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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
Master of Science, Chemical Engineering 2002
~ *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

- ***NAEK Member, National Academy of Engineering of Korea, Korea*** 2024-2026
- ***KIChE Fellow, Korean Institute of Chemical Engineers, Korea*** 2020-2025
- ***Highly Cited Researcher, Clarivate Analytics, USA***
  2018-2023
- ***Prime Minister Commendation, Ministry of Science and ICT, Korea*** 2023
- ***2021 Top 10 Science and Technology News, Korean Federation of Science and Technology Societies, Korea*** 2021
- ***KJChE Award (2020 fall, for the contribution to advances of KJChE)*** 2020
- ***YKAST Member, Korean Academy of Science and Technology, Korea*** 2019-2022
- ***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 and Engineer, Society of Chemical Engineers of Japan, 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
Professor, School of Chemical and Biological Engineering 2020 – Present
Professor by courtesy, Department of Materials Science and Engineering 2020 – 2022
Associate Professor, School of Chemical and Biological Engineering 2015 – 2020
Assistant Professor, School of Chemical and Biological Engineering 2011 – 2015

INSTITUTE FOR BASIC SCIENCE, Seoul, Korea 2012 – Present
Associate Director, Center for Nanoparticle Research 2017 – Present
Team Leader, Center for Nanoparticle Research 2016 – 2017
Research Fellow, Center for Nanoparticle Research 2012 – 2015

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN, Urbana, Illinois, USA
Post-doctoral Research Associate 2009 – 2011

KCTECH CO. LTD., Anseong, Gyeonggi-do, Korea
Senior Researcher 2002 – 2006

ASSOCIATE EDITOR
Science Advances / AAAS 2020 – Present
Korean Journal of Chemical Engineering / Springer 2017 – Present

EDITORIAL BOARD MEMBER
Advanced Healthcare Materials / Wiley 2018 – Present
Advanced Materials Technologies / Wiley 2016 – Present
npj Flexible Electronics / Springer Nature 2016 – Present
Soft Science / OAE 2021 – Present
FlexTech / Wiley 2023 – Present

Health Nanotechnology / BMC(Springer Nature) 2023 – Present

PROFESSIONAL AFFILIATIONS

1. Korean Institute of Chemical Engineers (KIChE)
2. Materials Research Society (MRS)

PUBLICATIONS

1. C. Choi, G. J. Lee, S. Chang, Y. M. Song, **D.-H. Kim**, "Nanomaterial-Based Artificial Vision Systems: From Bioinspired Electronic Eyes to In-Sensor Processing Devices" **ACS Nano** DOI:10.1021/acsnano.3c10181 (2024).

2. S. Yoo, M. Kim, C. Choi, **D.-H. Kim**, G. D. Cha, "Soft Bioelectronics for Neuroengineering: New Horizons in the Treatment of Brain Tumor and Epilepsy" **Advanced Healthcare Materials** DOI:10.1002/adhm.202303563 (2023).

3. W. H. Lee, C.-K. Yoon, H. Park, G.-H. Park, J. H. Jeong, G. D. Cha, B.-H. Lee, J. Lee, C. W. Lee, M. S. Bootharaju, S.-H. Sunwoo, J. Ryu, C. Lee, Y.-J. Cho, T.-W. Nam, K. H. Ahn, T. Hyeon, Y.-J. Seok, **D.-H. Kim**, "Highly Efficient Nitrogen-Fixing Microbial Hydrogel Device for Sustainable Solar Hydrogen Production" **Advanced Materials** DOI:10.1002/adma.202306092 (2023).

4. S. Li, J. H. Jang, W. Chung, H. Seung, S. I. Park, H. Ma, W. J. Pyo, C. Choi, D. S. Chung, **D.-H. Kim**, M. K. Choi, J. Yang, "Ultrathin Self-Powered Heavy-Metal-Free Cu−In−Se Quantum Dot Photodetectors for Wearable Health Monitoring" **ACS Nano** 17, 19471 (2023).

5. S.-H. Sunwoo, S. I. Han, C. S. Park, J. H. Kim, J. S.Georgiou, S.-P. Lee, **D.-H. Kim**, T. Hyeon, "Soft bioelectronics for the management of cardiovascular diseases" **Nature Reviews Bioengineering** DOI:10.1038/s44222-023-00102-z (2023).

6. D. Jung, Y. Kim, H. Lee, S. Jung, C. Park, T. Hyeon, **D.-H. Kim**, "Metal-like Stretchable Nanocomposite Using Locally-Bundled Nanowires for Skin-Mountable Devices" **Advanced Materials** 35, 2203458 (2023).

