

Curriculum Vitae

Choi, Hyunsik, Ph.D.

E-mail: hyunsikchoi88@gmail.com, hchoi@ibecbarcelona.eu



❖ EDUCATION & PROFESSIONAL EXPERIENCES

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| 2022.6 ~ present | Postdoctoral Researcher of Institute of Bioengineering of Catalonia (IBEC), The Barcelona Institute of Science and Technology (BIST).
Advisor: Prof. Samuel Sánchez Ordóñez, Ph. D. |
| 2020.2 ~ present | Senior Researcher of PHI BIOMED Inc. Research Institute. |
| 2014.3 ~ 2020.2 | Ph.D. in Materials Science and Engineering, Pohang University of Science and Technology (POSTECH).
Advisor: Prof. Sei Kwang Hahn, Ph. D. |
| 2008.3 ~ 2014.2 | B.S. in Department of Nanomaterials and Engineering, Pusan National University. |

❖ RESEARCH INTERESTS

Multifunctional micro/nanoparticles, Micro/nanorobots, Tissue regeneration, Drug delivery, Image-guided therapy,

❖ LIST OF PUBLICATIONS (IF : 2021 release from JCR)

1. S. H. Jeong, S. Cheong, T. Y. Kim, **H. Choi**, S. K. Hahn "Supramolecular Hydrogels with Precisely Controlled Antimicrobial Peptide Delivery for Diabetic Wound Healing", Submitted.
2. L. Ha, **H. Choi (co-first)**, A. Singh, B. Kim, Y. -K. Oh, S. K. Hahn, D.-P. Kim "Phototactic Biohybrid Microrobot based on Peptide Nanotubes Coated Microalgae for Active pH Responsive Drug Delivery", Submitted.
3. **H. Choi (co-first)**, B. Kim, S. H. Jeong, T. Y. Kim, D. -P. Kim, Y. -K. Oh, S. K. Hahn, "Microalgae-based Biohybrid Microrobot for Accelerated Chronic wound Healing", Small, 2204617 (2023) (IF : 15.153).
4. T. Y. Kim, J. W. Mok, S. H. Hong, S. H. Jeong, **H. Choi**, S. Shin, C.-K. Joo, S. K. Hahn, "Wireless Theranostic Smart Contact Lens for Monitoring and Control of Intraocular Pressure in Glaucoma",

