

## MMI 291 Seminar Series

Current Theme: Interdisciplinary Research  
Winter Quarter 2025 – CRN 30957

**Friday Seminar at 12:10-1 p.m.**

**Genome and Biomedical Sciences Facility, Room 1005**

### “Computational and machine learning approaches in genomics and early prediction of cancer”

#### Research Bio

Fereydoun Hormozdiari is an associate professor at the University of California, Davis (UC-Davis). His research background is in bioinformatics and computational biology with applications to the human genome and complex diseases such as autism and cancer. He has contributed to large-scale genomics projects such as the 1000 genomes project and the great ape genome project. He has been awarded the Solan Research Award and the NSF CAREER Award for his contributions to computational biology and genomics. His current research focuses on developing computational algorithms for genomics, designing machine learning approaches to study human health and diseases, and advancing cancer systems biology.

#### Publications

Hormozdiari F, Alipanahi B, Goodarzi H. “Deep generative AI models analyzing circulating orphan non-coding RNAs enable detection of early-stage lung cancer”. *Nat Commun*. 2024 Nov 21;15(1):10090. doi: 10.1038/s41467-024-53851-9. PMID: 39572521; PMCID: PMC11582319.

Denti L, Khorsand P, Bonizzoni P, Hormozdiari F, Chikhi R. “SVDSS: structural variation discovery in hard-to-call genomic regions using sample-specific strings from accurate long reads.” *Nat Methods*. 2023 Apr;20(4):550-558. doi: 10.1038/s41592-022-01674-1. Epub 2022 Dec 22. PMID: 36550274.

Tomkova M, Tomek J, Chow J, McPherson JD, Segal DJ, Hormozdiari F. “Dr.Nod: computational framework for discovery of regulatory non-coding drivers in tissue-matched distal regulatory elements”. *Nucleic Acids Res*. 2023 Feb 28;51(4):e23. doi: 10.1093/nar/gkac1251. PMID: 36625266; PMCID: PMC9976879.

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**Fereydoun Hormozdiari, Ph.D.**  
Associate Professor  
Biochemistry and Molecular Medicine  
University of California, Davis

**January 31, 2025  
12:10 – 1 p.m.**

**Genome and  
Biomedical  
Sciences Facility,  
Room 1005**

**In-person presentation**

**Medical Microbiology and  
Immunology  
School of Medicine**

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