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Mathematical exploits in experimental biology & personalized medicine

Gregory Forest

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Mathematical exploits in experimental biology & personalized medicine

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Abstract: This lecture will survey collaborations with experimentalists and clinical scientists that seek understanding of 3 fundamental questions. How does DNA organize and function inside living cells? How do antibodies in the reproductive tract, stomach, or lung protect against pathogens? Can one discern pulmonary health from clinical samples of airway mucus barriers? Stunning experimental advances provide previously inaccessible data that guides our mathematical exploits toward understanding these questions, interwoven with our biological and medical collaborators.