: Modeling and Analysis of a Gas Sweeping Process for Polycarbonate Polymerization
- Bachelor of Science, Chemical Engineering* 2000  
~ Minor: Business Administration

## HONORS & AWARDS

- 2022 Highly Cited Researcher, Clarivate Analytics, USA 2022
- 2021 Top 10 Science and Technology News, Korean Federation of Science and Technology Societies, Korea 2021
- 2021 Highly Cited Researcher, Clarivate Analytics, USA 2021
- 2020 Highly Cited Researcher, Clarivate Analytics, USA 2020
- KJChE Award (2020 fall, for the contribution to advances of KJChE) 2020
- KIChE Fellow, Korean Institute of Chemical Engineers, Korea 2020-2023
- 2019 Highly Cited Researcher, Clarivate Analytics, USA 2019
- YKAST Member, Korean Academy of Science and Technology, Korea 2019-2022
- 2018 Highly Cited Researcher, Clarivate Analytics, USA 2018
- 21th Young Scientist Award, Korean Academy of Science and Technology, Korea 2017
- Outstanding Paper Award, Nano Convergence, Korea 2017
- SCEJ Award for Outstanding Asian Researcher & Engineer, Society of Chemical Engineers, Japan 2016
- 6th Hong Jin-ki Creative Award, Yumin Cultural Foundation, Korea 2015
- 2020 Future 100 Technologies and Leaders of Korea, National Academy of Engineering of Korea, Korea 2013
- TR 35 Award (TR 35 2011), MIT Technology Review, USA 2011
- MRS (2009 Fall) Graduate Student Award (Gold Medal), MRS, USA 2009

- *George Smith Award (best paper in IEEE Electron Device Letters), IEEE, USA* 2009
- *4th Samsung Lee Kun Hee Scholarship Foundation Fellowship, Korea* 2006 – 2009
- *Most Outstanding Engineer Award, KCTech Co. Ltd., Korea* 2004
- *Most Outstanding Undergraduate Student Award, Seoul National University, Korea* 2000
- *President of Alumni Award for Undergraduate Student, Seoul National University, Korea* 2000
- *Outstanding Undergraduate Student Fellowship, Seoul National University, Korea* 1996 – 1999

## PROFESSIONAL EXPERIENCE

SEOUL NATIONAL UNIVERSITY, Seoul, Korea	2011 – Present
<i>Professor, School of Chemical and Biological Engineering</i>	2020 – Present
<i>Professor by courtesy, Department of Materials Science and Engineering</i>	2020 – 2022
<i>Associate Professor, School of Chemical and Biological Engineering</i>	2015 – 2020
<i>Assistant Professor, School of Chemical and Biological Engineering</i>	2011 – 2015
INSTITUTE FOR BASIC SCIENCE, Seoul, Korea	2012 – Present
<i>Associate Director, Center for Nanoparticle Research</i>	2017 – Present
<i>Team Leader, Center for Nanoparticle Research</i>	2016 – 2017
<i>Research Fellow, Center for Nanoparticle Research</i>	2012 – 2015
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN, Urbana, Illinois, USA	
<i>Post-doctoral Research Associate</i>	2009 – 2011
KCTECH CO. LTD., Anseong, Gyeonggi-do, Korea	
<i>Senior Researcher</i>	2002 – 2006
ASSOCIATE EDITOR	
<i>Science Advances / AAAS</i>	2020 – Present
<i>Korean Journal of Chemical Engineering / Springer</i>	2017 – Present
EDITORIAL BOARD MEMBER	
<i>Advanced Healthcare Materials / Wiley</i>	2018 – Present
<i>Advanced Materials Technologies / Wiley</i>	2016 – Present
<i>npj Flexible Electronics / Springer</i>	2016 – Present
<i>Soft Science / OAE</i>	2021 – Present

## PROFESSIONAL AFFILIATIONS

1. Korean Institute of Chemical Engineers (KIChE)
2. Korean Society of Industrial and Engineering Chemistry (KSIEC)
3. Materials Research Society (MRS)

