

AKBAR ADJIE PRATAMA

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EDUCATION & PROFESSIONAL EXPERIENCES

MicroVerse cluster Postdoctoral Fellow Friedrich-Schiller-Universität Jena and The Ohio State University Jena, Germany and Columbus, OH, USA Faculty Mentor: Kirsten Küsel and Matthew B. Sullivan	2023-Present
VirSoil and EMERGE Postdoctoral research The Ohio State University, Columbus, OH, USA Faculty Mentor: Matthew B. Sullivan	2019-2023
Research fellow University of Groningen, Groningen, The Netherlands Faculty Mentor: Jan Dirk van Elsas	2018-2019
Ph.D. in Microbial Ecology University of Groningen, Groningen, The Netherlands Faculty Mentor: Jan Dirk van Elsas	2014-2018
M.Sc. in Biotechnology Asia University (亞洲大學), Taichung, Taiwan Faculty Mentor: Tsung-Chi Chen	2011-2013
B. Sc. in Biology IPB University, Bogor, West Java, Indonesia	2005-2010

PUBLICATIONS

PEER-REVIEWED

- [14] [Diversity and ecological footprint of Global Ocean RNA viruses](#), 2022
Guillermo Dominguez-Huerta*, Ahmed A. Zayed*, James M. Wainaina, Jiarong Guo, Funing Tian, Akbar Adjie Pratama, Benjamin Bolduc, Mohamed Mohssen, Olivier Zablocki, Eric Pelletier, Erwan Delage, Adriana Alberti, Jean-Marc Aury, Quentin Carradec, Corinne da Silva, Karine Labadie, Julie Poulain, Tara Oceans Coordinators, Chris Bowler, Damien Eveillard, Lionel Guidi, Eric Karsenti, Jens H. Kuhn, Hiroyuki Ogata, Patrick Wincker, Alexander Culley, Samuel Chaffron, and Matthew B. Sullivan.
Science 6598 (376): 1202-1208; *contributed equally
Media coverage: [The Ohio State News](#), [News medical](#), [Science daily](#)
- [13] [Cryptic and abundant marine viruses at the evolutionary origins of Earth's RNA virome](#), 2022
Ahmed A. Zayed*, James M. Wainaina*, Guillermo Dominguez-Huerta*, Eric Pelletier, Jiarong Guo, Mohamed Mohssen, Funing Tian, Akbar Adjie Pratama,

