

CURRICULUM VITAE

Name : **Pradiptajati Kusuma**
Date of Birth : Surabaya (Indonesia), 4 May 1989
Occupation : Post-Doctoral Research Fellow
Email : pradipta@mrinstitute.org; pradiptajati.kusuma@gmail.com
Education : 1. Bachelor Degree (B.Sc.) in Biological Science, Bandung Institute of Technology, Bandung, Indonesia (2010)
2. Master Degree (M.Biomed.) in Biomedical Science, University of Indonesia, Jakarta, Indonesia (2013)
3. Doctoral Degree (Ph.D.) in Biological Anthropology, Université de Toulouse, Toulouse, France (2017)
Research Interest : Population genetics, Human genetics, Complex adaptive system
Languages : Bahasa Indonesia (native), Javanese (native), English (fluent), French (basic)
Programming Lang : Bash/Shell, R, Perl

Current and Past Appointments

Research

1. Post-Doctoral Research Fellow (Jan 2022 – present), Division of Human Genome Diversity and Diseases, Mochtar Riady Institute for Nanotechnology, Tangerang, Indonesia
2. Post-Doctoral Research Fellow (Nov 2017 – Dec 2021), Laboratory of Human Genome Diversity and Diseases. Eijkman Institute for Molecular Biology, Jakarta, Indonesia
3. Research Fellow (Aug 2019 – Jul 2020), Complexity Institute, and School of Physics and Mathematical Sciences. Nanyang Technological University, Singapore
4. Visiting Research Fellow (Apr 2018 – Jun 2018), Complexity Institute. Nanyang Technological University, Singapore
5. Research Assistant (Dec 2010 – Feb 2014), Laboratory of Human Genome Diversity and Diseases. Eijkman Institute for Molecular Biology, Jakarta, Indonesia

Teaching

1. Adjunct Lecturer – Introduction to Population Genetics (Feb 2018 – present), Department of Biomedical Sciences, Faculty of Medicine, University of Indonesia, Jakarta, Indonesia

Current and Past Research

1. Comparative functional genomics and microbiomes in lifestyle transition of Borneo indigenous hunter-gatherer communities. PI: **P. Kusuma** (Eijkman Institute), Supervisors: IG. Romero (Uni of Melbourne), SG. Malik, H. Sudoyo (Eijkman Institute). 2022 – 2025

2. Understanding Indonesia's genetic diversity and searching for novel, disease-associated genetic variants. PI: H. Sudoyo (Eijkman Institute), Co-PIs: SG. Malik, **P. Kusuma** (Eijkman Institute), Kaja Wasik (Variant Bio). 2022 – 2024
3. Movement networks and genetic evolution among tropical hunter-gatherers of Island Southeast Asia. PI: GS. Jacobs (Uni of Cambridge), Co-PIs: SG. Malik, H. Sudoyo (Eijkman Institute). 2021 – 2025
4. Genetic legacy, history, and adaptation of the Bornean last hunter-gatherers. PI: **P. Kusuma** (Eijkman Institute), Co-PIs: JS. Lansing (Santa Fe Institute), GS. Jacobs (Uni of Cambridge), H. Sudoyo (Eijkman Institute). 2018 – 2021
5. Exploring the architecture of gene expression in rural Indonesian populations. PI: IG. Romero (Uni of Melbourne), Co-PIs: Herawati Sudoyo, (Eijkman Institute). MP. Cox (Uni of Massey). 2018 – 2021
6. Modeling the effects of social processes on demography and lifestyle diseases. PI: LY. Chew (NTU), JS. Lansing (Santa Fe Institute), Co-PIs: GS. Jacobs (NTU, Uni of Cambridge), **P. Kusuma** (Eijkman Institute). 2019 – 2020
7. Co-Evolution of humans and infectious diseases in Island Southeast Asia. PI: JS. Lansing (NTU, Santa Fe Institute), Co-PIs: GS. Jacobs (NTU, Uni of Cambridge), H. Sudoyo (Eijkman Institute), **P. Kusuma** (NTU, Eijkman Institute). 2017 – 2019
8. In search of Asian Malagasy's Ancestors in Indonesia. PI: FX. Ricaut (Uni of Toulouse), Co-PIs: H. Sudoyo, **P. Kusuma** (Eijkman Institute). 2013 – 2017
9. Genetic history of North Maluku population in Indonesia. PI: H. Sudoyo, Co-PI: **P. Kusuma** (Eijkman Institute). 2011 – 2013