## PUBLICATIONS

1. H. Seung, C. Choi, D. C. Kim, J. S. Kim, J. H. Kim, J. Kim, S. I. Park, J. A. Lim, J. Yang, M. K. Choi, T. Hyeon, **D.-H. Kim**, "Integration of synaptic phototransistors and quantum dot light-emitting diodes for visualization and recognition of UV patterns" **Science Advances** 8, eabq31 (2022).
2. H. J. Kim, D. Park, Y. Park, **D.-H. Kim**, J. Kim, "Electric-Field-Mediated In-Sensor Alignment of Antibody's Orientation to Enhance the Antibody-Antigen Binding for Ultrahigh Sensitivity Sensors" **Nano Letters** 22, 6537 (2022).
3. J. H. Koo, H. Yun, W. Lee, S.-H. Sunwoo, H. J. Shim, **D.-H. Kim**, "Recent advances in soft electronic materials for intrinsically stretchable optoelectronic systems" **Opto-Electronic Advances** 5, 210131 (2022).
4. G. D. Cha, S. Jung, S. H. Choi, **D.-H. Kim**, "Local Drug Delivery Strategies for Glioblastoma Treatment" **Brain Tumor Research and Treatment** 10, 151 (2022).
5. M. Lee, G. Ju Lee, H. J. Jang, E. Joh, H. Cho, M. S. Kim, H. M. Kim, K. M. Kang, J. H. Lee, M. Kim, H. Jang, J.-E. Yeo, F. Durand, N. Lu, **D.-H. Kim**, Y. M. Song, "An amphibious artificial vision system with a panoramic visual field" **Nature Electronics** 5, 452 (2022).
6. J.-K. Song, J. Kim, J. Yoon, J. H. Koo, H. Jung, K. Kang, S.-H. Sunwoo, S. Yoo, H. Chang, J. Jo, W. Baek, S. Lee, M. Lee, H. J. Kim, M. Shin, Y. J. Yoo, Y. M. Song, T. Hyeon, **D.-H. Kim**, D. Son, "Stretchable colour-sensitive quantum dot nanocomposites for shape-tunable multiplexed phototransistor arrays" **Nature Nanotechnology** 17, 849 (2022).
7. C. Lim, C. Park, S.-H. Sunwoo, Y. G. Kim, S. Lee, S. I. Han, D. Kim, J. H. Kim, **D.-H. Kim**, T. Hyeon, "Facile and scalable synthesis of whiskered gold nanosheets for stretchable, conductive, and biocompatible nanocomposites" **ACS Nano** 16, 10431 (2022).
8. H. Kim, S. Yoo, H. Joo, J. Lee, D. An, S. Nam, H. Han, **D.-H. Kim**, S. Kim, "Wide-range robust wireless power transfer using heterogeneously coupled and flippable neutrals in parity-time symmetry" **Science Advances** 8, eabo4610 (2022).
9. C. Park, M. S. Kim, H. H. Kim, S.-H. Sunwoo, D. J. Jung, M. K. Choi, **D.-H. Kim**, "Stretchable conductive nanocomposites and their applications in wearable devices" **Applied Physics Reviews** 9, 021312 (2022).
10. J. Yoo, S. Li, **D.-H. Kim**, J. Yang, M. K. Choi, "Material and design strategies for stretchable electroluminescent devices" **Nanoscale Horizons** 7, 801 (2022).
11. D. Jung, C. Lim, C. Park, Y. Kim, M. Kim, S. Lee, H. Lee, J. H. Kim, T. Hyeon, **D.-H. Kim**, "Adaptive self-organization of nanomaterials enables strain-insensitive resistance of stretchable metallic nanocomposites" **Advanced Materials** 34, 2200980 (2022).

