

Johannes Nicolaus Wibisana

PHD STUDENT

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Summary

I am a 3rd 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 gene regulation of the scrambled genome of *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

Modifiable clinical dental impression methods to obtain whole-mouth and detailed dental traits from vertebrates (doi:10.1002/jmor.70017)

Journal of Morphology

JN WIBISANA*, RA SALLAN*, T OTA, P PUCHENKOV, T KUBO, L SALLAN*

2025

Less, but More: New Insights From Appendicularians on Chordate Fgf Evolution and the Divergence of Tunicate Lifestyles (doi:10.1093/molbev/msae260)

Molecular Biology and Evolution

G SANCHEZ-SERNA, J BADIA-RAMENTOL, P BUJOSA, A FERRANDEZ-ROLDAN, NP TORRES-AGUILA, M FABREGA-TORRUS, JN

WIBISANA*, MJ MANSFIELD, C PLESSY, NM LUSCOMBE, R ALBALAT, C CANESTRO

2025

The complete mitogenome of an unidentified *Oikopleura* species (doi:10.12688/f1000research.157311.1)

F1000Research

JN WIBISANA, C PLESSY*, N DIERCKXSENS, J MIAO, NM LUSCOMBE

2024

Type 2 helper T cells convert into Interleukin-13-expressing follicular helper T cells after antigen repriming (doi:10.33611/trs.2022-010)

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 (doi:10.1371/journal.pgen.1010235)

PLoS Genetics

JN WIBISANA, T INABA, H SHINOHARA, N YUMOTO, T HAYASHI, M UMEDA, M EBISAWA, I NIKAIIDO, Y SAKO, M OKADA*

2022

ASURAT: functional annotation-driven unsupervised clustering of single-cell (doi:10.1093/bioinformatics/btac541)

Bioinformatics

K IIDA*, J KONDO, JN WIBISANA, M INOUE, M OKADA

2022

REVIEW ARTICLES

Encoding and decoding NF- κ B nuclear dynamics ([doi:10.1016/j.ceb.2022.102103](https://doi.org/10.1016/j.ceb.2022.102103))

JN WIBISANA, M OKADA*

Current Opinion in Cell Biology

2022

Prediction of transcriptional regulation in immune cells through single-cell analysis

JN WIBISANA, K IIDA, M OKADA

*Journal of Clinical and Experimental
Medicine (Igaku no Ayumi)*

2021

BOOK CHAPTER

Quantitative imaging analysis of NF- κ B for mathematical modelling applications ([doi:10.1007/978-1-0716-3008-2_11](https://doi.org/10.1007/978-1-0716-3008-2_11))

JN WIBISANA, T INABA, Y SAKO, M OKADA*

Methods in Molecular Biology

2023

Presentations

INTERNATIONAL

Gene regulation of the scrambled genome of *Oikopleura dioica*

EMBO LECTURE COURSE: EVOLUTIONARY AND COMPARATIVE GENOMICS (POSTER PRESENTATION)

Nafplio, Greece

Nov. 2024

Epigenetic landscape of the cryptic tunicate *Oikopleura dioica*

EMBO WORKSHOP: ANIMAL GENOMES (POSTER PRESENTATION)

Sevilla, Spain

Nov. 2021

Imaging and single-cell sequencing analysis of super-enhancer activation mediated by NF- κ B in B cells

CELL SYMPOSIA: BIOLOGICAL ASSEMBLIES - PHASE TRANSITIONS AND MORE (POSTER PRESENTATION)

Nov. 2021

[Online](#)

NF- κ B mediated transcriptional regulation in B cell

COLD SPRING HARBOR LABORATORY BIOLOGY OF GENOMES 2021 (POSTER PRESENTATION)

May 2021

NF- κ B 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

Jan. 2020

NF- κ B mediated transcriptional regulation in B cell

INTERNATIONAL CONFERENCE OF SYSTEMS BIOLOGY (POSTER PRESENTATION)

Okinawa, Japan

Nov. 2019

DOMESTIC

Enhancer-mediated transcriptional regulation in *Oikopleura dioica*

THE 46TH ANNUAL MEETING OF THE MOLECULAR BIOLOGY SOCIETY OF JAPAN (POSTER PRESENTATION)

Fukuoka, Japan

Nov. 2024

Enhancer-mediated transcriptional regulation in *Oikopleura dioica*

THE 45TH ANNUAL MEETING OF THE MOLECULAR BIOLOGY SOCIETY OF JAPAN (POSTER PRESENTATION)

Chiba, Japan

Nov. 2022

Imaging and single-cell sequencing analysis of super-enhancer activation mediated by NF- κ B in B cells

19TH IPR RETREAT (POSTER PRESENTATION)

[Online](#)

Nov. 2021

Imaging and single-cell sequencing analysis of super-enhancer activation mediated by NF- κ B in B cells

CELL SYMPOSIA: BIOLOGICAL ASSEMBLIES - PHASE TRANSITIONS AND MORE (POSTER PRESENTATION)

Nov. 2021

[Online](#)

NF- κ B mediated transcriptional regulation in B cell

COLD SPRING HARBOR LABORATORY BIOLOGY OF GENOMES 2021 (POSTER PRESENTATION)

May 2021

NF- κ B mediated transcriptional regulation in B cell

THE 58TH ANNUAL MEETING OF THE BIOPHYSICAL SOCIETY OF JAPAN (POSTER PRESENTATION)

[Online](#)

Sep. 2020

NF- κ B 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

Jan. 2020

NF- κ B mediated transcriptional regulation in B cell

18TH IPR RETREAT (ORAL PRESENTATION)

Osaka, Japan

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- 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
- 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 - **Honjo International Scholarship Foundation Scholarship**

Japan

Mar. 2022

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 - **MEXT scholarship**

Japan

Mar. 2020

Workshops

Dec. 2022 EMBO Practical Course: Single-cell omics: deeper to genomics

Jul. 2020 第30回細胞生物学ワークショップ

Heidelberg,
Germany
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.