Awards and Academic Achievements

Grants

1. Wellcome-Trust's International Training Fellowship. *Comparative functional genomics and microbiomes in lifestyle transition of Borneo indigenous hunter-gatherer communities*. PI: P. Kusuma (Eijkman Institute). 2022-2025
2. Research Fellowship, Nanyang Technological University, Singapore. *Modeling the effects of social processes on demography and lifestyle diseases*. PI: LY. Chew (SPMS NTU), Research Fellow: P. Kusuma (Eijkman Institute). 2019 – 2020
3. National Geographic Explorer Grant. *Genetic legacy of the last hunter-gatherers in Borneo*. PI: P. Kusuma (Eijkman Institute/Complexity Institute NTU). 2019 – 2021
4. Complexity Institute Individual Research Fellowship, Nanyang Technological University, Singapore. PI: P. Kusuma (Complexity Institute NTU). Apr 2018 – Jun 2018

Academic Achievements

1. Student Award, 1st Asia Evolution Conference. Shenzhen, China. Apr 2018
2. Scholarship award for Doctoral Study from Indonesian Ministry of Education, Indonesia, and French Ministry of Foreign Affairs, France. Feb 2014 – Sept 2017
3. Graduated from Master Program in Biomedical Science, Faculty of Medicine, University of Indonesia, with mention: Very Good. Feb 2013

4. Scholarship award for Master Study from Indonesian Ministry of Education, Indonesia. Jan 2011 – Feb 2013
5. Graduated from Bachelor Program in Biological Science, School of Life Science and Technology, Bandung Institute of Technology, with mention: Cum Laude. Oct 2010
6. Scholarship award for Undergraduate Study from Indonesian Ministry of Education, Indonesia. Jul 2006 – Oct 2010

Publication and Communications to Learned Societies

Theses

1. Doctoral Thesis:
In search of Asian Malagasy's Ancestors in Indonesia
2. Master Thesis:
Study of North Maluku Genetic Background Using Mitochondrial DNA
3. Undergraduate Thesis:
Molecular Identification of Flesh Flies Larvae (Diptera: *Sarcophagidae*) in Jakarta Using CO-I DNA Barcode

Publications (ORCID ID: 0000-0002-9722-4048)

1. Bobowik, K., C.C. Darusallam, **P. Kusuma**, H. Sudoyo, C.A. Febinia, S.G. Malik, C. Wells, and I.G. Romero. 2022. The whole blood microbiome of Indonesians reveals that environmental differences shape immune gene expression signature. bioRxiv preprint. doi: 10.1101/2022.04.24.489025
2. Lansing, J.S., G.S. Jacobs, S.S. Downey, P.K. Norquest, M.P. Cox, S.L. Kuhn, J.H. Miller, S.G. Malik, H. Sudoyo and **P. Kusuma**. 2022. Deep ancestry of collapsing networks of nomadic hunter-gatherers in Borneo. *Evolutionary Human Sciences* 4:e9. doi: 10.1017/ehs.2022.3
3. **Kusuma, P.**, N. Brucato, M.P. Cox, C. Nuraini, T. Letellier, P. Grangé, H. Sudoyo and F.-X. Ricaut. 2021. A Genomic Perspective of the Origin and Dispersal of the Bajo Sea Nomads in Indonesia. In B. Bellina, R. Blench and J.-C. Gallipaud, *Sea Nomads' Past*. National University of Singapore Press: Singapore.
4. Natri H.M., G. Hudjashov, G.S. Jacobs, **P. Kusuma**, L. Saag, C.C. Darusallam, M. Metspalu, H. Sudoyo, M.P. Cox, I.G. Romero, N.E. Banovich. 2021. Genetic architecture of gene regulation in Indonesian populations identifies QTLs associated with global and local ancestries. *American Journal of Human Genetics*. S0002-9297(21)00437-7. doi: 10.1016/j.ajhg.2021.11.017
5. Natri H.M., K.S. Bobowik, **P. Kusuma**, C.C. Darusallam, G.S. Jacobs, G. Hudjashov, J.S. Lansing, H. Sudoyo, N.E. Banovich, M.P. Cox, I.G. Romero. 2020. Genome-wide DNA methylation and gene expression patterns reflect genetic ancestry and environmental differences across the Indonesian archipelago. *PLoS Genetics*. 16(5): e1008749. doi: 10.1371/journal.pgen.1008749

