

Dain Kim

Curriculum Vitae

Current position

Ph.D. candidate

(Candidate date: Feb 2025)

Program in Biomedical Science and Engineering/ Department of Ocean Sciences, Inha University, 100 Inha-ro, Michuhol-gu, Incheon 22212, Republic of Korea

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Research Interests

Crustaceans, Evolutionary biology, Molecular Biology, Animal behavior, Larval disposal, Marine Environmental Science, Effect of climate change (including Ocean acidification, freshening, and Ocean warming on marine ecosystems)

Current Research Topics

- 1 Coastal Biology, population genetic structure, marine environmental science, evolutionary biology
- 2 Effect of Courtship Behavior on Speciation: The Influence of Courtship Behavior Arising from the Emergence of New Species on Speciation or Hybridization
- 3 Effects of multiple climate stressors on marine animals in polar regions

Educations

- Mar 2023 – **Ph. D.** Biomedical Science and Engineering, Inha University, Incheon, Republic of Korea (Minor: Ocean Sciences)
Thesis:
- Mar 2021 – **M. Sc.** Biomedical Science and Engineering, Inha University, Incheon, Republic of Korea (Minor: Ocean Sciences)
Feb 2023
Thesis: Population genetic structure of two ghost crab species (Decapoda: Ocypodidae), *Ocypode stimpsoni*, and *Ocypode ceratophthalma* in Korea.
- Mar 2016 – **B. S.** Department of Marine Sciences, Incheon National University, Incheon, Republic of Korea
Aug 2020

Work Experience

Mar – Nov 2020 Daeyoung Engineering (DY Engineering), Seoul, Republic of Korea

Awards

Feb 2024 **Outstanding Research Award from Inha university** “The first record of *Ocypode sinensis* (Decapoda: Ocypodidae) from the Korean peninsula: how the complete mitochondrial genome elucidates the divergence history of ghost crabs.”

Aug 2022 **Best Poster Presentation from The Ecological Society of Korea** “Population Genetic Structure of the Ghost Crab, *Ocypode stimpsoni*”

Publication

Scientific Papers

- 1 **Kim, D.**, Jang, S. J., & Kim, T. (2023). The first record of *Ocypode sinensis* (Decapoda: Ocypodidae) from the Korean peninsula: how the complete mitochondrial genome elucidates the divergence history of ghost crabs. *Journal of Marine Science and Engineering*, 11(12), 2348. <https://doi.org/10.3390/jmse11122348>
- 2 **Kim, D.**, Jang, S. J., & Kim, T. (2025). Possible evidence of range expansion of the tropical ghost crab *Ocypode ceratophthalma* to a temperate region driven by climate change. *Journal of Sea Research*, 102623. <https://doi.org/10.1016/j.seares.2025.102623>
- 3 Kwon, S., **Kim, D.**, & Kim, T. (2026). Trampling stress alters the behavior patterns of the ghost crab, *Ocypode stimpsoni*. *Marine Pollution Bulletin*, 119154. <https://doi.org/10.1016/j.marpolbul.2025.119154>

In review and submission

- 1 Seo, H., ... **Kim, D.**, & Kim, T. Ocean freshening driven by warming threatens the Arctic hyperiid amphipod *Themisto libellula*. *Regional Studies in Marine Science*
- 2 Hong, J., Cho, B., **Kim, D.**, ... & Kim, T. *Microstructural determinants of mechanical properties in exoskeletons: a comparison between hydrothermal vent crab and ghost crab. Integrative Organismal Biology*
- 3 **Kim, D.**, Lee, S. K., Jang, S. J., & Kim, T. Integrative taxonomic and genetic reassessment of *Ocypode* species from South Korea reveals previous misidentifications. *Zoological studies*

Manuscripts in Preparation

- 1 Cho, B. H., ... Kim, T., **Kim, D.**, & Yao, H. Thermal Resilience in Hydrothermal Vent Crabs: Insights from Exoskeletal Mechanics.
- 2 **Kim, D.**, Jang, S. J., ... & Kim, T. High genetic connectivity in the ghost crab *Ocypode stimpsoni* (Ortmann, 1897) over broad spatial scales across Northeast Asia: insights from microsatellite and mitochondrial loci

Academic Service

Peer Review Activities

- 1 Co-Reviewer (with Prof. Carolyn K. Tepolt), *Marine Biology* (2025)
- 2 Peer Reviewer, *Peer J* (2025)