7. M.S. Kim, J.-E. Yeo, H. Choi, S. Chang, **D.-H. Kim**, Y. M. Song, "Evolution of Natural Eyes and Biomimetic Imaging Devices for Effective Image Acquisition" **Journal of Materials Chemistry C** 11, 12083 (2023).

8. S. Nam, C. Park, S.-H. Sunwoo, M. Kim, H. Lee, M. Lee, **D.-H. Kim**, "Soft conductive nanocomposites for recording biosignals on skin" **Soft Science** 3, 28 (2023).

9. J. H. Jang, S. Li, **D.-H. Kim**, J. Yang, M. K. Choi, "Materials, Device Structures, and Applications of Flexible Perovskite Light-Emitting Diodes" **Advanced Electronic Materials** 9, 2201271 (2023).

10. G. D. Cha, M. Kim, O. K. Park, S.-H. Sunwoo, T. Kang, W. H. Lee, S. Nam, T. Hyeon, S. H. Choi, **D.-H. Kim**, "Minimally-Invasive and In-Vivo Hydrogel Patterning Method for In Situ Fabrication of Implantable Hydrogel Devices" **Small methods** 7, 2300032 (2023).

11. W. H. Lee, **D.-H. Kim**, T. Hyeon, "A floatable photocatalytic nanocomposite to facilitate scale-up of solar hydrogen production" **Nature Nanotechnology** 18, 704 (2023).

12. W. H. Lee, C. W. Lee, G. D. Cha, B.-H. Lee, J. H. Jeong, H. Park, J. Heo, M. S. Bootharaju, S.-H. Sunwoo, J. H. Kim, K. H. Ahn, **D.-H. Kim**, T. Hyeon, "Floatable photocatalytic hydrogel nanocomposites for large-scale solar hydrogen production" **Nature Nanotechnology** 18, 754 (2023).

13. S.-H. Sunwoo, S. I. Han, D. Jung, M. Kim, S. Nam, H. Lee, S. Choi, H. Kang, Y. S. Cho, D.-H. Yeom, M.-J. Cha, S. Lee, S.-P. Lee, T. Hyeon, **D.-H. Kim**, "Stretchable Low-Impedance Conductor with Ag–Au–Pt Core–Shell–Shell Nanowires and in Situ Formed Pt Nanoparticles for Wearable and Implantable Device" **ACS Nano** 17, 7550 (2023).

14. S.-H. Sunwoo, M.-J. Cha, S. I. Han, H. Kang, Y. S. Cho, D.-H. Yeom, C. S. Park, N. K. Park, S. W. Choi, S. J. Kim, G. D. Cha, D. Jung, S. Choi, S. Oh, G.-B. Nam, T. Hyeon, **D.-H. Kim**, S.-P. Lee, "Ventricular tachyarrhythmia treatment and prevention by subthreshold stimulation with stretchable epicardial multichannel electrode array" **Science Advances** 9, eadf6856 (2023).

15. T. Kang, G. D. Cha, O. K. Park, H. R. Cho, M. Kim, J. Lee, D. Kim, B. Lee, J. Chu, S. Koo, T. Hyeon, **D.-H. Kim**, S. H. Choi, "Penetrative and Sustained Drug Delivery Using Injectable Hydrogel Nanocomposites for Postsurgical Brain Tumor Treatment" **ACS Nano** 17, 5435 (2023).

