

Intensive Research Period  
May – July 2011

# KNOTS & APPLICATIONS



## Workshop Differential Geometry and Parametrization of 3D Knots 28-29 June, 2011

Mathematical Research Centre (CRM) “Ennio De Giorgi”  
Scuola Normale Superiore – Pisa, Italy

URL: <http://www.crm.sns.it/hpp/events/event.html?id=146>

There has been much progress understanding the geometry of "physical" knots in the two decades since Lou Kauffman poetically described the essence of this topic:

“Unlike the classical machine that is composed of well-defined parts that interact according to well-understood rules (gears and cogs), the sliding interaction of two ropes under tension is extraordinary and interactive, with tension, topology, and the system providing the form which finally results.” (*Knots and Physics*, 1992).

Not only do ropes serve as the basic physical inspiration for natural geometric problems for knots and links, but so do bands, ribbons, fluids and other elastic or electromagnetic materials. This workshop will explore the recent progress in and prospects for this field.

### Invited Speakers

Ryan Budney, U. Victoria, Canada  
Jason Cantarella\*, U. Georgia, USA  
Yuanan Diao, U. North Carolina at Charlotte, USA  
Joseph Fu, U. Georgia, USA  
Robert Kusner, U. Massachusetts at Amherst, USA  
Joel Langer, Case Western U., USA  
Jun O’Hara\*, Tokyo Metropolitan U., Japan  
Pawel Strzelecki, Warsaw U., Poland  
John Sullivan, Technical U. Berlin, Germany  
Heiko von der Mosel, RWTH Aachen U., Germany

\* To be confirmed

Participants wishing to contribute a short talk are encouraged to submit title and abstract to [profkusner@gmail.com](mailto:profkusner@gmail.com) and [renzo.ricca@unimib.it](mailto:renzo.ricca@unimib.it). The local expenses of speakers will be covered by the organization. Young participants can apply for financial support, even if they are not submitting a talk.

**Registration:** Required via the website above.

**Financial support:** Prospective participants should seek grant/university support towards travel expenses. Limited funding towards participant local expenses may be provided by CRM and INdAM upon application. Participants seeking support should send their CV and list of publications to [profkusner@gmail.com](mailto:profkusner@gmail.com) and [renzo.ricca@unimib.it](mailto:renzo.ricca@unimib.it), before **13 April, 2011**.