- Benjamin Bolduc, Olivier Zablocki, Dylan Cronin, Lindsey Solden, Erwan Delage, Adriana Alberti, Jean-Marc Aury, Quentin Carradec, Corinne da Silva, Karine Labadie, Julie Poulain, Hans-Joachim Ruscheweyh, Guillem Salazar, Elan Shatoff, Tara Oceans Coordinators, Ralf Bundschuh, Kurt Fredrick, Laura S. Kubatko, Samuel Chaffron, Alexander I. Culley, Shinichi Sunagawa, Jens H. Kuhn, Patrick Wincker, Matthew B. Sullivan. *Science* 6589 (376): 156-162; *contributed equally
Media coverages: [Science highlight](#); [The Conversation](#) and [The Scientist](#)
- [12] [Expanding standards in viromics: in silico evaluation of dsDNA viral genome identification, classification, and auxiliary metabolic gene curation](#) 2021
 Akbar Adjie Pratama, Benjamin Bolduc, Ahmed A. Zayed, Zhi-Ping Zhong, Jiarong Guo, Dean R. Vik, Maria Consuelo Gazitúa, James M. Wainaina, Simon Roux and Matthew B. Sullivan (2021) *PeerJ* 9: e11447
Top 5 most viewed Bioinformatics, Microbiology and Virology article published in 2021 in PeerJ journal
- [11] [VirSorter2: a multi-classifier, expert-guided approach to detect diverse DNA and RNA viruses](#) 2021
 Jiarong Guo, Ben Bolduc, Ahmed A Zayed, Arvind Varsani, Guillermo Dominguez-Huerta, Tom O Delmont, Akbar Adjie Pratama, M Consuelo Gazitúa, Dean Vik, Matthew B Sullivan, Simon Roux (2021) *Microbiome* 9 (1): 1-13
- [10] [The role of rhizosphere bacteriophages in plant health](#) 2020
 Akbar Adjie Pratama, Jurre Terpstra[†], Andre Luiz Martinez de Oliveria, Joana Falcão Salles (2020) *Trends in microbiology*, 28 (9): 709-718; [†]former Master student
Media coverage: [Phys.org](#) and [EurekAlert! AAAS](#)
- [9] [Delineation of a subgroup of the Genus Paraburkholderia, including P. terrae DSM 17804T, P. hospita DSM 17164T, and four soil-isolated fungiphiles, reveals remarkable genomic and ecological features - proposal for the definition of a P. hospita species cluster](#) 2020
 Akbar Adjie Pratama, Diego Javier Jiménez, Qian Chen, Boyke Bunk, Cathrin Spröer, Jörg Overmann, Jan Dirk van Elsas *Genome Biology and Evolution*, 12 (4): 325–344
- [8] [Gene mobility in microbiomes of the mycosphere and mycorrhizosphere—role of plasmids and bacteriophages](#) 2019
 Akbar Adjie Pratama and Jan Dirk van Elsas. *FEMS microbiology ecology* (2019) 95 (5): fiz053
- [7] [The viruses in soil-potential roles, activities, and impacts](#) 2019
 Akbar Adjie Pratama and Jan Dirk van Elsas. *Modern soil microbiology* (third edition). Tylor&Francis: New York
- [6] [Microbial interactions in soil](#) 2019
 Jan Dirk van Elsas, Akbar Adjie Pratama, Welington Luiz de Araujo and Jack T. Trevors. *Modern soil microbiology* (third edition). Tylor&Francis: New York
- [5] [The ‘neglected’ soil virome—potential role and impact](#) 2018
 Akbar Adjie Pratama, Jan Dirk van Elsas *Trends in Microbiology* 26 (8): 649-662
 Most tweeted article in Trends in Microbiology journal in January 2018
- [4] [Evolutionary history of bacteriophages in the genus Paraburkholderia](#) 2018
 Akbar Adjie Pratama, Maryam Chaib De Mares, Jan Dirk Van Elsas *Frontiers in microbiology* 9: 835

- [3] [Draft genome sequences of three fungal-interactive *Paraburkholderia terrae* strains, BS007, BS110 and BS437](#) 2017
Akbar Adjie Pratama, Irshad Ul Haq, Rashid Nazir, Maryam Chaib De Mares, Jan Dirk van Elsas *Standards in genomic sciences* 12 (1): 1-14
- [2] [A novel inducible prophage from the mycosphere inhabitant *Paraburkholderia terrae* BS437](#) 2017
Akbar Adjie Pratama, Jan Dirk van Elsas *Scientific reports* 7 (1): 1-14
- [1] [The significance of mutualistic phages for bacterial ecology and evolution](#) 2016
Nancy Obeng[†], Akbar Adjie Pratama, Jan Dirk van Elsas *Trends in microbiology* 24 (6): 440-449. [†] former Master student

CURRENTLY SUBMITTED/UNDER REVIEW

- [a] **The global rumen virome: diversity and potential impact to rumen microbiome and functions** 2023
Ming Yan, Akbar Adjie Pratama, Zongjun Li, Yu Jiang, Matthew Sullivan, and Zhongtang Yu. *Nat. Comm.*
- [b] **MARVDv2: a machine learning enhanced means for archaeal virus identification from metagenomic data** 2023
Dean Vik, Benjamin Bolduc, Simon Roux, Maria Consuelo Gazitúa, Christine Sun, Akbar Adjie Pratama, Mart Krupovic, Matthew B. Sullivan. *ISME Comm.*

IN PREPARATION

- [c] **Viral ecology and dynamics across a temporal permafrost thaw gradient**
Christine L. Sun*, Akbar Adjie Pratama*, Maria Consuelo Gazitúa, Ahmed A. Zayed, Dylan Cronin, Benjamin Bolduc, Dean R. Vik, Lindsey Solden, the IsoGenie Project Field Teams 2010-2017, the IsoGenie Project Coordinators, Virginia Rich, Matthew B. Sullivan. **contributed equally*
- [d] **Orthornaviraen ecogenomics along the Arctic permafrost thawing gradient**
Akbar Adjie Pratama*, Guillermo Dominguez-Huerta*, Ahmed A. Zayed, Benjamin Bolduc, Funing Tian, James M. Wainaina, Jiarong Guo, Lindsey Solden and Matthew B. Sullivan. **contributed equally*

