

## ANTONIS ROKAS, Ph.D. – Brief Curriculum Vitae

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### **BRIEF BIOGRAPHY:**

I hold the Cornelius Vanderbilt Chair in Biological Sciences and I am a Professor in the Departments of Biological Sciences and of Biomedical Informatics at Vanderbilt University. I also serve as the Director of the Vanderbilt Evolutionary Studies Initiative (<http://www.vanderbilt.edu/evolution>), an interdisciplinary center that unites scholars from diverse disciplines with broad interests and expertise in evolution-related fields. I received my undergraduate degree in Biology from the University of Crete, Greece (1998) and my PhD from Edinburgh University, Scotland (2001). Prior to joining Vanderbilt in the summer of 2007, I was a postdoctoral fellow at the University of Wisconsin-Madison (2002 – 2005) and a research scientist at the Broad Institute (2005 – 2007).

Research in my laboratory focuses on the study of the DNA record to gain insight into the patterns and processes of evolution. Through a combination of computational and experimental approaches, my laboratory's current research aims to understand the molecular foundations of the fungal lifestyle, the reconstruction of the tree of life, and the evolution of human pregnancy.

My team's research has been recognized by many awards, including a Searle Scholarship (2008), an NSF CAREER award (2009), and an endowed chair (2013). Most recently, I was named Blavatnik National Awards for Young Scientists Finalist (2017), Guggenheim Fellow (2018), Fellow of the American Academy of Microbiology (2019), and American Association for the Advancement of Science (AAAS) Fellow (2020).

### **CURRENT POSITIONS:**

Vanderbilt University, USA	Director, Evolutionary Studies Initiative	2019–present
Vanderbilt University, USA	Professor of Biological Sciences	2015–present
Vanderbilt University, USA	Professor of Biomedical Informatics	2015–present
Vanderbilt University, USA	Cornelius Vanderbilt Chair in Biological Sciences	2013–present

### **EDUCATION AND TRAINING:**

University of Crete, Greece	Biology	BS	1998
University of Edinburgh, UK	Evolutionary Biology	PhD	2001
University of Wisconsin, USA	Evolutionary Genomics	Postdoc	2002–2005

### **SELECT HONORS AND AWARDS:**

2020, Fellow of the American Association for the Advancement of Science  
2019, Fellow of the American Academy of Microbiology  
2018, Guggenheim Fellow in Molecular and Cellular Biology  
2018, Chair, Cellular & Molecular Fungal Biology, Gordon Research Conference  
2017, National Award Finalist, Blavatnik Awards for Young Scientists (US Competition)  
2009, CAREER Award, National Science Foundation  
2008, Searle Scholar Award, The Kinship Foundation  
2002, Human Frontier Science Program Long-Term Fellowship  
1998, Natural Environment Research Council Graduate Research Fellowship, UK

### **SELECT SERVICE:**

2016–present, Board of Reviewing Editors, *eLife*

2018–present, Advisory Board, *Current Biology*  
2018–present, Senior Editor, *Microbiology Resource Announcements*  
2011–present, Associate Editor, *G3: Genes|Genomes|Genetics*  
2015–present, Associate Editor, *BMC Genomics*

**TEN REPRESENTATIVE RECENT PUBLICATIONS (Rokas lab members in bold):**

1. **Rokas, A.** (2022). Evolution of the human pathogenic lifestyle in fungi. *Nature Microbiology* 7: 607-619
2. Steenwyk, J. L., M. A. Phillips, F. Yang, S. S. Date, T. R. Graham, J. Berman, C. T. Hittinger, & **A. Rokas** (2022). A gene coevolution network provides insight into eukaryotic cellular and genomic structure and function. *Science Advances* 8: abn0105
3. **Li, Y., J. L. Steenwyk,** Y. Chang, Y. Wang, T. Y. James, J. E. Stajich, J. W. Spatafora, M. Groenewald, C. W. Dunn, C. T. Hittinger, **X.-X. Shen<sup>^</sup>, & A. Rokas<sup>^</sup>** (2021). A genome-scale phylogeny of the kingdom Fungi. (<sup>^</sup>Senior authors) *Current Biology*: 31: 1653-1655
4. **Shen, X.-X.<sup>^</sup>,** Y Li, C. T. Hittinger, X. Chen, & **A. Rokas<sup>^</sup>** (2020). An investigation of irreproducibility in maximum likelihood phylogenetic inference. (<sup>^</sup>Senior authors) *Nature Communications* 11: 6096
5. **Steenwyk, J. L.\*,** **A. L. Lind\***, L. N. A. Ries, T. F. dos Reis, L. P. Silva, F. Almeida, R. W. Bastos, T. F. C. F. Silva, V. L. D. Bonato, A. M. Pessoni, F. Rodrigues, H. A. Raja, S. L. Knowles, N. H. Oberlies, K. Lagrou, G. H. Goldman<sup>^</sup>, & **A. Rokas<sup>^</sup>** (2020). Pathogenic allodiploid hybrids of *Aspergillus* fungi. (\*Equal contributors; <sup>^</sup>senior authors) *Current Biology* 30: 2495-2507
6. **LaBella, A. L.\*,** A. Abraham\*, Y. Pichkar, S. L. Fong, G. Zhang, L. J. Muglia, P. Abbot, **A. Rokas<sup>^</sup>,** & J. A. Capra<sup>^</sup> (2020). Accounting for diverse evolutionary forces reveals mosaic patterns of selection on human preterm birth loci. (\*Equal contributors; <sup>^</sup>senior authors) *Nature Communications* 11: 3731
7. **Steenwyk, J. L.,** D. A. Opulente, J. Kominek, **X.-X. Shen, X. Zhou, A. L. Labella,** N. P. Bradley, B. F. Eichman, N. Čadež, D. Libkind, J. DeVirgilio, A. B. Hulfachor, C. P. Kurtzman, C. Hittinger<sup>^</sup>, & **A. Rokas<sup>^</sup>** (2019). Extensive loss of cell cycle and DNA repair genes in an ancient lineage of bipolar budding yeasts. *PLoS Biology* 17: e3000255
8. **Shen, X.-X.\*,** D. A. Opulente\*, J. Kominek\*, **X. Zhou\*, J. L. Steenwyk,** K. V. Buh, M. A. B. Haase, **J. H. Wisecaver, M. Wang,** D. T. Doering, J. T. Boudouris, R. M. Schneider, Q. K. Langdon, M. Ohkuma, R. Endoh, M. Takashima, R. Manabe, N. Čadež, D. Libkind, C. A. Rosa, J. DeVirgilio, A. B. Hulfachor, M. Groenewald, C. P. Kurtzman, C. T. Hittinger<sup>^</sup>, & **A. Rokas<sup>^</sup>** (2018). Tempo and mode of genome evolution in the budding yeast subphylum. *Cell* 175: 1533-1545
9. **Rokas, A., J. H. Wisecaver, & A. L. Lind** (2018). The birth, evolution and death of metabolic gene clusters in fungi. *Nature Reviews Microbiology* 16: 731–744
10. **Shen, X.-X.,** C. T. Hittinger, & **A. Rokas** (2017). Contentious relationships in phylogenomic studies can be driven by a handful of genes. *Nature Ecology and Evolution* 1: 0126