6. Jacobs G.S., G. Hudjashov, L. Saag, **P. Kusuma**, C.C. Darusallam, D.J. Lawson, M. Mondal, L. Pagani, F.-X. Ricaut, M. Stoneking, M. Metspalu, H. Sudoyo, J.S. Lansing, M.P. Cox. 2019 Multiple deeply divergent Denisovan ancestries in Papuans. *Cell*. 177(4):1010-1021.e32. doi: 10.1016/j.cell.2019.02.035
7. Brucato, N., V. Fernandes, **P. Kusuma**, V. Černý, C.J. Mulligan, P. Soares, T. Rito, C. Besse, A. Boland, J.-F. Deleuze, M.P. Cox, H. Sudoyo, M. Stoneking, L. Pereira and F.-X. Ricaut. 2019. Evidence of Austronesian genetic lineages in East Africa and South Arabia: complex dispersal from Madagascar and Southeast Asia. *Genome Biology and Evolution*. 11(3):748-758. doi: 10.1093/gbe/evz028
8. Brucato N., V. Fernandes, S. Mazières, **P. Kusuma**, M.P. Cox, J.W. Ng'ang'a, M. Omar, M-C. Simeone-Senelle, C. Frassati, F. Alshamali, B. Fin, A. Boland, J-F. Deleuze, M. Stoneking, A. Adelaar, A. Crowther, N. Boivin, L. Pereira, P. Bailly, J. Chiaroni, F-X. Ricaut. 2018. The Comoros Show the Earliest Austronesian Gene Flow into the Swahili Corridor. *American Journal of Human Genetics*. 102(1): 58-68. doi: 10.1016/j.ajhg.2017.11.011
9. **Kusuma, P.**, N. Brucato, M.P. Cox, T. Letellier, A. Manan, C. Nuraini, P. Grangé, H. Sudoyo, F.-X Ricaut. 2017. The Last Sea Nomads of the Indonesian Archipelago: Genomic Origins and Dispersal. *European Journal of Human Genetics*. 25:1004–1010. doi: 10.1038/ejhg.2017.88
10. Brucato, N., **P. Kusuma**, P. Beaujard, H. Sudoyo, M.P. Cox and F.-X. Ricaut. 2017. Genomic Admixture Tracks Pulses of Economic Activity over 2,000 Years in the Indian Ocean Trading Network. *Scientific Reports*. 7:2919. doi:10.1038/s41598-017-03204-y
11. Pierron D., M. Heiske, H. Razafindrazaka, I. Rakoto, N. Rabetokotany, B. Ravololomanga, L. M-A Rakotozafy, M.M. Rakotomalala, M. Razafiarivony, B. Rasoarifetra, et al. (including **P. Kusuma**). 2017. Genomic landscape of human diversity across Madagascar. *Proc. Nat. Acad. U.S.A.* 114:E6498-E6506. doi:10.1073/pnas.1704906114
12. Skoglund, P., C. Posth, K. Sirak, M. Spriggs, F. Valentin, S. Bedford, G.R. Clark, C. Reepmeyer, F. Petchey, D. Fernandes, Q. Fu, E. Harney, M. Lipson, S. Mallick, M. Novak, et al. (including **P. Kusuma**). 2016. Genomic Insights into the Peopling of the Southwest Pacific. *Nature*. 538: 510-513. doi:10.1038/nature19844
13. Brucato, N.*, **P. Kusuma***, M.P. Cox, D. Pierron, G. Purnomo, T. Letellier, T. Kivisild, A. Adelaar, H. Sudoyo and F.-X. Ricaut. 2016. Malagasy Genetic Ancestry Comes from an Historical Malay Trading Post in Southeast Borneo. *Molecular Biology and Evolution*. 33: 2396-2400. doi: 10.1093/molbev/msw117
14. **Kusuma, P.**, N. Brucato, M.P. Cox, D. Pierron, H. Razafindrazaka, A. Adelaar, H. Sudoyo, T. Letellier and F.-X. Ricaut. 2016. Contrasting Linguistic and Genetic Influences during the Austronesian Settlement of Madagascar. *Scientific Reports*. 6: 26066. doi: 10.1038/srep26066
15. Mörseburg A., L. Pagani, F-X Ricaut, B. Yngvadottir, E. Harney, C. Castillo, T. Hoogervorst, T. Antao, **P. Kusuma**, N. Brucato, A. Cardona, D. Pierron, T. Letellier, J. Wee, S. Abdullah, M. Metspalu, T. Kivisild. 2015. Multi-Layered Population Structure in Island Southeast Asians. *European Journal of Human Genetics*. 24: 1605-1611. doi: 10.1038/ejhg.2016.60