12. W. Lee, Y. J. Yoo, J. Park, J. H. Ko, Y. J. Kim, H. Yun, D. H. Kim, Y. M. Song, **D.-H. Kim**, “Perovskite microcells fabricated using swelling-induced crack propagation for colored solar windows” **Nature Communications** 13, 1946 (2022).
13. Y. J. Yoo, J. H. Ko, G. J. Lee, J. Kang, M. S. Kim, S. G. Stanciu, H.-H. Jeong, **D.-H. Kim**, Y. M. Song, “Gires-Tournois immunoassay platform for label-free bright-field imaging and facile quantification of bioparticles” **Advanced Materials** 34, 2110003 (2022).
14. C. Choi, H. Seung, **D.-H. Kim**, “Bio-inspired electronic eyes and synaptic photodetectors for mobile artificial vision” **IEEE Journal on Flexible Electronics** 1, 76 (2022).
15. G. D. Cha, **D.-H. Kim**, “Toughness and elasticity from phase separation” **Nature Materials** 21, 266 (2022).
16. G. D. Cha, W. H. Lee, S.-H. Sunwoo, D. Kang, T. Kang, K. W. Cho, M. Kim, O. K. Park, D. Jung, J. Lee, S. H. Choi, T. Hyeon, **D.-H. Kim**, “Multifunctional Injectable Hydrogel for In Vivo Diagnostic and Therapeutic Applications” **ACS Nano** 16, 554 (2022).
17. K. W. Cho, S.-H. Sunwoo, Y. J. Hong, J. H. Koo, J. H. Kim, S. Baik, T. Hyeon, **D.-H. Kim**, “Soft Bioelectronics Based on Nanomaterials” **Chemical Reviews** 122, 5068 (2022).
18. M. S. Kim, M. S. Kim, G. J. Lee, S.-H. Sunwoo, S. Chang, Y. M. Song, **D.-H. Kim**, “Bio-Inspired Artificial Vision and Neuromorphic Image Processing Devices” **Advanced Materials Technologies** 7, 2100144 (2022).
19. J. Kim, H. Seung, D. Kang, J. Kim, H. Bae, H. Park, S. Kang, C. Choi, B. K. Choi, J. S. Kim, T. Hyeon, H. Lee, **D.-H. Kim**, S. Shim, J. Park, “Wafer-Scale Production of Transition Metal Dichalcogenides and Alloy Monolayers by Nanocrystal Conversion for Large-Scale Ultrathin Flexible Electronics” **Nano Letters** 21, 9153 (2021).
20. J. H. Koo, J.-K. Song, **D.-H. Kim**, D. Son, "Soft Implantable Bioelectronics" **ACS Materials Letters** 3, 1528 (2021).
21. D. C. Kim, H. Yun, J. Kim, H. Seung, W. S. Yu, J. H. Koo, J. Yang, J. H. Kim, T. Hyeon, **D.-H. Kim**, “Three-dimensional foldable quantum dot light-emitting diodes” **Nature Electronics** 4, 671 (2021).
22. D. Jung, C. Lim, H. J. Shim, Y. Kim, C. Park, J. Jung, S. I. Han, S.-H. Sunwoo, K. W. Cho, G. D. Cha, D. C. Kim, J. H. Koo, J. H. Kim, T. Hyeon, **D.-H. Kim**, “Highly conductive and elastic nanomembrane for skin electronics” **Science** 373, 1022 (2021).
23. W. H. Lee, G. D. Cha, **D.-H. Kim**, “Flexible and biodegradable electronic implants for diagnosis and treatment of brain diseases” **Current Opinion in Biotechnology** 72, 13 (2021).

