TQFT and Categorification

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Web site

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Amongst the open questions in modern theoretical physics, establishing a 4-dimensional quantum field theory lifting Chern-Simon's theory is the basis of major challenges in several mathematical fields. This idea is the Grail of the categorification philosophy. The goal of this conference is to bring together topologists, physicists, category theorists, and representation theorists to discuss the central question of categorified quantum 3-manifold invariants and invent the common tools yielding a categorification of Witten-Reshetikhin-Turaev invariants. This will be an opportunity to develop concrete directions in low-dimensional topology by exploiting "higher symmetries" revealed by the field of higher representation theory.

Main topics will include

- Heegaard-Floer homology
- TQFT and non semi-simple invariants
- Quantum categorification

Eminent scientists in the field will animate the workshop. These include:

François Costantino (Toulouse), Azat Gainutdinov (CNRS, Tours), Nathan Geer (Utah state), Paolo Ghiggini (CNRS, Nantes), Andras Juhasz (Oxford), Catherine Meusburger (Erlangen), Ina Petkova (Dartmouth College), Krzysztof Putyra (Universität Zürich), Emmanuel Wagner (Dijon)

Scientific Committee

Mohammed Abouzaid (Columbia Univ. New York), Anna Beliakova (Univ. Zurich), Ko Honda (UCLA Los Angeles), Nicolai Reshetikhin (UC Berkeley)

Organization Committee

Christian Blanchet (Univ Paris 7), Vincent Colin (Univ. Nantes), Mikhail Khovanov (Columbia Univ.), Aaron Lauda (USC), Hoel Queffelec (CNRS/IMAG Montpellier)

Application and registration

https://tqft.sciencesconf.org
Contact : tqft@sciencesconf.org
Deadline Application : 2018, 15th February
Registration Fees : to be announced