16. **Kusuma, P.**, M.P. Cox, N. Brucato, H. Sudoyo, T. Letellier and F.-X. Ricaut. 2015. Western Eurasian Genetic Influences in the Indonesian Archipelago. *Quaternary International*. 416: 243-248. doi: 10.1016/j.quaint.2015.06.048
17. **Kusuma, P.**, M.P. Cox, D. Pierron, H. Razafindrazaka, N. Brucato, L. Tonasso, H.L. Suryadi, T. Letellier, H. Sudoyo and F.-X. Ricaut. 2015. Mitochondrial DNA and the Y Chromosome Suggest the Settlement of Madagascar by Indonesian Sea Nomad Populations. *BMC Genomics*. 16: 191. doi: 10.1186/s12864-015-1394-7
18. Karmin, M., L. Saag, M. Vicente, M.A.W. Sayres, M. Järve, U.G. Talas, S. Rootsi, A.-M. Ilumäe, R. Mägi, M. Mitt, L. Pagani, T. Puurand, Z. Faltyskova, F. Clemente, A. Cardona, et al. (including **P. Kusuma**). 2015. A Recent Bottleneck of Y Chromosome Diversity Coincides with a Global Change in Culture. *Genome Research*. 25: 459-466. doi: 10.1101/gr.186684.114

