

2022 Zuckerkandl Prize

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This year marks the fourth straight year that the reinstated Zuckerkandl Prize has been awarded. This is an award for the top paper published in the *Journal of Molecular Evolution* to appear in a print issue during the calendar year, as judged by a committee, in honor of Founding Editor Emile Zuckerkandl. The award committee initially consisted of Bui Quang Minh and Joana C. Silva. Because of a conflict of interest from one of the committee members and the Editor-in-Chief with one of the two finalist papers, David Alvarez-Ponce and Michelle Meyer were added as additional members of the committee to assist with a final selection.

Both papers that were selected as finalists showcase the use of problem-specific models to characterize sequence data in asking a fundamental biological question. The runner up paper is “Evolution of DNA Methylation Across Ecdysozoa” by Engelhardt et al. (2022), which presents a model to predict methylation patterns in different species based upon a mixture modeling approach applied to C, G, and CpG frequencies in protein-coding sequence data, and comparing predictions with presence/absence data for DNA methyltransferases. This is used to describe the evolution of methylation in ecdysozoan species, presenting a link between methylation patterns and species-specific enzymology.

The winner of the 2022 Zuckerkandl Prize is “Diversification Rate is Associated with Rate of Molecular Evolution in

Ray-Finned Fish (Actinopterygii)” by Ritchie et al. (2022). This paper uses a modeling approach to test an association between rates of molecular evolution and rates of species diversification, showing that there is indeed a positive correlation between the two. Previous work in the area has focused on the link between speciation rates and various ecological and life history traits. Combining the molecular link with other processes will ultimately enable a more process-driven understanding of the patterns of speciation and their genomic enabling. The *Journal of Molecular Evolution* is proud to congratulate the authors on this work and the award, which includes a US\$250 cash prize to the first author. The journal is proud to have published both papers in 2022 and looks forward to more outstanding submissions in 2023.

References

- Engelhardt J, Scheer O, Stadler PF, Prohaska SJ (2022) Evolution of DNA methylation across ecdysozoa. *J Mol Evol* 90(1):56–72. <https://doi.org/10.1007/s00239-021-10042-0>
- Ritchie AM, Hua X, Bromham L (2022) Diversification rate is associated with rate of molecular evolution in ray-finned fish (actinopterygii). *J Mol Evol* 90(2):200–214. <https://doi.org/10.1007/s00239-022-10052-6>

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