24. S.-H. Sunwoo, K.-H. Ha, S. Lee, N. Lu, **D.-H. Kim**, "Wearable and Implantable Soft Bioelectronics: Device Designs and Material Strategies" **Annual Review of Chemical and Biomolecular Engineering** 12, 359 (2021).
25. S. Yoo, J. Lee, H. Joo, S.-H. Sunwoo, S. Kim, **D.-H. Kim**, "Wireless Power Transfer and Telemetry for Implantable Bioelectronics" **Advanced Healthcare Materials** 10, 2100614 (2021).
26. C. Lim, Y. J. Hong, J. Jung, Y. Shin, S.-H. Sunwoo, S. Baik, O. K. Park, S. H. Choi, T. Hyeon, J. H. Kim, S. Lee, **D.-H. Kim**, "Tissue-like skin-device interface for wearable bioelectronics by using ultra-soft, mass-permeable, and low-impedance hydrogels" **Science Advances** 7, eabd3716 (2021).
27. Y. Lee, T. Kang, H. R. Cho, G. J. Lee, O. k. Park, S. Kim, B. Lee, H. M. Kim, G. D. Cha, W. Lee, M. Kim, H. Kim, Y. M. Song, S. H. Choi, T. Hyeon, **D.-H. Kim**, "Localized Delivery of Theranostic Nanoparticles and High-Energy Photons using Microneedles-on-Bioelectronics" **Advanced Materials** 33, 2100425 (2021).
28. J.-K. Song, M. S. Kim, S. Yoo, J. H. Koo, **D.-H. Kim**, "Materials and devices for flexible and stretchable photodetectors and light-emitting diodes" **Nano Research** 14, 2919 (2021).
29. W. Lee, H. Yun, J.-K. Song, S.-H. Sunwoo, **D.-H. Kim**, "Nanoscale Materials and Deformable Device Designs for Bioinspired and Biointegrated Electronics" **Accounts of Materials Research** 2, 266 (2021).
30. H. Seo, S. I. Han, K.-I. Song, D. Seong, K. Lee, S. H. Kim, T. Park, J. H. Koo, M. Shin, H. W. Baac, O. K. Park, S. J. Oh, H.-S. Han, H. Jeon, Y.-C. Kim, **D.-H. Kim**, T. Hyeon, D. Son, "Durable and Fatigue-Resistant Soft Peripheral Neuroprosthetics for In Vivo Bidirectional Signaling" **Advanced Materials** 33, 2007346 (2021).
31. M. H. Lee, J. Lee, S.-K. Jung, D. Kang, M. S. Park, G. D. Cha, K. W. Cho, J.-H. Song, S. Moon, Y. S. Yun, S. J. Kim, Y. W. Lim, **D.-H. Kim**, K. Kang, "A Biodegradable Secondary Battery and its Biodegradation Mechanism for Eco-Friendly Energy-Storage Systems" **Advanced Materials** 33, 2004902 (2021).
32. J. Park, H. Seung, D. C. Kim, M. S. Kim, **D.-H. Kim**, "Unconventional Image-Sensing and Light-Emitting Devices for Extended Reality" **Advanced Functional Materials** 31, 2009281 (2021).
33. H. J. Shim, S.-H. Sunwoo, Y. Kim, J. H. Koo, **D.-H. Kim**, "Functionalized Elastomers for Intrinsically Soft and Bio-Integrated Electronics" **Advanced Healthcare Materials** 10, 2002105 (2021).
34. H. Joo, Y. Lee, J. Kim, J.-S. Yoo, S. Yoo, S. Kim, A. Arya, S. Kim, S. Choi, N. Lu, H. Lee, S. Kim, S.-T. Lee, **D.-H. Kim**, "Soft implantable drug delivery device integrated wirelessly with wearable devices to treat fatal seizures" **Science Advances** 7, eabd4639 (2021).
35. S.-H. Sunwoo, S. Han, H. Joo, G. Cha, D. Kim, S. Choi, T. Hyeon, **D.-H. Kim**, "Advances in Soft Bioelectronics for Brain Research and Clinical Neuroengineering" **Matter** 3, 1923 (2020).