- Nature communication 13, 6801 (2022).
5. **H. Choi**, S. H. Jeong, T. Y. Kim, J. Yi, S. K. Hahn, “Bioinspired Urease-Powered Micromotor as an Active Delivery Carrier in Stomach”, *Bioactive Materials* 9, 54-62 (2022) (IF : 16.874).
 6. **H. Choi (co-first)**, J. Yi, S. H. Cho, S. K. Hahn, “Multifunctional Micro/Nanomotors as an Emerging Platform for Smart Healthcare Applications”, *Biomaterials* 279, 121201 (2021) (IF : 15.304).
 7. S. H. Jeong, M. Kim, T. Y. Kim, **H. Choi**, S. K. Hahn “Biomimetic Supramolecular Drug Delivery Hydrogels for Accelerated Skin Tissue Regeneration”, *ACS Biomaterials Science and Engineering* 7, 9, 4581-4590 (2021).
 8. G. Lee, J. Mun, **H. Choi**, S. Han, S. K. Hahn, “Multispectral Transparent Film of Upconversion Nanoparticles for Near Infrared Encoding of Wearable Devices”, *RSC advanced* 11, 23073-23081 (2021).
 9. T. Y. Kim, S. Shin, **H. Choi**, S. H. Jeong, D. Myung, S. K. Hahn, “Smart Contact Lens with Transparent Silver Nanowires Strain Sensor for Continuous Intraocular Pressure Monitoring”, *ACS Applied Bio Materials* 4, 5, 4532-4541 (2021).
 10. **H. Choi**, M. Kwon, H. E. Choi, S. K. Hahn, K. S. Kim, “Non-invasive Topical Drug Delivery System Using Hyaluronate Nanogels Crosslinked via Click Chemistry”, *Materials* 14, 1504 (2021) (IF : 3.748).
 11. **H. Choi**, S. H. Cho, S. K. Hahn, “Urease-powered Nanomotor for Intravesical Therapy of Bladder Diseases”, *ACS Nano*, 14, 6683-6692 (2020) (IF : 18.027).
 12. **H. Choi (co-first)**, W. Choi, J. Kim, W. H. Kong, K. S. Kim, C. Kim, S. K. Hahn, "Multifunctional Nanodroplets Encapsulating Naphthalocyanine ad Perfluorohexane for Bimodal Image-Guided Therapy", *Biomacromolecules*, 20, 3767-3777 (2019) (IF : 6.978).
 13. **H. Choi**, B. W. Hwang, K. M. Park, K. S. Kim, S. K. Hahn, “Degradable Nanomotors Using Platinum Deposited Complex of Calcium Carbonate and Hyaluronate for Targeted Drug Delivery”, *Part. Part. Syst. Charact.*, 1900418 (2019) (IF : 3.467).
 14. **H. Choi**, G. H. Lee, K. S. Kim, S. H. Yun, S. K. Hahn, "Light-Guided Nanomotor System for Autonomous Photothermal Cancer Therapy", *ACS Appl. Mater. Interfaces*, 10, 2338-2346 (2018) (IF : 10.383).
 15. K. S. Kim, H. S. Jung, **H. Choi**, S. Beack, H. Kim, J. H. Mun, M. H. Shin, D. H. Keum, H. Koo, S. H. Yun, S. K. Hahn, “Smart Drug Delivery Devices and Implants”, *Emerging Areas in Bioengineering*, 1, 593-605 (Chapter 33) (2018).
 16. H. S. Jung, Y. J. Choi, J. W. Jeong, Y. M. Lee, B. W. Hwang, J. A. Jang, J. H. Shim, Y. S. Kim, **H. Choi**, S. H. Oh, C. S. Lee, D. W. Cho, S. K. Hahn, “Nanoscale Graphene Coating on Commercially Pure Titanium for Accelerated Bone Regeneration”, *RSC Advances*, 6, 26719-26724 (2016).

❖ LIST OF PATENTS

1. **H. Choi**, S. K. Hahn, “Method for Manufacturing and Use of Urease-powered Polydopamine Nanomotors”, PCT PCT/KR2020/003314 (2020).
2. **H. Choi**, S. -H. Jeung, “Urease-powered Nanomotor Encapsulating STING Agonist for Bladder Cancer Immunotherapy”, 10-2022-0010085 (2022).

❖ LIST OF CONFERENCE PROCEEDINGS

1. **H. Choi**, and S. K. Hahn, “Bioimaging-Guided Ultrasound Ablation Cancer Therapy Using PEG Crosslinked Pluronic Nanoparticles”, Proc. IUPAC (Korea, 2015).
2. **H. Choi**, and S. K. Hahn, “Bioimaging-Guided Ultrasound Ablation Cancer Therapy Using PEG Crosslinked Pluronic Nanoparticles”, Proc. The Polymer Society of Korea (Korea, 2015).
3. **H. Choi**, and S. K. Hahn, “PEG Crosslinked Pluronic Nanoparticles Encapsulating Perfluorocarbon and Dye for Bioimage-Guided High-Intensity Focused Ultrasound Therapy”, Proc. The Polymer Society of Korea (Korea, 2016).
4. **H. Choi**, and S. K. Hahn, “Light-guided Nanomotor System for Autonomous Photothermal Cancer Therapy”, Proc. The Korean Society of Biomaterials (Korea, 2017).
5. **H. Choi**, K. S. Kim, S. H. Yun and S. K. Hahn, “Light-guided Nanomotor System for Autonomous Photothermal Cancer Therapy”, Proc. CRS (USA, 2018).
6. **H. Choi**, and S. K. Hahn, “Light-guided Nanomotor System for Autonomous Photothermal Cancer Therapy”, Proc. The Korean Society of Biomaterials (Korea, 2018).
7. **H. Choi**, and S. K. Hahn, “Light-guided Nanomotor System for Autonomous Photothermal Cancer Therapy”, Proc. The Korean Society of Biomaterials (Korea, 2019).
8. **H. Choi**, S. Sánchez, and S. K. Hahn, “Urease-powered polymeric nanomotor containing STING agonist for immunotherapy of bladder cancer”, Proc. Nanobio & Med (Spain, 2022).