

Seminari Informal de Matemàtiques de Barcelona

Speaker: Camilo Rey Torres.
Universitat: Universitat de Barcelona.

Data: Dimecres, 6 de Juny.
Horari: 11:15.
Lloc: Aula T1, Facultat de Matemàtiques de la UB.
Idioma: Castellano.

Títol: Topological Operators for Partial Differential Equation Modeling.

Abstract: In matters of Computational Simulation, Continuous models seem invariably affected by issues that compromise their quality (accuracy), cost (machinewise), and time-complexity. Currently used methods can attack some of these issues, but fail to provide a rationale to study their nature and entanglements, showcasing an epistemological problem within Computer Sciences, a fracture between mathematics and computation, and a gap between software engineers and scientists. Under the right mindset, algebraic topology provides a solid foundation on which to redefine the notion of differentiability in a natural fashion for computer scientists, shedding a new light over the pervasiveness of the quality-time-cost entanglement.

With this in mind, the Discrete First Approach is an attempt to generalize two non-mainstream simulation techniques for continuous models, where the rigor of classical computer sciences is maintained, while at the same time enriched by the introduction of a formal treatment of some elements of algebraic topology, that promises a restatement of differential constructions in a computational setting, compliant with standards and practices of algorithm design and Software engineering.

Qui som? El SIMBa és un seminari jove organitzat pels estudiants de doctorat de les Facultats de Matemàtiques i Informàtica de Barcelona. Està dirigit a estudiants de doctorat, de màster i, fins i tot, dels darrers cursos de grau. El nostre objectiu és donar a conèixer la recerca que estem fent, així com adquirir coneixements d'altres àrees de les matemàtiques diferents de les pròpies.