36. J. Yang, M. Choi, U. Yang, S. Kim, Y. Kim, J. Kim, **D.-H. Kim**, T. Hyeon, "Toward Full-Color Electroluminescent Quantum Dot Displays" **Nano Letters** 21, 26 (2020).
37. C. Choi, J. Leem, M. Kim, A. Taqieddin, C. Cho, K. Cho, G. Lee, H. Seung, H. Bae, Y. Song, T. Hyeon, N. R. Aluru, S. Nam, **D.-H. Kim**, "Curved Neuromorphic Image Sensor Array Using a MoS<sub>2</sub>-organic Heterostructure Inspired by the Human Visual Recognition System" **Nature Communications** 11, 5934 (2020).
38. C. R. Kagan, T. Hyeon, **D.-H. Kim**, R. Ruiz, M. C. Tung, H.-S. P. Wong, "Self-assembly for Electronics" **MRS Bulletin** 45, 807 (2020).
39. G. D. Cha, T. Kang, S. Baik, D. Kim, S. H. Choi, T. Hyeon, **D.-H. Kim**, "Advances in Drug Delivery Technology for The Treatment of Glioblastoma Multiforme" **Journal of Controlled Release** 328, 350 (2020).
40. J. H. Koo, J.-K. Song, S. W. Yoo, S.-H. Sunwoo, D. H. Son, **D.-H. Kim**, "Unconventional Device and Material Approaches for Monolithic Biointegration of Implantable Sensors and Wearable Electronics" **Advanced Materials Technologies** 5, 2000407 (2020).
41. K. W. Cho, W. H. Lee, B.-S. Kim, **D.-H. Kim**, "Sensors in Heart-on-a-chip: A Review on Recent Progress" **Talanta** 219, 121269 (2020).
42. M. S. Kim, G. J. Lee, C. Choi, M. S. Kim, M. Lee, S. Liu, K. W. Cho, H. M. Kim, H. Cho, M. K. Choi, N. Lu, Y. M. Song, **D.-H. Kim**, "An Aquatic-vision-inspired Camera Based on a Monocentric Lens and a Silicon Nanorod Photodiode Array" **Nature Electronics** 3, 546 (2020).
43. G. D. Cha, W. H. Lee, C. Lim, M. K. Choi, **D.-H. Kim**, "Material Engineering, Processing, and Device Application of Hydrogel Nanocomposites" **Nanoscale** 12, 104562020 (2020).
44. Y.-H. An, J. Lee, D. Son, D. Kang, M. Park, K. Cho, S. Kim, S.-H. Kim, J. Ko, M.-H. Jang, J. Lee, **D.-H. Kim**, N.S. Hwang, "Facilitated Transdermal Drug Delivery Using Nanocarriers-Embedded Electroconductive Hydrogel Coupled with Reverse Electrodialysis (RED)-Driven Iontophoresis" **ACS Nano** 14, 4523 (2020).
45. C. Lim, Y. Shin, S. Hong, S. Lee, **D.-H. Kim**, "A Facile Fabrication and Transfer Method of Vertically Aligned Carbon Nanotubes on a Mo/Ni Bilayer for Wearable Energy Devices" **Advanced Materials Interfaces** 7, 1902170 (2020).
46. H. Joo, D. Jung, S. -H. Sunwoo, J. H. Koo, **D. -H. Kim**, "Material Design and Fabrication Strategies for Stretchable Metallic Nanocomposites" **Small** 16, 1906270 (2020).
47. D. C. Kim, H. J. Shim, W. Lee, J. H. Koo, **D.-H. Kim**, "Material-Based Approaches for the Fabrication of Stretchable Electronics" **Advanced Materials** 32, 1902743 (2020).

48. S. -H. Sunwoo, S. I. Han, H. Kang, Y. S. Cho, D. Jung, C. Lim, C. Lim, M. -J. Cha, S. -P. Lee, T. Hyeon, **D. -H Kim**, “Stretchable Low-Impedance Nanocomposite Comprised of Ag-Au Core-Shell Nanowires and Pt Black for Epicardial Recording and Stimulation” **Advanced Materials Technologies** 5, 1900768 (2020).
49. J. Lee, H. R. Cho, G. D. Cha, H. Seo, S. Lee, C.-H. Park, J. W. Kim, S. Qiao, L. Wang, D. Kang, T. Kang, T. Ichikawa, J. Kim, H. Lee, W. Lee, S. Kim, S.-T. Lee, N. Lu, T. Hyeon, S. H. Choi, **D.-H. Kim**, “Flexible, Sticky, and Biodegradable Wireless Device for Drug Delivery to Brain Tumors” **Nature Communications** 10, 5205 (2019).
50. K. W. Cho, S. J. Kim, J. Kim, S. Y. Song, W. H. Lee, L. Wang, M. Soh, N. Lu, T. Hyeon, B.-S. Kim, **D.-H. Kim**, “Large Scale and Integrated Platform for Digital Mass Culture of Anchorage Dependent Cells” **Nature Communications** 10, 4824 (2019).
51. M. Kim, J. Jung, S. Jung, Y. H. Moon, **D.-H. Kim**, J. H. Kim, “Piezoresistive Behaviour of Additively Manufactured Multi-Walled Carbon Nanotube/Thermoplastic Polyurethane Nanocomposites” **Materials** 16, 2613 (2019)
52. X. Chen, J. A. Rogers, S. P. Lacour, W. Hu, **D.-H. Kim**, “Materials chemistry in flexible electronics” **Chemical Society Reviews** 48, 1431 (2019).
53. J.-K. Song, K. Do, J. H. Koo, D. Son, **D.-H. Kim**, “Nanomaterials-based Flexible and Stretchable Bioelectronics” **MRS Bulletin** 44, 643 (2019).
54. S. Hong, S. Lee, **D.-H. Kim**, “Materials and Design Strategies of Stretchable Electrodes for Electronic Skin and Its Applications” **Proceedings of the IEEE** 107, 2185 (2019).
55. M. Lee, H. J. Shim, C. Choi, **D.-H. Kim**, “Soft High-Resolution Neural Interfacing Probes: Materials and Design Approaches” **Nano Letters** 19, 2741 (2019).
56. G. D. Cha, D. Kang, J. Lee, **D.-H. Kim**, “Bioresorbable Electronic Implants: History, Materials, Fabrication, Devices, and Clinical Applications” **Advanced Healthcare Materials** 8, 1801660 (2019).
57. Y. J. Hong, H. Jeong, K. W. Cho, N. Lu, **D.-H. Kim**, “Wearable and Implantable Devices for Cardiovascular Healthcare: from Monitoring to Therapy Based on Flexible and Stretchable Electronics” **Advanced Functional Materials** 29, 1808247 (2019).
58. J. H. Koo, J.-K. Song, **D.-H. Kim**, “Solution-processed Thin Films of Semiconducting Carbon Nanotubes and Their Application to Soft Electronics” **Nanotechnology** 30, 132001 (2019).
59. Y. Lee, **D.-H. Kim**, “Wireless Metronomic Photodynamic Therapy” **Nature Biomedical Engineering** 3, 5 (2019).

