

Unit Name

Molecular Cryo-Electron Microscopy Unit

Research Personnel

Tzung Yang Hsieh, Staff Scientist
Vladimir Meshcheryakov, Staff Scientist
Rafael Ayala Hernandez, Staff Scientist
Hideyuki Matsunami, Staff Scientist
Tae Gyun Kim, Staff Scientist
Matej Horvath, Postdoctoral Scholar
Keon Young Kim, PhD Student
Monika Leigh Eggenberger, PhD Student
Maya Ann Street, PhD Student
Daniel Gutierrez Del Rio, PhD Student
Ting-Hua Chen, PhD Student
Anastasiia Balashova, Research Intern
Kiara Mary Kawatsure, Research Intern
En Watanabe, Research Intern
James Mark William Hodgkinson-Bean, Visiting Research Student

Scholarly Contributions and Creative Productions (by Faculty)

Journal Article

1. Matthews, Melissa M., Tae Gyun Kim, Keon Young Kim, Fumiko Obata, Satoshi Shibata, Noriko Shibata, Higor Alves Iha, et al. 2024. "Antigen Clustering Effect on Immunogenicity in Prefusion-Stabilized Spike-Based COVID-19 Vaccines." Research Square.
2. Tokoro Schreiber, Makoto, Cathal Cassidy, Menour Saidani, and Matthias Wolf. 2024. "Electromagnetic Lensing Using the Aharonov-Bohm Effect." New Journal of Physics 26.
3. Wolf, Matthias. n.d. "SARS-CoV-2 IgG Seroprevalence in the Okinawa Main Island and Remote Islands in Okinawa, Japan, 2020–2021." Japanese Journal of Infectious Diseases.
4. Wolf, Matthias. n.d. "Cryo-EM Characterization of Extremophile Viruses with Dynamic Structures." 13th Asia Pacific Microscopy Congress 2025 (APMC13), 316.
5. Wolf, Matthias. n.d. "Breaking the Shell: Genome Uncoating of Seneca Valley Virus." 13th Asia Pacific Microscopy Congress 2025 (APMC13), 181.
6. Wolf, Matthias. n.d. "Structure of a T4-like Myophage in Two States by Cryo-EM." 13th Asia Pacific Microscopy Congress 2025 (APMC13).

7. Kouno, Takahide, Satoshi Shibata, Megumi Shigematsu, Jaekyung Hyun, Tae Gyun Kim, Hiroshi Matsuo, and Matthias Wolf. 2023. "Structural Insights on RNA Bridging HIV-1 Vif and Antiviral Factor APOBEC3G." Nature Journals.

Presentation at Conference

1. Wolf, Matthias. 2025. "Global Structural Survey of Pectobacterium Phage Φ TE." AMED BINDS Workshop, OIST, Opening Lecture.
2. Wolf, Matthias. 2024a. "3D TEM Reconstruction of Au Nanoparticle at Sub-Ångstrom Resolution." NanoLSI Conference at OIST.
3. Wolf, Matthias. 2024b. "Global Structural Survey of Pectobacterium Phage Φ TE." East Asia Joint Symposium (EAJS 2024).
4. Wolf, Matthias. 2024e. "Global Structural Survey of Pectobacterium Phage Φ TE." Molecular Cell Biology Seminar, OIST.
5. Wolf, Matthias. 2024d. "Assembly Mechanism of the Pleomorphic Immature Poxvirus Scaffold." ThermoFisher CryoEM Workshop,.
6. Wolf, Matthias. 2024c. "Structure of the APOBEC-Vif-RNA Complex." IOCB Prague.
7. Wolf, Matthias. 2024f. "Structure of the APOBEC-Vif-RNA Complex."
8. Wolf, Matthias. 2024g. "Structure of the APOBEC-Vif-RNA Complex." AMED BINDS Workshop.

Scholarly Contributions (by Unit Members)

Name of Unit Member	Type	Title	Outlet	Publisher	Year Pub
Rafael Ayala Hernandez	Journal Article	Gintegrator: Enhancing biological sequences data integration with real-time identifier translation	SoftwareX	Elsevier	2025-02-01
Tzung Yang Hsieh	Journal Article	Engineered protein subunit COVID19 vaccine is as immunogenic as nanoparticles in mouse and hamster models	Scientific Reports	Nature	01-10-2024
Vladimir Meshcheryakov	Journal Article	Engineered protein subunit COVID19 vaccine is as immunogenic as nanoparticles in mouse and hamster models	Scientific Reports	Nature	2024-10-01

Honors, Awards & Fellowships

May 2021 - Ongoing	Vorarlberg Science Award, 2021, Vorarlberg State Government
2024-03-01 - Ongoing	IOCB Invited Lectures 2024, IOCB Invited Lectures 2024, 2024, Institute of Organic Chemistry and Biochemistry Academy of Sciences of the Czech Republic
2020-03-01 - Ongoing	Vorarlberger Wissenschaftspreis 2020, Vorarlberger Wissenschaftspreis 2020, 2020
2018-04-01 - Ongoing	MOST Distinguished Lecture, Most Distinguished Lecture, 2018, Ministry of Science and Technology
2012-02-01 - Ongoing	Second prize 2012 video contest , Second prize 2012 video contest, 2012, the Biophysical Society
2010-08-01 - Ongoing	First Price Poster award, First Price Poster award, 2010, Harvard Medical School BCMP
1994-08-01 - Ongoing	Wissenschaftsförderungspreis der Vorarlberger Landesregierung, Wissenschaftsförderungspreis der Vorarlberger Landesregierung, 1994