Generalized Cohomology and Physics

2 - 4 November 2021
An ICTP Virtual Meeting
Trieste, Italy

Further information:
http://indico.ictp.it/event/9639/
smr3631@ictp.it

The event will bring together physicists working on various topics in physics that utilize generalized cohomology theories, as well as mathematicians working on functorial quantum field theories and their classification, topological modular forms, cobordisms, and other cohomology theories that appear in physics problems.

Extended Topics List:

• Classification of symmetry protected topological states (SPTs) and anomalies in QFTs via cobordisms, with applications to condensed matter, particle physics and beyond standard model theories. The mathematical counterpart is classification of extended invertible topological QFTs, defined on manifolds with various structures.

• Classification of supersymmetric QFTs via generalized cohomology theories such as KO (real K-theory), TMF (topological modular forms), and their possible generalizations. Construction of new renormalization group flow invariants generalizing (flavored) Witten index.

• Swampland program and cobordisms. Cobordisms with extra structures that appear in quantum gravity, String theory and M-theory.

Directors:

F. BENINI, SISSA, Italy
D. PEI, Harvard University, USA
C. VAFA, Harvard University, USA

Local Organiser:

P. PUTROV, ICTP, Italy

Speakers:

D. BERWICK-EVANS, University of Illinois, USA
G. BURATTI, IFT, Madrid, Spain
D. FREED, University of Texas, USA
T. JOHNSON-FREYD, Dalhousie University and Perimeter Institute, Canada
M. MONTERO, Harvard University, USA
L. MÜLLER, MPIM, Bonn, Germany
L. STEHOUWER, MPIM, Bonn, Germany
M. YAMASHITA, RIMS, Kyoto University, Japan
K. YONEKURA, Tohoku University, Japan

How to apply:

Online application:
http://indico.ictp.it/event/9639/

Female scientists are encouraged to apply.

Registration:

There is no registration fee.

Deadline:

25 October 2021

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