




Syamil Muharror Ahsanul Husna

Sendai, Miyagi, Japan

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EDUCATION

Tohoku University

Masters of Science in Chemistry

The International Graduate Program for Advanced Science (IGPAS) Program.
Graduate School of Science, Department of Chemistry.

Expected Graduation: Sep 2025

Current GPA(US): 4.0/4.0

Tohoku University

Bachelor of Science in Chemistry

Advanced Molecular Chemistry (AMC) Program. School of Science, Department of Chemistry.

Oct 2023

GPA(US): 3.5/4.0

RESEARCH EXPERIENCE

Biomolecular Dynamics Lab, IMRAM, Tohoku University

2021 – 2023

Undergraduate Researcher (40hrs/week) | PI: Kiyoto Kamagata

- Single molecular study of biomolecular condensates coalescence mechanism of DNA-binding proteins such as p53 and FUS by using optical tweezers and two-color fluorescence microscopy.
- Kickstarted the project by building the optical tweezers setup.
- Designed research approaches and experiments.
- Developed Python code and ImageJ macros for data analysis, data visualization using IgorPro and matplotlib, and figure making.

Biofunctional Molecules Synthesis Lab, IMRAM, Tohoku University

May – Sep 2021

Undergraduate research intern (40hrs/week) | Supervisor: Hidenori Okamura

- Selective and stable base pairing by alkynylated nucleosides featuring a spatially-separated recognition interface.
- Development of unnatural base pairs with selective and stable base pairing.
- Performed 30+ organic chemistry synthesis to test new reaction schemes to obtain two new UBPs under various conditions, including anhydrous, oxygen-sensitive, and dealt with organometallic reagents and hazards (especially Sonogashira reaction).

PROJECTS AND PUBLICATIONS

Thesis Project (In Progress)

Syamil M.A. Husna, Atsumi Hando, Saori Kanbayashi, Kiyoto Kamagata (2024). "Elucidating fusion dynamics of FUS droplets using optical tweezers and fluorescence microscopy".

Intend to submit to *Journal of the American Chemical Society*.

Under Development

Miho Yanagisawa, Kazutoshi Masuda, **Syamil M.A. Husna**, Kiyoto Kamagata. "Surface wetting effect on FUS droplets inside artificial cell".

HONORS AND AWARDS

Student Presentation Award

2023

The 61st Annual Meeting of the Biophysical Society of Japan in Nagoya, Japan.

Japanese Government (MEXT) SGU Scholarship

2023

Recipient of government annual scholarship for outstanding academic performance.

Undergraduate Japanese Government (MEXT) Scholarship

2019

Recipient of government four years scholarship for the top students at entrance examination.

Silver Medalist of Oktan Chemistry Olympiad

2018

Institut Teknologi Bandung.

Global Learning Center, Tohoku University

2023 – Present

Administrative Assistant

- Part-time staff supporting international students adapting to life in Sendai.
- Manages the administrative tasks and the assistants database.

Tohoku University Foreign Student Association (TUFSA)

2023

President

- Led the organizational reform of the international student association which had been inactive for three years due to the pandemic by rebuilding it from the ground up.
- Organized cultural exchange events with the international students and the local domestic students in Tohoku University.

The 36th Tohoku University International Festival (TUIF)

2023

Director, Leader

- Led the team to organize the annual international festival of Tohoku University.
- Sold out 1000 tickets to 1500 visitors.
- Managed the budget, coordinated with the university staff, and organized the event.

Miyagi Sendai Daisan High School

2022 – 2024

English Student Supporter (Scientific English and Research Methodology)

- Taught scientific English and research methodology to second year high school students for an international scientific conference.
- Reviewed, made suggestions, and presented lectures on how to improve data visualization and presentation skills.
- As a mentor, reviewed and gave feedback on students' research plan and approach.

Indonesian Student Association in Sendai

2021 – 2022

Internal Affairs Division Leader

- Organized and led bimonthly events for Indonesian students in Sendai.

TEACHING EXPERIENCE**Chemistry Tutor Volunteer**

2021 – 2022

Ajak Gerak

- Taught high school students remotely in Indonesia based on the national curriculum.

MEMBERSHIPS AND PARTICIPATIONS**21st IUPAB & 62nd BSJ Joint Congress**

Planned Jun 2024

Poster Presenter

The Biophysiscal Society of Japan (BSJ)

2023 – Present

Student Member

International Union of Pure and Applied Biophysics (IUPAB)

2024 – Present

Student Member

The Biophysiscal Society of Japan (BSJ)

2023 – Present

Student Member

The 61st Annual Meeting of the Biophysiscal Society of Japan

2023

Oral Presenter

SKILLS**Languages:** Indonesian (Native), English (Advanced, IELTS 8.0 – CEFR C1), Japanese (Intermediate, JLPT N2).**Programming:** Python, Selenium (Python), R, SQL, Jekyll, HTML/CSS, L^AT_EX.**Software:** PyMOL, ImageJ, Fiji, AlphaFold2, Microsoft Office (VBA), LaTeX, IgorPro, ChemOffice, CAS-SciFinder, Adobe Illustrator, Photoshop, Git/GitHub.**Laboratory techniques:****Organic synthesis:** Nucleic acid design, dry synthesis, NMR, mass spectrometry, melting point analysis, column chromatography, HPLC.**Molecular biology:** Western blotting, PCR, electrophoresis (SDS-page), fluorescent microscopy.**Biophysics:** Optical tweezers, HILO microscopy, function generator, confocal microscopy, DIC microscopy.