60. C. Choi, Y. Lee, K. W. Cho, J. H. Koo, **D.-H. Kim**, “Wearable and Implantable Soft Bioelectronics Using Two-Dimensional Materials” **Accounts of Chemical Research** 52, 73 (2019).
61. C. Lim, Y. Shin, J. Jung, J. H. Kim, S. Lee, **D.-H. Kim**, “Stretchable Conductive Nanocomposite Based on Alginate Hydrogel and Silver Nanowires for Wearable Electronics” **APL Materials** 7, 031502 (2019).
62. S. Choi, S. I. Han, D. Kim, T. Hyeon, **D.-H. Kim**, “High-performance Stretchable Conductive Nanocomposites: Materials, Processes, and Device Applications” **Chemical Society Reviews** 48, 1566 (2019).
63. Y. J. Hong, H. Lee, J. Kim, M. Lee, H. J. Choi, T. Hyeon, **D.-H. Kim**, “Multifunctional Wearable System that Integrates Sweat-Based Sensing and Vital-Sign Monitoring to Estimate Pre-/Post-Exercise Glucose Levels” **Advanced Functional Materials** 28, 1805754 (2018).
64. **D.-H. Kim**, D. C. Kim, “Stretchable Electronics on Another Level” **Nature Electronics** 1, 440 (2018).
65. S. Choi, S. I. Han, D. Jung, H. J. Hwang, C. Lim, S. Bae, O. K. Park, C. M. Tschabrunn, M. Lee, S. Y. Bae, J. W. Yu, J. H. Ryu, S.-W. Lee, K. Park, P. M. Kang, W. B. Lee, R. Nezafat, T. Hyeon, **D.-H. Kim**, “Highly Conductive, Stretchable and Biocompatible Ag-Au core-sheath Nanowire Composite for Wearable and Implantable Bioelectronics” **Nature Nanotechnology** 13, 1048 (2018).
66. J. H. Koo, D. C. Kim, H. J. Shim, T.-H. Kim, **D.-H. Kim**, “Flexible and Stretchable Smart Display: Materials, Fabrication, Device Design, and System Integration” **Advanced Functional Materials** 28, 1801834 (2018).
67. H. Lee, C. Song, S. Baik, D. Kim, T. Hyeon, **D.-H. Kim**, “Device-assisted Transdermal Drug Delivery” **Advanced Drug Delivery Reviews** 127, 35 (2018).
68. D.-H. Kim, G. D. Cha, “Deformable Inorganic Semiconductor” **Nature Materials** 17, 388 (2018).
69. M. K. Choi, J. Yang, T. Hyeon, **D.-H. Kim**, “Flexible Quantum Dot Light-Emitting Diodes for Next-Generation Displays” **npj Flexible Electronics** 2, 10 (2018).
70. H. Lee, Y. J. Hong, S. Baik, T. Hyeon, **D.-H. Kim**, “Enzyme-Based Glucose Sensor: From Invasive to Wearable Device” **Advanced Healthcare Materials** 7, 1701150 (2018).
71. G. J. Lee, C. Choi, **D.-H. Kim**, Y. M. Song, “Bioinspired Artificial Eyes: Optic Components, Digital Cameras, and Visual Prostheses” **Advanced Functional Materials** 28, 1705202 (2018).
72. M. K. Choi, J. Yang, D. C. Kim, Z. Dai, J. Kim, H. Seung, V. S. Kale, S. J. Sung, C. R. Park, N. Lu, T. Hyeon, **D.-H. Kim**, “Extremely Vivid, Highly Transparent, and Ultrathin Quantum Dot Light-Emitting Diodes” **Advanced Materials** 30, 1703279 (2018).



