

# Johannes Nicolaus Wibisana

PHD STUDENT

Onna-son, Okinawa, Japan

☎ (+81) 50-3707-5757 | ✉ johannes.nicolaus@oist.jp | 🏠 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 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- $\kappa$ B 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- $\kappa$ B 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- $\kappa$ B 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

#### 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- $\kappa$ B super-enhancers

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

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

**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- $\kappa$ B for mathematical modelling applications

Methods in Molecular Biology

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

2023

## Presentations

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### INTERNATIONAL

#### **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](#)

Nov. 2021

#### **NF-κB mediated transcriptional regulation in B cell**

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

[Online](#)

May 2021

#### **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](#)

Jan. 2020

#### **NF-κB 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 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-κB in B cells**

19TH IPR RETREAT (POSTER PRESENTATION)

[Online](#)

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](#)

Nov. 2021

#### **NF-κB mediated transcriptional regulation in B cell**

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

[Online](#)

May 2021

#### **NF-κB mediated transcriptional regulation in B cell**

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

[Online](#)

Sep. 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](#)

Jan. 2020

#### **NF-κB mediated transcriptional regulation in B cell**

18TH IPR RETREAT (ORAL PRESENTATION)

[Osaka, Japan](#)

Nov. 2019

#### **NF-κB mediated transcriptional regulation in B cell**

INTERNATIONAL CONFERENCE OF SYSTEMS BIOLOGY (POSTER PRESENTATION)

[Okinawa, Japan](#)

Nov. 2019

## Research Experience

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

PHD STUDENT

[Okinawa, Japan](#)

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*

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

PHD ROTATION STUDENT

[Okinawa, Japan](#)

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 - **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

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

**Website development** HTML, CSS (Bootstrap), Jekyll.

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