

DIPARTIMENTO DI MATEMATICA E APPLICAZIONI “R. CACCIOPPOLI”

PRIN2022 – Prot. 202248TY47 – MOMENTA – Modelling complex biological systems for biofuel production and storage: mathematics meets green industry, Finanziato dall'Unione europea – NextGenerationEU
CUP E53D23005430006

Seminario di Fisica Matematica

Mercoledì 16 Ottobre 2024, dalle ore 16:00 alle ore 18:00 presso l'Aula D, I Livello del Dipartimento di Matematica e Applicazioni “Renato Caccioppoli”, Università degli Studi di Napoli Federico II

il

Prof. Nick Cogan, Department of Mathematics, Florida State University, Tallahassee, FL, USA

terrà il seminario dal titolo:

Biofilm Rheology and Uncertainty

Biofilms - aggregates of bacteria collected in a self-produced matrix - have long been understood to have novel mechanical properties. These properties are fundamental determinants of the biofilm existence and persistence and are emergent as the biofilm dynamically responds to the local physical and chemical environment.

Relatively recent advances have been made concerning the structure of the biofilm matrix as well as the genetic regulators of the polymer constituents. We will discuss longitudinal rheological observations of mutant strains of biofilms aimed at understanding the role of different polymeric types within the biofilm matrix. From a mathematical perspective, we will discuss the parametric uncertainty as well as the forward uncertainty and some implications of this.

Gli organizzatori

Luigi Frunzo, Vincenzo Luongo e Maria Rosaria Mattei