

# Jonathon C. O. Mifsud

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PhD Student • School of Medical Sciences • University of Sydney  
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Education	<b>The University of Sydney</b> NSW, Australia	
	PhD, School of Medical Sciences	Jun 2021 - Present
	▪ Supervisor: Edward C. Holmes	
	▪ Co-supervisor: Erin Harvey	
	<b>Macquarie University</b> NSW, Australia	
	Master of Research, Biological Sciences	2021
	▪ Thesis: Explorations of the plant virosphere	
	▪ Mark: 92/100	
	▪ Supervisor: Rachael V. Gallagher	
	▪ Co-supervisor: Jemma L. Geoghegan	
	Bachelor of Advanced Science, Biology	2018
Grants and Scholarships	Australian Government Research Training Program Stipend, University of Sydney	2022 - Present
	Postgraduate Research Support Scheme, University of Sydney (\$1000)	2024
	Postgraduate Research Support Scheme, University of Sydney (\$2796)	2022
	Postgraduate Research Scholarship in Virus Ecology and Evolution, University of Sydney	2021-2022
	William Macleay Microbiology Research Fund (\$1,500), Linnean Society of NSW	2020
	RTP Master of Research Stipend, Macquarie University	2019-2020
Professional Experience	<b>Research Assistant</b>	
	Phylagen, Inc	2021
	Hawkesbury Institute for the Environment, Western Sydney University	2021
	GenIMPACT, Macquarie University	2020
	Plant Ecology & Conservation Lab, Macquarie University	2019-2020
Presentations	<b>Invited talks/seminars</b>	
	Exploring the Flaviviridae: from virus discovery to phylogenetics and structural prediction, University of Glasgow	2024
	Mining RNA viruses across the plant kingdom, Verena Lighthouse Lightning Talk Series (virtual)	2023
	<b>Contributed talks</b>	
	Mapping glycoprotein structure reveals Flaviviridae evolutionary history, ViBioM, Leuven Belgium	2024
	Identification of a novel papillomavirus from a New Zealand fur seal with oral papilloma-like lesions, MicroSeq (virtual)	2023


	Transcriptome mining extends the host range of the Flaviviridae to the basal Metazoa, Wellcome Virus Genomics and Evolution	2022
	<b>Posters</b>	
	Insights from small scale transcriptome mining projects in Eukaryotes	2023
	The RdRp Summit (virtual)	
	Mining public plant transcriptomes to reveal a diverse plant virosphere	2020
	Wellcome Genome Informatics Conference (virtual)	
	Explorations of the plant virosphere	2020
	Ecological Society of Australia 60th Anniversary Conference (virtual)	
Honors and Awards	Australian Society for Microbiology Award for Best Lightning Talk	2023
	Executive Dean's Commendation for Academic Excellence in Year 2 MRES	2021
	Year 1 Biology prize for the best MRES Biology student overall	2019
	Macquarie University Merit List	2019
	300 Level Biology Prize for the best student overall	2018
Teaching and Service	<b>Teaching</b>	
	Peer Assisted Learning, Macquarie University	2017-2018
	BIOL 115: Genes to Organisms	
	BIOL 122: Biological Basis of Behaviour	
	<b>Outreach</b>	
	Big Picture, Sydney Secondary College, Balmain, NSW, Australia	2023
	<b>Workshops</b>	
	Macquarie University R-Users Group Committee	2020
	Hosted and presented workshops and help sessions on Introductory R topics	
	<b>Journal Reviewing</b>	
	PLOS One, Archives of Virology	
Publications	Charon, J., Olendraite, I., Forgia, M., Chong, L. C., Hillary, L. S., Roux, S., ..., Tahzima, R., et al. (2024). Consensus statement from the first rdrp summit: Advancing rna virus discovery at scale across communities. <i>Frontiers in Virology</i> , 4, 1371958.	
	Costa, V. A., Bellwood, D. R., Mifsud, J. C. O., Geoghegan, J. L., Harvey, E., & Holmes, E. C. (2024). Limited transmission of microbial species among coral reef fishes from the great barrier reef, australia. <i>bioRxiv</i> . doi: <a href="https://doi.org/10.1101/2024.02.24.581894">10.1101/2024.02.24.581894</a> .	
	Costa, V. A., Ronco, F., Mifsud, J. C. O., Harvey, E., Salzburger, W., & Holmes, E. C. (2024). Host adaptive radiation is associated with rapid virus diversification and cross-species transmission in african cichlid fishes. <i>Current Biology</i> , 34(6), 1247–1257.	
	Mifsud, J. C. O., Lytras, S., Oliver, M. R., Toon, K., Costa, V. A., Holmes, E. C., & Grove, J. (2024). Mapping glycoprotein structure reveals defining events in the evolution of the flaviviridae. <i>Nature</i> , <i>accepted in proof</i> .	
	Petrone, M. E., Grove, J., Mifsud, J. C. O., Parry, R. H., Marzinelli, E. M., & Holmes, E. C. (2024). A 39.8 kb flavi-like virus uses a novel strategy for overcoming the rna virus error threshold. <i>bioRxiv</i> .	

