

Intensive Research Period  
May – July 2011

# KNOTS & APPLICATIONS

Pedagogical School  
Knots and Links: from Theory to Applications  
2-13 May, 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>



Knot theory, rooted in the seminal works of Peter Guthrie Tait and Lord Kelvin, has always greatly benefited from a continuous interplay of new concepts and applications. Renewed impetus comes now from the formidable progress in geometry and numerical visualization, together with the current challenges offered by the study of complex fluid flows and dynamical systems, as well as biological systems and quantum computation. This pedagogical school wants to offer an introduction to the subject, aiming at covering in a brainstorming 2-week period some of the fundamental topics in both pure and applied contexts. Starting from the basic concepts of the theory of knots and links up to the forefront of topics of modern research, from knot polynomials to aspects of hyperbolic geometry, from tangles and braids to the role of invariants in dynamical and biological systems, the School will offer a unique opportunity to doctorate students as well as young researchers and mid-career academics to be exposed to some of the most interesting open problems of current research.

## Lecturers

Mitchell Berger, Exeter U., UK  
Denis Ilyutko, Moscow State U., Russian Federation  
Slavik Jablan, U. Belgrade, Republic of Serbia  
Louis H. Kauffman, U. Illinois at Chicago, USA  
Sergei Matveev, Chelyabinsk State U., Russian Federation  
Kenneth C. Millett, U. California at Santa Barbara, USA  
Carlo Petronio, U. Pisa, Italy  
Renzo L. Ricca, U. Milano-Bicocca, Italy  
Mauro Spera, U. Verona, Italy  
De Witt Sumners, Florida State U., USA

**Program:** Each speaker will deliver a course of 6 hours on selected topics.

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

**Financial support:** Prospective participants should seek grant/university support towards travel expenses. Limited funding towards local expenses may be provided by CRM and INdAM upon application. Doctorate students and young researchers are encouraged to apply; they should send their CV to [renzo.ricca@unimib.it](mailto:renzo.ricca@unimib.it), before **13 April, 2011**.