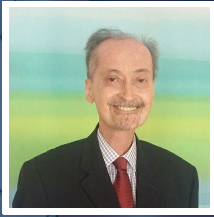


Immunophysics and Immunoengineering: Computational Approaches Meet Clinical Applications



Dimitrios Morikis
Professor, Bioengineering

CURRENT RESEARCH


Basic and applied research collide to improve immunology

Age-related macular degeneration (AMD) is a leading cause of vision loss in the US. Like many other autoimmune diseases, AMD has been a challenge to treat despite years of rigorous research. Dr. Dimitrios Morikis, Professor of Bioengineering at the University of California, Riverside, uses computational and experimental approaches for knowledge-based drug and biomarker discovery. He and his team target the complement system, a part of the immune system that is involved in nearly every autoimmune disease. Currently, there are only two FDA-approved drugs against the complement system, both being protein-based therapeutics and part of the list of the five most expensive drugs in the clinic. Therefore, there is a need for less expensive peptidic or small molecule drugs to target diseases that involve the complement system. Dr. Morikis' research can help meet that need through his well-established efforts against AMD which will lead to other suitable drugs for complement system-mediated diseases, including rare diseases.

For over twentyfive years, Dr. Morikis first has been elaborating on the field he created, immunophysics, or the study of the physical basis of immune system function and regulation and immunoengineering, or the use of immunophysics knowledge to design regulators and inhibitors of the immune system with tailored properties and functions. This approach has allowed him to actively translate computational approaches to clinical applications. His commitment to mentoring students, in addition to his many active collaborations in four continents, has propelled him to become a leader within his field. Dr. Morikis and his team develop and test mechanistic hypotheses to quantitatively understand structure...

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AFFILIATION

 University of California, Riverside

EDUCATION

- NIH Senior Postdoctoral Fellow, in Computational Chemistry, 1999-2001, University of California, San Diego
- Postdoctoral Fellow, in Structural Biology, 1990-1993, The Scripps Research Institute, La Jolla, CA
- Ph.D., in Physics, 1990, Northeastern University
- M.S., in Physics, 1985, Northeastern University
- B.S., in Physics, 1983, Aristotle University of Thessaloniki, Greece

AWARDS

- 2013, Carolyn K. McGillvray Memorial Award for Macular Degeneration Research, BrightFocus Foundation
- 2012, Chancellor's Award for Excellence in Undergraduate Research and Creative Achievement, University of California, Riverside
- 2011, OCEC (Orange County Engineering Council) Distinguished Engineering Educator Award
- 2008, AIMBE (American Institute for Medical and Biological Engineering) Fellow
- 2006, AAAS (American Association for the Advancement of Science) Fellow
- and 4 more...

RESEARCH AREAS

Life Science, Diagnostics, Immunology / Inflammatory, Infectious

FUNDING REQUEST

Your contributions will support the continued research of Dr. Dimitrios Morikis, of the University of California, Riverside to help accelerate research breakthroughs. Donations will fund the necessary \$200K/year required to support personnel, maintain computer infrastructure, purchase chemicals, and perform drug and biomarker testing. Help fight autoimmune and inflammatory diseases; support Dr. Dimitrios Morikis.