- Sadiq, S., Harvey, E., Mifsud, J. C. O., Minasny, B., McBratney, A. B., Pozza, L. E., ... Holmes, E. C. (2024). Australian terrestrial environments harbour extensive rna virus diversity. *Virology*, 110007.
- Costa, V. A., Bellwood, D. R., Mifsud, J. C. O., Van Brussel, K., Geoghegan, J. L., Holmes, E. C., & Harvey, E. (2023). Limited cross-species virus transmission in a spatially restricted coral reef fish community. *Virus Evolution*, 9(1).
- Gallagher, R. V., Allen, S. P., Govaerts, R., Rivers, M. C., Allen, A. P., Keith, D. A., ... Adams, V. M. (2023). Global shortfalls in threat assessments for endemic flora by country. *Plants People Planet*, 5(6), 885–898.
- Harvey, E., Mifsud, J. C. O., Holmes, E. C., & Mahar, J. E. (2023). Divergent hepaciviruses, delta-like viruses, and a chu-like virus in australian marsupial carnivores (dasyurids). *Virus Evolution*, 9(2). doi:[10.1093/ve/vead061](https://doi.org/10.1093/ve/vead061).
- Mifsud, J. C. O., Costa, V. A., Petrone, M. E., Marzinelli, E. M., Holmes, E. C., & Harvey, E. (2023). Transcriptome mining extends the host range of the flaviviridae to non-bilaterians. *Virus Evolution*, 9(1). doi:[10.1093/ve/veac124](https://doi.org/10.1093/ve/veac124).
- Mifsud, J. C. O., Hall, J., Van Brussel, K., Rose, K., Parry, R. H., Holmes, E. C., & Harvey, E. (2023). Identification of a novel papillomavirus from a new zealand fur seal (*arctocephalus forsteri*) with oral papilloma-like lesions. *bioRxiv*. doi:[10.1101/2023.11.20.567757](https://doi.org/10.1101/2023.11.20.567757).
- Petrone, M. E., Parry, R., Mifsud, J. C. O., Van Brussel, K., Voorhees, I. E. H., Richards, Z. T., & Holmes, E. C. (2023). Evidence for an ancient aquatic origin of the rna viral order articulavirales. *Proceedings of the National Academy of Sciences*, 120(45). doi:[10.1073/pnas.2310529120](https://doi.org/10.1073/pnas.2310529120).
- Mifsud, J. C. O., Gallagher, R. V., Holmes, E. C., & Geoghegan, J. L. (2022). Transcriptome mining expands knowledge of rna viruses across the plant kingdom. *Journal of Virology*, 96(24). doi:[10.1128/jvi.00260-22](https://doi.org/10.1128/jvi.00260-22).
- Costa, V. A., Mifsud, J. C. O., Gilligan, D., Williamson, J. E., Holmes, E. C., & Geoghegan, J. L. (2021). Metagenomic sequencing reveals a lack of virus exchange between native and invasive freshwater fish across the murray–darling basin, australia. *Virus Evolution*, 7(1). doi:[10.1093/ve/veab034](https://doi.org/10.1093/ve/veab034).
- Geoghegan, J. L., Di Giallonardo, F., Wille, M., Ortiz-Baez, A. S., Costa, V. A., Ghaly, T., ... Holmes, E. C. (2021). Virome composition in marine fish revealed by meta-transcriptomics. *Virus Evolution*, 7(1). doi:[10.1093/ve/veab005](https://doi.org/10.1093/ve/veab005).
- Miller\*, A. K., Mifsud\*, J. C. O., Costa\*, V. A., Grimwood, R. M., Kitson, J., Baker, C., ... Geoghegan, J. L. (2021). Slippery when wet: Cross-species transmission of divergent coronaviruses in bony and jawless fish and the evolutionary history of the coronaviridae. *Virus Evolution*, 7(2). \* authors contributed equally. doi:[10.1093/ve/veab050](https://doi.org/10.1093/ve/veab050).

#### Books

- Antonelli, A., Fry, C., Smith, R. J., Eden, J., Govaerts, R. H. A., Kersey, P., ... Zuntini, A. R. (2023). State of the world's plants and fungi, 2023. *Royal Botanic Gardens, Kew*. doi:[10.34885/wnwn-6s63](https://doi.org/10.34885/wnwn-6s63).

#### Software

- BatchArtemisSRAMiner - Virus Discovery Pipeline [Shell and R app].  
doi:[10.5281/zenodo.8417950](https://doi.org/10.5281/zenodo.8417950)  
 [github.com/JonathonMifsud/BatchArtemisSRAMiner](https://github.com/JonathonMifsud/BatchArtemisSRAMiner)