

Johannes Nicolaus **Wibisana**

PhD Student

Onna-son, Okinawa, Japan

☎ (+81) 50-3707-5757 | ✉ johannes.nicolaus@gmail.com | 🏠 www.jnicolaus.com | 📷 [johannesnicolaus](#) | 🌐 [johannes-nicolaus](#) | 🎓 JN Wibisana

Summary

I am a 2nd year PhD student at the Okinawa Institute of Science and Technology at the Genomics and Regulatory Systems Unit. I am currently working to elucidate transcriptional regulation in the pelagic tunicate *Oikopleura dioica*. Previously, I have used single-cell omics and fluorescence imaging analysis to investigate the NF-κB transcription mediated transcriptional regulation in B cell. I am familiar with R, ImageJ macro and bash programming languages for image processing and analysis of multi-omics data. I also have experience with basic molecular biology experiments such as mammalian and avian cell culture, RNA-FISH, molecular cloning and qPCR. Being highly adaptable and flexible, I am keen and can quickly grasp new concepts that can be applied to my current and future research.

Education

Okinawa Institute of Science and Technology

Okinawa, Japan

Doctor of Philosophy

Apr. 2022 – Current

- Investigation of transcriptional regulation in *Oikopleura dioica*. Genomics and Regulatory Systems Unit (PI: Nicholas Luscombe)
- Rotation projects
 - Investigation of metabolic gene duplication in clownfish. Marine Eco-Evo-Devo Unit (PI: Vincent Laudet)
 - Investigation of dental microwear analysis in fish-tetrapod transition. Macroevolution Unit (PI: Lauren Sallan)

Osaka University (Graduate School of Science)

Osaka, Japan

M.Sc in Biological Sciences

Apr. 2020 – Mar. 2022

- Awardee of the [Honjo International Scholarship Foundation](#) scholarship
- Thesis research: NF-κB transcriptional regulation in B-cell, Laboratory for Cell Systems (PI: Mariko Okada)
- Others: In charge of laboratory website and bioinformatics training of visiting researchers

Osaka University (School of Science)

Osaka, Japan

B.Sc in Biological Sciences

Oct. 2016 – Mar. 2020

- Awardee of the MEXT scholarship
- Thesis research: NF-κB transcriptional regulation in B-cell, Laboratory for Cell Systems (PI: Mariko Okada)
- Selected for the AEARU 2018 Summer Camp in Hefei China
- Qualified for early graduation

Publications

Research articles

- [Type 2 helper T cells convert into Interleukin-13-expressing follicular helper T cells after antigen repriming](#) Translational and Regulatory Sciences
Y Harada, T Sasaki, **JN Wibisana**, M Okada, C Liu, H Ueno, PD Burrows, M Kubo 2022
- [Enhanced transcriptional heterogeneity mediated by NF-κB super-enhancers](#) PLOS Genetics
JN Wibisana, T Inaba, H Shinohara, N Yumoto, T Hayashi, M Umeda, M Ebisawa, I Nikaido, Y Sako, M Okada 2022
- [ASURAT: functional annotation-driven unsupervised clustering of single-cell](#) Bioinformatics
K Iida, J Kondo, **JN Wibisana**, M Inoue, M Okada 2022

Review articles

- [Encoding and decoding NF- \$\kappa\$ B nuclear dynamics](#) Current Opinion in Cell Biology 2022
JN Wibisana*, M Okada
- **Prediction of transcriptional regulation in immune cells through single-cell analysis** Journal of Clinical and Experimental Medicine (Igaku no Ayumi) 2021
JN Wibisana, K Iida, M Okada

Book chapter

- **Quantitative imaging analysis of NF- κ B for mathematical modelling applications** Methods in Molecular Biology (in press) 2020
JN Wibisana*, T Inaba, Y Sako, M Okada

Presentations

International

- | | | |
|-----------|---|--------------------|
| Nov. 2021 | Imaging and single-cell sequencing analysis of super-enhancer activation mediated by NF-κB in B cells
Cell Symposia: Biological Assemblies - Phase transitions and more (Poster presentation) | Online |
| May 2021 | NF-κB mediated transcriptional regulation in B cell
Cold Spring Harbor Laboratory Biology of Genomes 2021 (Poster presentation) | Online |
| Jan. 2020 | NF-κB mediated transcriptional regulation in B cell
Japan-Korea Bilateral Symposium between IPR and SNU on Advanced Analysis of Protein Function and Structure (Oral presentation) | Seoul, South Korea |
| Nov. 2019 | NF-κB mediated transcriptional regulation in B cell
International Conference of Systems Biology (Poster presentation) | Okinawa, Japan |