Conferences

1. **Kusuma P**, Jacobs GS, Cox MP, Sudoyo H, Lansing JS. Genetic legacy of the last hunter-gatherer group in Borneo. *Abstract to the 13th Asia Pacific Conference of Human Genetics*. Manila, The Philippines, Nov 2019. Poster presentation
2. **Kusuma P**, Brucato N, Cox MP, Letellier T, Grangé P, Sudoyo H, Ricaut F-X. The Indonesian sea-nomad: Origin, dispersal, and adaptation. *Abstract to the 1st Asia Evolution Conference*. Shenzhen, China, Apr 2018. Oral presentation
3. **Kusuma P**. In search of Asian genetic ancestors of the Malagasy in Indonesia. *The 6th International Eijkman Conference*. Jakarta, Indonesia, Aug 2017. Invited speaker
4. **Kusuma P**, Brucato N, Cox MP, Letellier T, Grangé P, Sudoyo H, Ricaut F-X. The last sea nomads of the Indonesian archipelago: Genomic origins and dispersal. *Abstract to the 6th Conference on DNA Polymorphisms in Human Populations*. National History Museum, Paris, France, Nov 2016. Oral presentation
5. Brucato N, **Kusuma P**, Pierron D, Letellier T, Sudoyo H, Cox MP, Ricaut F-X. Genetic legacy of the Indian Ocean trading network. *Abstract to the 6th Conference on DNA Polymorphisms in Human Populations*. National History Museum, Paris, France, Nov 2016. Poster and oral presentation
6. **Kusuma P**, Brucato N, Cox MP, Pierron D, Grangé P, Leavesley M, Gessain A, Letellier T, Sudoyo H, Ricaut F-X. The Austronesian dispersal over the Indo-Pacific region. *Abstract to the International Symposium on Austronesian Diaspora*. Bali, Indonesia, Jul 2016. Poster presentation
7. Brucato N, **Kusuma P**, Cox MP, Razafindrazaka H, Pierron D, Letellier T, Sudoyo H, Ricaut FX. À la recherche de l'ancêtre Asiatique de Malgache en Indonésie. *Abstract to the 32^{ème} Colloque du Groupement des Anthropologistes de Langue Française*. Toulouse, France, Jun 2016. Oral presentation
8. **Kusuma P**, Brucato N, Cox MP, Pierron D, Grangé P, Leavesley M, Gessain A, Letellier T, Sudoyo H, Ricaut F-X. The Austronesian dispersal over the Indo-Pacific region. *Abstract to the 4th Toulouse Economics and Biology Workshop. Evolution: Transmission Mechanisms, Population Structure*. Toulouse, France, May 2016. Poster presentation

9. **Kusuma P.** Malagasy genetic ancestry comes from an historical Malay trading post in Southeast Borneo. *Journée Axe Transversal «Biology-Culture». AMIS Lab.* Toulouse, France, May 2016. [Oral presentation](#)
10. **Kusuma P**, Cox MP, Brucato N, Razafindrazaka H, Pierron D, Letellier T, Sudoyo H, Ricaut F-X. Austronesian westward expansion : Settlement of Madagascar by Indonesian sea nomad groups. *Abstract to 15th International Conference of the European Association of Southeast Asian Archaeologists.* Nanterre, France, Jul 2015. [Oral presentation](#)
11. **Kusuma P**, Cox MP, Brucato N, Razafindrazaka H, Pierron D, Letellier T, Sudoyo H, Ricaut F-X. In search of Malagasy's ancestor in Indonesia. *Abstract to 9th ISABS Conference on Forensic and Anthropologic Genetics and Mayo Clinic Lectures in Individualized Medicine.* Bol, Croatia, Jun 2015. [Oral presentation](#)
12. **Kusuma P**, Cox MP, Razafindrazaka H, Pierron D, Letellier T, Sudoyo H, Ricaut F-X. Austronesian westward expansion : settlement of Madagascar by Indonesian sea nomad groups. *Abstract to Journées de l'École Doctorale BSB, Université de Toulouse.* Toulouse, France, Apr 2015. [Oral presentation](#)
13. **Kusuma P**, Cox MP, Razafindrazaka H, Pierron D, Letellier T, Sudoyo H, Ricaut F-X. Austronesian westward expansion : Ma'anyan Indonesian groups and the settlement of Madagascar. *Abstract to XVII UISPP Congress.* Burgos, Spain, Sep 2014. [Oral presentation](#)
14. Sudoyo H*, **Kusuma P***, Suryadi HL. Molecular Anthropological Study of the Dayak Ma'anyan: In Search of the Malagasy Origin. *Abstract to 20th IPPA Congress.* Seam Reap, Cambodia, Jan 2014. [Oral presentation](#)
15. **Kusuma, P.** Mitochondrial DNA and modern human migration: cases from population of Indonesia archipelago. *Abstract to 3rd Asian Workshop on Genomics and Community Genetics.* Dehradun (India), Nov 2011. [Oral presentation](#)
16. Megawati AAD*, **Kusuma P***, Purnomo GA, Harahap AR, Setianingsih I, Sudoyo H. Does distribution of Southeast Asian Ovalocytosis reflect Austronesian dispersal? : A study of North Maluku and North Sumatran population. *Abstract to 5th International Eijkman Conference.* Jakarta (Indonesia), Nov 2011. [Oral presentation](#)