Professional Affiliations

- 1 Full Member, Sigma Xi (2025)
- 2 Graduate Student Member, The Society for Integrative and Comparative Biology | SICB (2025–2026)
- 3 Graduate Student Member, The Korean Society of Oceanography (2021–2026)

International Conferences

- Jan 2026 **Kim, D. I.**, Park, Y. S., & Kim, T., “Range expansion of tropical ghost crabs and its effects on the native ghost crab, *Ocypode stimpsoni*”, The Society for Integrative & Comparative Biology meeting (SICB 2026), Oregon, United State (2026) - **poster**
- Jul 2025 **Kim, D. I.**, Jang, S. J., & Kim, T., “Genetic population structure of the ghost crab, *Ocypode stimpsoni* (Ortmann, 1897) based on mitochondrial DNA and nuclear microsatellite markers” The Crustacean Society Summer meeting (TCS Summer meeting Paris 2025), Paris, France (2025) - **poster**
- Jan 2025 **Kim, D. I.**, Jang, S. J., & Kim, T., “First record of two tropical ghost crab species in South Korea as possible evidence of range expansion driven by climate change”, 2025 Xiamen Symposium on Marine Environmental Science (XMAS 7th), Xiamen, China (2025) - **oral**
- Jul 2023 **Kim, D. I.**, Jang, S. J., & Kim, T., “Population genetic structure and morphological characterization of the horned ghost crab (Decapoda: Ocypodidae), *Ocypode ceratophthalma* (Pallas, 1772) in East Asia”, The 10th East Asian Federation of Ecological Societies (EAFES), Jeju, Republic of Korea (2023) - **oral**

Research Experiences

- Feb 2025 – **Principal Investigator**
2026
- Led the project “Study on the Impact of Climate Change on the Adaptation and Evolution of Marine Benthic Organisms Using Advanced Genetic Techniques” from the National Research Foundation of Korea (NRF)
- Guest student at **Woods Hole Oceanographic Institution** (Advisor: Jesús Pineda and Carolyn K. Tepolt)
- Apr 2023 – **Research Member**
Present
- Participated in project “Development of risk managing technology tackling ocean and fisheries crisis around Korean Peninsula by Kuroshio Current” from the Korea Institute of Ocean Science & Technology

- May 2023 – **Research Member**
 Dec 2024 - Participated in project “Compensatory mechanisms of Antarctic marine benthic animals in response to climate change” from the Korea Institute of Ocean Science & Technology
- Dec 2022 – **Research Member**
 Feb 2024 - Participated in project “Effect of anthropogenic earthborne vibrational disturbance on behavior and ecology of marine benthic animals” from the National Research Foundation of Korea

Teaching Experiences

- Sep – Dec 2024 **Mentor**, Department of Ocean Sciences, Inha University
 • Advised two undergraduate students on conducting research
 • Topic: Effect of Antarctic marine benthic animals in response to climate change
- Sep – Dec 2023 **Teaching assistant**, Introduction to Marine Benthology and Oceanography (Instructor: Taewon Kim)
- Mar – Jul 2023 **Lab assistant**, Biological oceanography and lab. (Instructor: Taewon Kim)
- Sep – Dec 2022 **Teaching assistant**, An Inconvenient Truth of the Ocean, Introduction to Marine Benthology, and Oceanography (Instructor: Taewon Kim)
- Sep – Dec 2021 **Lab assistant**, Fish Ecology and lab. (Instructor: Kyungnam Han)

Research Skill

- 1 Gene works (e.g. DNA and RNA extraction, PCR, and Agarose Gel Electrophoresis)
- 2 Computing program analyses (e.g. Geneious Prime, DnaSP, Arlequin, and PopART)
- 3 Scuba diving (open water certification)

Grant

- Feb 2025 – 2026 Pre-doctoral fellowship (BK21 FOUR(Brain Korea 21 Four) Project; Support Program for Outstanding Graduate Students' International Joint Training), **National Research Foundation of Korea**
- Mar – Nov 2025 International Conferences Funding, **Korea Institute of Ocean Science and Technology**
- Mar 2023 – Feb 2025 Full Academic Scholarship, **Inha University**
- Sep 2018 – Dec 2019 Full Academic Scholarship, **Korea Student Aid Foundation**