Domestic

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|-----------|--|--------------|
| Nov. 2022 | Enhancer-Mediated Transcriptional regulation in <i>Oikopleura dioica</i>
The 45 th Annual Meeting of the Molecular Biology Society of Japan (Poster presentation) | Chiba, Japan |
| Nov. 2021 | Imaging and single-cell sequencing analysis of super-enhancer activation mediated by NF-κB in B cells
19 th IPR retreat (Poster presentation) | Online |
| Sep. 2020 | NF-κB mediated transcriptional regulation in B cell
The 58 th Annual Meeting of the Biophysical Society of Japan (Poster presentation) | Online |
| Nov. 2019 | NF-κB mediated transcriptional regulation in B cell
18 th IPR retreat (Oral presentation) | Osaka, Japan |

Honors and awards

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|-----------|---|-------|
| Sep. 2020 | Poster presentation award. The 58 th Annual meeting of the Biophysical Society of Japan | Japan |
| Nov. 2018 | Bronze award. BIOMOD 2018 Molecular Design Competition | U.S.A |
| Nov. 2017 | Bronze award. BIOMOD 2017 Molecular Design Competition | U.S.A |

Workshops

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|-----------|--|---------------------|
| Dec. 2022 | EMBO Practical Course: Single-cell omics: deeper to genomics | Heidelberg, Germany |
| Jul. 2020 | 第30回細胞生物学ワークショップ | Hyogo, Japan |

Research experience

Genomics and Regulatory Systems Unit (PI: Nicholas Luscombe), Okinawa Institute of Science and Technology Okinawa, Japan
2023

PhD student

- Project: Investigation of transcriptional regulation in *Oikopleura dioica*
- Performed cell culture of *Oikopleura dioica*
- Performed bioinformatics analysis of RNA-seq, ATAC-seq, CAGE-seq and genomic data of *Oikopleura dioica*

Macroevolution Unit (PI: Lauren Sallan), Okinawa Institute of Science and Technology Okinawa, Japan

PhD Rotation student

2023

- Project: Investigation of dental microwear analysis in fish-tetrapod transition
- Established fish facility for *Polypterus*
- Performed dental molding of fossils and subsequent scanning using confocal microscope

Marine Eco-Evo-Devo Unit (PI: Vincent Laudet), Okinawa Institute of Science and Technology Okinawa, Japan

PhD Rotation student

2022

- Project: Investigation of metabolic gene duplication in clownfish
- Performed gene duplication analysis using computational phylogenetic analysis
- Performed fish dissection for RNA extraction and subsequent qPCR analysis

Laboratory for Cell Systems (PI: Mariko Okada), Osaka University

Osaka, Japan

Undergraduate – Master's student

Feb. 2019 – Mar. 2022

- Project: NF- κ B mediated transcriptional regulation in B cell
- Performed quantitative imaging analysis of NF- κ B nuclear translocation using confocal microscope and ImageJ
- Performed single-cell RNA-seq and single-cell ATAC-seq analysis to find the relationship between cis-regulatory elements and gene expression pattern
- Performed single-molecule RNA-FISH and qPCR for the confirmation of RNA-seq results
- Performed cloning for both transient and permanent expression of fluorescent-tagged protein of interest
- In charge of side projects concerning RNA-seq analysis and training of visiting researchers on RNA-seq analysis

Laboratory of Cellular Life Science (PI: Naotada Ishihara), Osaka University

Osaka, Japan

Research Intern

Sep. 2018 – Feb. 2019

- Project: Quantification of Mitochondrial Morphology
- Performed quantitative analysis of mitochondrial morphology using ImageJ
- Performed basic experiments such as mammalian cell culture and confocal imaging

Bio Medical Wet Robotics Laboratory (PI: Morishima Keisuke), Osaka University

Osaka, Japan

Associate Project Leader for Osaka University BIOMOD 2017-2018

2017-2018

- Performed basic DNA origami experiments
- Performed 3D modeling and computer simulated DNA origami design

Laboratory of Science and Innovation for Pain, Osaka University

Osaka, Japan

Research Assistant

Apr. 2018 – Feb. 2019

- Performed mouse genotyping, RNA extraction and ELISA
- Performed image analysis of mouse MRI images
- In charge of laboratory cleanliness

Other skills

Website development

HTML, CSS, Jekyll. Built and designed laboratory website using HTML and CSS (Bootstrap) and Personal website using Jekyll.

3D printing and modeling

Basic 3D modeling using Fusion360 and Maya. Familiar with basic 3D printing techniques.