Curriculum Vitae

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Education

2020 – 2023	Ph.D	Tokyo Institute of Technology, Japan Supervisor: Prof. Takafumi Ueno
2018 – 2020	M.Sc	Tokyo Institute of Technology, Japan
2014 – 2018	B.Sc	Tokyo Institute of Technology, Japan

Professional experiences

2023 – present Postdoc fellow Hokkaido University, Japan

Research interests

Engineering and computational analysis of protein crystals for biomaterial science.
Key words: Biophysics, Biomaterial Chemistry, Protein Crystal Engineering

Publications

Original articles

1. **M. Kojima**, S. Abe, K. Hirata, Y. Shinchen, A. Kobayashi, and Takafumi Ueno, Screening system for structure determination of intrinsically disordered protein using cell-free protein crystallization method. *To be submitted.*
2. **M. Kojima**, Y. Shinchen, S. Abe, K. Hirata, and Takafumi Ueno, Cell-free protein crystallization for rapid structure determination of multiple substrates. *To be submitted.*
3. **M. Kojima,** S. Abe, T. Furuta, K. Yamashita, K. Hirata, D. Phuoc Tran, A. Kitao, and T. Ueno, Engineering of an in-cell protein crystal for fastening a metastable conformation of a target miniprotein. ***Biomater. Sci.,*** 2023, 11, 1350-1357.
4. S. Abe, J. Tanaka, **M. Kojima**, S. Kanamaru, K. Hirata, K. Yamashita, A. Kobayashi, and T. Ueno, Cell-free Protein Crystallization for Nanocrystal Structure Determination. ***Sci. Rep.*****,** 2022, 12, 16031.
5. Q. D. Nguyen, K. Kikuchi, **M. Kojima**, and T. Ueno, Dynamic behavior of cargo proteins regulated by linker peptides on a protein needle scaffold. ***Chem. Lett.,*** 2022, 51, 73-76.
6. T. K. Nguyen, S. Abe, M. Kasamatsu, B. Maity, K. Yamashita, K. Hirata, **M. Kojima** and T. Ueno, In-Cell Engineering of Protein Crystals with Nanoporous Structures for Promoting Cascade Reactions. ***ACS Appl. Nano. Mater.,*** 2021, 4, 1672-1681.

Review articles

1. **M. Kojima**, S. Abe, T. Ueno, Engineering of protein crystals for use as solid biomaterials. ***Biomater. Sci.***, 2022, 10, 354-367. (Selected as a HOT Biomaterials Science article.)

Patents

1. T. Ueno, S. Abe, M. Kojima, J. Tanaka, application no. 2021-198864, "Production of protein crystal materials"
2. T. Ueno. S. Abe, M. Kojima, application no. PCT/JP2021/006607, "Protein crystal production method and crystalline structure analysis method"
3. T. Ueno. S. Abe, M. Kojima, application no.2021-537385 (US 17/632,739, EP 20850581.8), "Production of protein solid material"

Scholarships & Grants

1. Suntory Foundation for Life Sciences, SUNBOR SCHOLARSHIP (2020-23)
2. Tokyo Tech Tsubame Scholarship for Doctoral Students, Standard scholarship (2020-21), Special scholarship（2021-23）
3. SPring-8 Budding Researchers Support Program (2021-23)

Awards

1. The 103rd CSJ Annual Meeting (2023), CSJ Student Presentation Award 2023, 2023. 3. 23.
2. 2018 Young Woman Scientist Camp & Smart Sister Workshop Best OMP, 2018. 8. 25.
3. The 8th CSJ Chemistry Festa 2018, Poster Presentation Awards, 2018. 10. 25.
4. Tokyo Institute of Technology, MS Qualifying Presentation, Poster Presentation Awards, 2018. 12. 8.

Oral presentations

1. M. Kojima, S. Abe, T. Ueno, In-cell protein crystal engineering for structure determination of intrinsically disordered protein, The 103rd CSJ Annual Meeting, 2023. 3.
2. M. Kojima, Y. Hishikawa, S. Abe, T. Furuta, D. P. Tran, A. Kitao, T. Ueno, Dynamics structural analysis of miniprotein by in-cell crystal engineering. The 102nd CSJ Annual Meeting, 2022. 3.
3. M. Kojima, Y. Hishikawa, S. Abe, T. Furuta, D. P. Tran, A. Kitao, T. Ueno, Energy Analysis of Miniprotein by In Vivo Protein Crystallization. The 101st CSJ Annual Meeting, 2021. 3.
4. 小島摩利子, 安部聡, 上野隆史, ミニタンパク質融合多角体タンパク質の細胞内結晶化. 日本化学会第 100 春季年会, 2020. 3.
5. M. Kojima, S. Abe, T. Ueno, In vivo crystallization of polyhedra protein fused with metal binding peptide. 68th SPSJ Annual Meeting, 2019. 5.
6. 小島摩利子, 安部聡, 上野隆史, 多角体形成反応を利用したペプチド融合タンパク質の細胞内結晶化. 日本化学会第 99 春季年会, 2019. 5.

Poster presentations

1. 小島摩利子, 安部聡, 上野隆史, 細胞内タンパク質結晶を用いた天然変性タンパク質の網羅的構造解析. 第 60 回日本生物物理学会年会, 2022. 9.
2. 小島摩利子, 安部聡, 古田忠臣, 上野隆史, タンパク質‐タンパク質界面解析に向けた細胞内タンパク質結晶エンジニアリング, 新学術領域「発動分子科学」 第 10 回領域会議, 2022. 5.
3. 小島摩利子, 安部聡, 上野隆史, 細胞内タンパク質結晶を利用した天然変性タンパク質の構造解析, 第 15 回バイオ関連化学シンポジウム, 2021.9.
4. M. Kojima, S. Abe, T. Ueno, In Vivo Protein Crystal Engineering for Structure Analysis of Metastable State Mini-protein. 69th Symposium on Macromolecules, 2020. 9.
5. 小島摩利子, 安部聡, 上野隆史, 無細胞タンパク質合成による微小結晶構造解析. 第 14 回バイオ関連化学シンポジウム, 2020. 9.
6. 小島摩利子, 安部聡, 上野隆史, ミニタンパク質融合多角体タンパク質の結晶設計. 第 13 回バイオ関連化学シンポジウム, 2019. 9.
7. 小島摩利子, 安部聡, 上野隆史, 多角体融合タンパク質の細胞内結晶化. 第 8 回 CSJ 化学フェスタ, 2018. 10.
8. 小島摩利子, 安部聡, 上野隆史, 多角体を利用した融合タンパク質の細胞内結晶化. 第 67 回高分子学会年次大会, 2018. 5.