16. Y. Luo, M. R. Abidian, J.-H. Ahn, D. Akinwande, A. M. Andrews, M. Antonietti, Z. Bao, M. Berggren, C. A. Berkey, C. J. Bettinger, J. Chen, P. Chen, W. Cheng, X. Cheng, S.-J. Choi, A. Chortos, C. Dagdeviren, R. H. Dauskardt, C.-A. Di, M. D. Dickey, X. Duan, A. Facchetti, Z. Fan, Y. Fang, J. Feng, X. Feng, H. Gao, W. Gao, X. Gong, C. F. Guo, X. Guo, M. C. Hartel, Z. He, J. S. Ho, Y. Hu, Q. Huang, Y. Huang, F. Huo, M. M. Hussain, A. Javey, U. Jeong, C. Jiang, X. Jiang, J. Kang, D. Karnaushenko, A. Khademhosseini, **D.-H. Kim**, I. Kim, D. Kireev, L. Kong, C. Lee, N.-E. Lee, P. S. Lee, T.-W. Lee, F. Li, J. Li, C. Liang, C. T. Lim, Y. Lin, D. J. Lipomi, J. Liu, K. Liu, N. Liu, R. Liu, Y. Liu, Y. Liu, Z. Liu, Z. Liu, X. J. Loh, N. Lu, Z. Lv, S. Magdassi, G. G. Malliaras, N. Matsuhisa, A. Nathan, S. Niu, J. Pan, C. Pang, Q. Pei, H. Peng, D. Qi, H. Ren, J. A. Rogers, A. Rowe, O. G. Schmidt, T. Sekitani, D.-G. Seo, G. Shen, X. Sheng, Q. Shi, T. Someya, Y. Song, E. Stavrinidou, M. Su, X. Sun, K. Takei, X.-M. Tao, B. C. K. Tee, A. V. Thean, T. Q. Trung, C. Wan, H. Wang, J. Wang, M. Wang, S. Wang, T. Wang, Z. L. Wang, P. S. Weiss, H. Wen, S. Xu, T. Xu, H. Yan, X. Yan, H. Yang, L. Yang, S. Yang, L. Yin, C. Yu, G. Yu, J. Yu, S.-H. Yu, X. Yu, E. Zamburg, H. Zhang, X. Zhang, X. Zhang, X. Zhang, Y. Zhang, Y. Zhang, S. Zhao, X. Zhao, Y. Zheng, Y.-Q. Zheng, Z. Zheng, T. Zhou, B. Zhu, M. Zhu, R. Zhu, Y. Zhu, Y. Zhu, G. Zou, X. Chen, "Technology Roadmap for Flexible Sensors" **ACS Nano** 17, 5211 (2023).

17. H. J. Kim, D. Jung, S.-H. Sunwoo, S. Jung, J. H. Koo, **D.-H. Kim**, “Integration of Conductive Nanocomposites and Nanomembranes for High-Performance Stretchable Conductors” **Advanced Nanobiomed Research** 3, 2200153 (2023).

18. M. Kim, S. Chang, M. Kim, J.-E. Yeo, M.S. Kim, G. J. Lee, **D.-H. Kim**, Y. M. Song, “Cuttlefish eye–inspired artificial vision for high-quality imaging under uneven illumination conditions” **Science Robotics** 8, eade4698 (2023).

19. J. H. Koo, J. Kang, S. Lee, J.-K. Song, J. Choi, J. Yoon, H. J. Park, S.-H. Sunwoo, D. C. Kim, W. Nam, **D.-H. Kim**, S. G. Im, D. Son, “A vacuum-deposited polymer dielectric for wafer-scale stretchable electronics” **Nature Electronics** 6, 137 (2023).

20. M. Lee, H. Seung, J. I. Kwon, M. K. Choi, **D.-H. Kim**, C. Choi, “Nanomaterial-Based Synaptic Optoelectronic Devices for In-Sensor Preprocessing of Image Data” **ACS Omega** 8, 5209 (2023).

21. 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).

22. 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).

23. 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).

24. 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).

25. 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).

26. 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).

27. 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).

28. 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).

29. 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).

30. M. Kwak, J. Bok, B.-H. Lee, J. Kim, Y. Seo, S. Kim, H. Choi, W. Ko, W. H. Antink, C. W. Lee, G. H. Yim, H. Seung, C. Park, K.-S. Lee, **D.-H. Kim**, T. Hyeon, D. Yoo, "Ni single atoms on carbon nitride for visible-light-promoted full heterogeneous dual catalysis" **Chemical Science** 13, 8536 (2022).

31. 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).

32. 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).

33. 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).

34. 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).

35. 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).

36. G. D. Cha, **D.-H. Kim**, "Toughness and elasticity from phase separation" **Nature Materials** 21, 266 (2022).

37. 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).

38. 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).

39. 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).

40. 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).

41. J. H. Koo, J.-K. Song, **D.-H. Kim**, D. Son, "Soft Implantable Bioelectronics" **ACS Materials Letters** 3, 1528 (2021).

42. 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).

43. 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).

44. 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).

45. 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).

46. 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).

47. 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).

48. 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).

49. 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).

50. 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).

51. 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).

52. 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).

53. 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).

54. 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).

55. 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).

56. 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).

57. 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).

58. 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 MoS2-organic Heterostructure Inspired by the Human Visual Recognition System" **Nature Communications** 11, 5934 (2020).

59. 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).

60. 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).

61. 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).

62. 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).

63. 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).

64. 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).

65. 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).

66. 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).

67. 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).

68. 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).

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