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Pediatric Oncology and Clinical Pediatrics

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Guiding precision and personalized oncology using multiscale computational models

This talk will focus on clinical paradigms of oncogene driven tumors as well as tumors of the soft tissue and the importance of developing quantitative models in understanding disease progression, the effect of tumor microenvironment, while taking individual molecular profiles from patients into consideration. In contrast to data driven models which are statistical and extrapolative, we show the true predictive power of mechanistic models in uncovering patient response to disease progression and drug sensitivity in human cancers including the case of pediatric neuroblastoma.

Biography

Ravi Radhakrishnan is a Professor of Bioengineering, Biochemistry & Biophysics, and Chemical and Biomolecular Engineering at the University of Pennsylvania. His expertise is in chemical physics, statistical mechanics, and computational biology his laboratory is currently funded primarily by grants from US National Science Foundation, National Institutes of Health, and European Commission and focuses its research on the biophysics of single molecules and cell membranes and signaling mechanisms in cancer. Through his work, he has pioneered novel discovery platforms in in silico oncology and in silico pharmacology. Radhakrishnan and has authored over 100 articles in leading peer reviewed Journals and serves as a referee for over 50 leading journals, publishers, and federal funding agencies. He also serves as an editorial board member and associate editor for 5 journals, and also regularly serves as a Panelist and Study Section member for National Science Foundation, National Institutes of Health, and several Federal Science Foundations in the EU. Radhakrishnan is a Fellow of the American Institute of Medical and Biological Engineering.

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