73. Y. Lee, J. Kim, J. H. Koo, T.-H. Kim, **D.-H. Kim**, "Nanomaterials for Bioelectronics and Integrated Medical Systems" **Korean Journal of Chemical Engineering** 35, 1 (2018).
74. C. Choi, M. K. Choi, S. Liu, M. S. Kim, O. K. Park, C. Im, J. Kim, X. Qin, G. J. Lee, K. W. Cho, M. Kim, E. Joh, J. Lee, D. Son, S.-H. Kwon, N. L. Jeon, Y. M. Song, N. Lu, **D.-H. Kim**, "Human eye-inspired Soft Optoelectronic Device Using High-density MoS<sub>2</sub>-graphene Curved Image Sensor Array" **Nature Communications** 8, 1664 (2017).
75. S. Hong, J. Lee, K. Do, M. Lee, J. H. Kim, S. Lee, **D.-H. Kim**, "Stretchable Electrode Based on Laterally Combed Carbon Nanotubes for Wearable Energy Harvesting and Storage Devices" **Advanced Functional Materials** 27, 1704353 (2017).
76. W. Lee, J. Lee, H. Yun, J. Kim, J. Park, C. Choi, D. C. Kim, H. Seo, H. Lee, J. W. Yu, W. B. Lee, **D.-H. Kim**, "High-Resolution Spin-on-Patterning of Perovskite Thin Films for a Multiplexed Image Sensor Array" **Advanced Materials** 29, 1702902 (2017).
77. J. H. Koo, S. Jeong, H. J. Shim, D. Son, J. Kim, D. C. Kim, S. Choi, J.-I. Hong, **D.-H. Kim**, "Wearable Electrocardiogram Monitor Using Carbon Nanotube Electronics and Color-Tunable Organic Light-Emitting Diodes" **ACS Nano** 11, 10032 (2017).
78. J. Kim, H. J. Shim, J. Yang, M. K. Choi, D. C. Kim, J. Kim, T. Hyeon, **D.-H. Kim**, "Ultrathin Quantum Dot Display Integrated with Wearable Electronics" **Advanced Materials** 29, 1700217 (2017).
79. T.-H. Kim, C.-S. Lee, S. Kim, J. Hur, S. Lee, K. W. Shin, Y.-Z. Yoon, M. K. Choi, J. Yang, **D.-H. Kim**, T. Hyeon, S. Park, S. Hwang, "Fully Stretchable Optoelectronic Sensors Based on Colloidal Quantum Dots for Sensing Photoplethysmographic Signals" **ACS Nano** 11, 5992 (2017).
80. Y. Lee, J. Kim, H. Joo, M. S. Raj, R. Ghaffari, **D.-H. Kim**, "Wearable Sensing Systems with Mechanically Soft Assemblies of Nanoscale Materials" **Advanced Materials Technologies** 2, 1700053 (2017).
81. J. Kim, R. Ghaffari, **D.-H. Kim**, "The Quest for Miniaturized Soft Bioelectronic Devices" **Nature Biomedical Engineering** 1, 0049 (2017).
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