Johannes Nicolaus **Wibisana**

PhD student

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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 investigate the epigenetic basis of transcriptional regulation in the pelagic tunicate *Oikopleura dioica*. Previously, I have used single-cell omics and fluorescence imaging analysis to investigate NF-κB 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, genome editing and qPCR. Being highly adaptable and proactive, 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 - Present*

- Epigenetic landscape in the cryptic species of *Oikopleura dioica*. Genomics and Regulatory Systems Unit (PI: Nicholas Luscombe)
- Rotation projects:
  Investigation of dental microwear analysis in fish-tetrapod transition. Macroevolution Unit (PI: Lauren Sallan)
  Investigation of metabolic-related gene duplication in pomacentridae. Marine Eco-Evo-Devo Unit (PI: Vincent Laudet)

Osaka University (Graduate School of Science) — *Osaka, Japan*

M.Sc in Biological Sciences — *Apr. 2020 - Mar. 2022*

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

Osaka University (Graduate School of Science) — *Osaka, Japan*

B.Sc in Biological Sciences — *Oct. 2016 - Mar. 2020*

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

Publications

Research articles

Modification of clinical dental impression methods to obtain dental traits from living and whole non-mammalian vertebrates — *BioRxiv*

JN Wibisana*, RA Sallan, T Kubo, L Sallan* — *2023*

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-κB nuclear dynamics — *Current Opinion in Cell Biology*

JN Wibisana, M Okada* — *2022*

Prediction of transcriptional regulation in immune cells through single-cell analysis — *Journal of Clinical and Experimental Medicine (Igaku no Ayumi)*

JN Wibisana, K Iida, M Okada — *2021*

Book Chapter

Quantitative imaging analysis of NF-κB for mathematical modelling applications — *Methods in Molecular Biology*

JN Wibisana, T Inaba, Y Sako, M Okada* — *2023*

Presentations

International

Epigenetic landscape of the cryptic tunicate *Oikopleura dioica* — *Sevilla, Spain*

EMBO Workshop: Animal Genomes (Poster presentation) — *Nov. 2021*

Imaging and single-cell sequencing analysis of super-enhancer activation mediated by NF-κB in B cells — *Online*

Cell Symposia: Biological Assemblies - Phase transitions and more (Poster presentation) — *Nov. 2021*

NF-κB mediated transcriptional regulation in B cell — *Online*

Cold Spring Harbor Laboratory Biology of Genomes 2021 (Poster presentation) — *May 2021*

NF-κB mediated transcriptional regulation in B cell — *Seoul, South Korea*

Japan-Korea Bilateral Symposium between IPR and SNU on Advanced Analysis of Protein Function and Structure (Oral presentation) — *Jan. 2020*

NF-κB mediated transcriptional regulation in B cell — *Okinawa, Japan*

International Conference of Systems Biology (Poster presentation) — *Nov. 2019*

Domestic

Enhancer-mediated transcriptional regulation in *Oikopleura dioica* — *Chiba, Japan*

The 45th Annual Meeting of the Molecular Biology Society of Japan (Poster presentation) — *Nov. 2022*

Imaging and single-cell sequencing analysis of super-enhancer activation mediated by NF-κB in B cells — *Online*

19th IPR retreat (Poster presentation) — *Nov. 2021*

Imaging and single-cell sequencing analysis of super-enhancer activation mediated by NF-κB in B cells — *Online*

Cell Symposia: Biological Assemblies - Phase transitions and more (Poster presentation) — *Nov. 2021*

NF-κB mediated transcriptional regulation in B cell — *Online*

Cold Spring Harbor Laboratory Biology of Genomes 2021 (Poster presentation) — *May 2021*

NF-κB mediated transcriptional regulation in B cell — *Online*

The 58th Annual Meeting of the Biophysical Society of Japan (Poster presentation) — *Sep. 2020*

NF-κB mediated transcriptional regulation in B cell — *Seoul, South Korea*

Japan-Korea Bilateral Symposium between IPR and SNU on Advanced Analysis of Protein Function and Structure (Oral presentation) — *Jan. 2020*

NF-κB mediated transcriptional regulation in B cell — *Osaka, Japan*

18th IPR retreat (Oral presentation) — *Nov. 2019*

NF-κB mediated transcriptional regulation in B cell — *Okinawa, Japan*

International Conference of Systems Biology (Poster presentation) — *Nov. 2019*

Research Experience

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

PhD student — *Mar. 2022 - Present*

- Project: Epigenetic landscape in the cryptic species *O. dioica*
- Analysis of RNA-seq, ATAC-seq, CAGE, and other epigenetic sequencing data
- Improved genome annotation of *O. dioica*
- Developed a genome browser for *O. dioica*: oikobrowser.jnicolaus.com

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-κB mediated transcriptional regulation in B cell
- Performed quantitative imaging analysis of NF-κB 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
- 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 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

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 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

Honors & Awards

Apr. 2020 - Mar. 2022 **Honjo International Scholarship Foundation Scholarship** *Japan*

Sep. 2020 **Poster presentation award**, The 58th Annual meeting of the Biophysical Society of Japan *Japan*

2018 **Bronze award**, BIOMOD 2018 Molecular Design Competition *U.S.A*

2017 **Bronze award**, BIOMOD 2017 Molecular Design Competition *U.S.A*

Sep. 2016 - Mar. 2020 **MEXT scholarship** *Japan*

Workshops

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*

Qualifications

2019 **N1**, Japanese Language Proficiency Test

Organizations

2019-2021 **Secretary General**, Indonesian Student Association in Japan

2018-2019 **President**, Indonesian Student Association in Japan (Osaka-Nara)

Other skills

Web development	HTML, CSS (Bootstrap), Jekyll, AWS.
3D printing and modeling	Basic 3D modeling using Fusion360 and Maya. Familiar with basic 3D printing techniques.