RESEARCH PROJECT EXPERIENCES

- [1] [Balance of the MicroVerse cluster](#) funded by the German Excellence Strategy Programme. 2023-present
Friedrich-Schiller-Universität Jena and The Ohio State University
Jena, Germany and Columbus, OH, USA
PI: Kirsten Küsel and Matthew B. Sullivan
- [2] **Department of Energy (VirSoil)* and National Science Foundation (EMERGE)** funded projects to study soil viruses and climate change impact on soil carbon fate, respectively. 2018-2023
The Ohio State University, Columbus, OH, USA
PIs: Matthew B. Sullivan and Virginia Rich
Outcome: see publication [11](#) and [12](#). Some *in preparation* papers: c, and d (see above)
**helped with writing the first VirSoil grant*
- [3] **Global Ocean project (Tara Ocean Project)** funded by the European Commission to study the global ocean microbiomes. 2020-2022
PI: Matthew B. Sullivan
Outcome: see publication [13](#), and [14](#)
- [4] **Fungal-interactive bacteria viruses** 2014-2018
University of Groningen, The Netherlands
PI: Dirk van Elsas
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Outcome: see publication 1 to 9

PRESENTATIONS

<i>Selected poster presentation, Midwestern Microbiome symposium</i>	2023
<i>Selected talk, US Department of Energy, 2023 Biological Systems Science Division Genomic Science Program (GSP) Annual Principal Investigator (PI)</i>	2023
<i>Selected poster presentation, US Department of Energy, 2023 Biological Systems Science Division Genomic Science Program (GSP) Annual Principal Investigator (PI)</i>	2023
<i>Invited Talk, Viromics workshop, The Ohio State University</i>	2022
<i>Selected poster presentation, US Department of Energy, 2021 Biological Systems Science Division Genomic Science Program (GSP) Annual Principal Investigator (PI)</i>	2022
<i>Selected poster presentation, US Department of Energy, 2020 Biological Systems Science Division Genomic Science Program (GSP) Annual Principal Investigator (PI)</i>	2021
<i>Selected poster presentation, AGU (Fall- Augustus meeting 2020)</i>	2020
<i>Contributed Talk, Viromics workshop, The Ohio State University, 2019</i>	2019
<i>Invited Talk, Netherlands Institute of Ecology (NIOO-KNAW)</i>	2018
<i>Invited Talk, University of Groningen, Department of Genetics</i>	2018
<i>Invited Talk, University of Groningen, Genomics Research in Ecology & Evolution in Nature</i>	2018
<i>Selected poster presentation, Virus of Microbe conference in Wrocław, Poland</i>	2018
<i>Selected poster presentation, ISME17, Leipzig, Germany</i>	2018
<i>Contributed Talk, Viromics workshop, The Ohio State University</i>	2017
<i>Selected poster presentation, European Society of Evolutionary Biology Congress, Groningen, The Netherlands</i>	2015
<i>Invited Talk, The 6th of annual join conference of Asia University and China Medical University, Taiwan</i>	2013
<i>Invited Talk, The annual conference of plant pathology and virology society, Taiwan</i>	2010

GRANTS AND SCHOLARSHIPS

- The Indonesia Endowment Fund for Education for Doctoral study (4 years full grant, all expenses covered; > 70K - €100K) 2014-2018
- 2011-2013
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- Scholarship for Master program, Taiwan (2 years full grant, all expenses covered) 2010
- Scholarships for overseas aid from Indonesian Ministry of Education (USD 900)

AWARDS

- Travel grant for viromics workshop, Ohio State University, USA (USD 1,200) 2019
- Travel award for ISME17 Leipzig, 17th international symposium and microbial ecology, Germany (€ 300) 2018
- The Indonesia Endowment Fund for Education for Doctoral study, publication awards (~USD 3,000) 2018
- Accommodation award (six night) for European molecular of biology organization: Virus of Microbe conference in Wrocław, Poland 2018
- Travel grant for viromics workshop, Ohio State University, USA (USD 1,000) 2017

