

Distinguished Lecture in Mathematical Biology

March 13th, 2019, Skye Hall 284

Coffee/Tea & Fruit/Pastries Served: 3:40 p.m., Lecture: 4:10 p.m.-5:00 p.m.

Dr. Sharon Lubkin



Professor of Mathematics

North Carolina State University, Adjunct Professor of Biomedical Engineering, NCSU/UNC

Surprises from modeling lung development

We have developed several models of the physical control of branching morphogenesis in the lung, considering a variety of factors, including transport, static lumen pressure, and dynamic pressure waves (peristalsis). How reasonable a model initially seems is not necessarily correlated with its explanatory power. In this talk, we will present a variety of continuous deterministic models of the early lung and its morphogenesis, and compare their implications.

Bio: Dr. Sharon Lubkin received her Ph.D. in applied mathematics, theoretical and applied mechanics from Cornell University in 1992. She spent one year as a visiting assistant professor at the University of Pittsburgh and she was a postdoctoral fellow in university of Washington after that. Dr. Lubkin was appointed as an assistant professor in North Carolina State University in 1997, where she is affiliated with the Center for Research in Scientific Computing and the Center for Quantitative Sciences in Biomedicine. Her research is partially funded by the Simons Foundation, National Science Foundation and National Institutes of Health. She was the SIAM representative to the Joint Committee on Women in Mathematics in 2017. She was Publications Chair of the Society for Mathematical Biology during 2004-2016 and also served on its Board of Directors during 1998-2002. Her advisees have been in various graduate programs: biomathematics, applied mathematics, biomedical engineering and mechanical engineering.