

# Mathematical insights into an emerging paradigm in biology

## Clifford Lectures, Nov 17-19, 2022 M. Gregory Forest, UNC-Chapel Hill

Thursday, November 17, 2022

3:30 – 4:30 pm LBC 203 Stibbs (Building #29)

[The power of many weak interactions](#)

M. Gregory Forest, UNC-Chapel Hill, Math

5:00 – 6:30 pm Cudd Hall (Building #8)

Friday, November 18, 2022

\*All talks Friday are in the **Goldring/Woldenberg Hall 280** (Building #39-40)

9:00 – 10:00 am

[Coupling macro-micro simulations in complex biological fluids](#)

Paula Vasquez, University of South Carolina, Math

10:00 – 10:30 am

[Complexities of intracellular Transport and the Cytoskeleton: Integration of Scales](#)

Keisha Cook, Clemson University, Math

10:30 – 11:15 am **Break** LBC Moses 211 (Building #29)

11:15 – 11:45 am

[Inferring the dynamics of RNA splicing from spatial snapshots](#)

Chris Miles, UC Irvine, Math

11:45 am – 12:15 pm

Shilpa Khatri, UC Merced, Math

[Numerical methods for fluid-structure interactions](#)

12:15 – 1:30 pm **LUNCH**

1:30 – 2:30 pm

Kerry Bloom, UNC-Chapel Hill, Biology

[Using polymer physics to study chromosome form and function](#)

2:30 – 3:30 pm **Break** LBC Moses 211 (Building #29)

3:30 – 4:30 pm

[Mathematical insights into respiratory tract infections with a focus on the COVID-19 pandemic](#)

M. Gregory Forest, UNC-Chapel Hill, Math

Saturday, November 19, 2022

**\*All talks Saturday are in LBC 203 Stibbs (Building #29)**

9:00 – 10:00 am

[Rapid and accurate assembly of the mitotic spindle](#)

Alex Mogilner, NYU, Math and Biology

10:00 – 10:30 am

[Modeling plug formation in films inside tubes: impact of surfactant and viscosity stratification.](#)

Reed Ogroosky, Virginia Commonwealth University, Math

10:30 – 11:00 am **Break**

11:00 – 12:00pm

[Bioinspired Design of Life-like Materials](#)

Ronit Freeman, UNC-Chapel Hill, Applied Physical Sciences

12:00 – 1:00 pm **LUNCH**

1:00 – 2:00pm

[Modeling and tracking random motion in micrometer-scale living systems](#)

Jay Newby, Mathematical and Statistical Sciences, University of Alberta, Canada

2:00 – 3:00 pm

[Mucus: Open mathematical problems surrounding Nature's fly paper](#)

M. Gregory Forest, UNC-Chapel Hill, Math