TEACHING EXPERIENCE

- Teaching assistant**, Microbiome science, The Ohio State University, Columbus, OH, USA 2022
- For 1 semester, ~ 10-15 graduate-level student
 - As a teaching assistant, I mentor assiduously and engage in active learning to discuss the cutting-edge scientific topics in microbiomes.
- Teaching assistant**, Microbiome informatics, The Ohio State University, Columbus, OH, USA 2020
- For 1 semester, ~10-15 graduate-level student
 - As a teaching assistant, I mentor and helped student with how to use bioinformatic tools to analyze meta-omics data and for their final assignment, I helped them developed their research ideas
- Guest teacher**, The University of Groningen 2016
- Giving a lecture about my Ph.D. research to graduate-level student (~10 students) and general theory of holobiont.
- English teacher**, Asia University (亞洲大學), Taiwan 2011-2013
- Teaching undergraduate level English conversation. This is part of my full-master scholarship.
- Laboratory assistant**, Bogor Agriculture University, Bogor, West Java, Indonesia 2007-2008
- Plant physiology course. Assisted ~30-40 undergraduate-level students. Helped and guided student to understand plant physiology theory using simple experimental setting.
 - Plant micro-technique course. Assisted ~30-40 undergraduate-level students. Helped and guided students to understand plant biology techniques to prepare micro-objects for study
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MENTORING & OUTREACH ACTIVITIES

STUDENT RESEARCH MENTORING

- Graduate Student mentor**, The Ohio State University, Columbus, OH 2021
- Supervising Carlos Owusu-Ansah during his graduate rotation program in physics
 - Worked with cyanophages project, developing an approach to identify novel cyanophages
 - Currently a Ph.D. candidate in the lab
- 2020
- Undergraduate Student mentor**, The Ohio State University, Columbus, OH 2020
- Supervising Romik Ghosh during his undergraduate program (Mathematical and data science)
 - Worked with cyanophage project, developing a mathematical approach to identify known cyanophages
- 2020
- Undergraduate Student mentor**, The Ohio State University, Columbus, Ohio 2020
- Supervising Cole Bagozzi during his undergraduate from Denison University
 - Worked with cyanophages project, analyzing metagenomics taxonomy and bioinformatics analysis
- 2020
- Graduate Student mentor**, The Ohio State University, Columbus, Ohio 2020
- Supervising John van Dusen during his graduate rotation program
 - Worked with cyanophages project, analyzing metagenomics taxonomy and bioinformatics analysis
- 2019
- Graduate Student mentor**, University of Groningen, The Netherlands, 2019
- Supervising Jurre Terpstra during his master program in University of Groningen
 - Published a review paper together (see publication no.10)
- 2017
- Undergraduate Student mentor**, University of Groningen, The Netherlands, ~2017
- Supervising Ties Ausman during his undergraduate program in University of Groningen
 - Now a lecture in Hanzehogeschool Groningen, The Netherlands
- 2017
- Undergraduate Student mentor**, University of Groningen, The Netherlands, ~2017
- Supervising Luna M. van der Loos during her undergraduate program in University of Groningen
 - Now a Ph.D. candidate in Ghent University, Belgium
- 2016
- Graduate Student mentor**, University of Groningen, The Netherlands, 2016
- Supervising Nancy Obeng during her top master program in University of Groningen
 - Published a review paper together (see publication no.1)
 - Now a postdoctoral fellow in Christian-Albrechts-Universität zu Kiel
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ADDITIONAL PROFESSIONAL TRAININGS

- **How to Write a Diversity Statement**, 2021
Career development training from The Office of Postdoctoral Affairs of The Ohio State University
- **The National Science Foundation (NSF) - funded EMergent Ecosystem Responses to ChanGE (EMERGE) workshops**, 2020, 2021, 2022, 2023
National Science (NSF)-funded training
- **VirSoil workshop**, 2020
Department of Energy (DOE)-funded training
- **Viromics workshop**, 2017, 2019, 2022

OUTREACH ACTIVITIES

- [COSI - Center of Science and Industry](#), Columbus, OH, USA 2022
The largest STEM event in the nation. COSI is #1 science museum in the United States (2020) by *USA Today*.
- [URGE \(Unlearning Racism in Geoscience\) pod](#), The Ohio State University, Columbus, OH, USA 2021-2022
- Bogor Agricultural University**, Bogor, West Java, Indonesia 2019
Alumni talk
- Long Life Contribution Program**, Indonesia 2014
Community service to the underprivileged area in the suburban of area in Indonesia

PROFESSIONAL SERVICE & SOCIETIES

- Conference volunteer** 2017
[European Society of Evolutionary Biology Congress](#), Groningen, The Netherlands
- Manuscript review**
ISME J, mSystem, viruses, Nature Communication
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