

The Abdus Salam International Centre for Theoretical Physics

Workshop on Geometric

Correspondence of Gauge Theories

12 - 16 September 2016

Miramare, Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP, Trieste, Italy) is organizing a Workshop on Geometric Correspondence of Gauge Theories, to be held in Trieste from 12 to 16 September 2016. The Workshop will be co-sponsored by SISSA and INFN.

The main focus of this workshop will be recent developments on exact results in supersymmetric quantum field theories and superstrings on curved backgrounds, and their impact on enumerative geometry, knot theory and representation theory of infinite-dimensional algebras.

These developments are mainly driven on the one side by the correspondence between Supersymmetric Gauge Theories in four dimensions and Conformal Field Theories, in two dimensions (AGT conjecture), and on the other side by further insights on the dynamics of supersymmetric quantum field theories in dimension higher than four and M-theory. A key technical tool in these developments is equivariant localization.

Topics:

- moduli spaces and their classical and quantum invariants
- quantum integrable systems
- vertex algebras and their representation theory
- relations to knot theory and Khovanov Homology
- K-theory of quiver varieties

The list of **speakers** of the Workshop includes: Mikhail Bershtein (Higher School of Economics, Russia) Erik Carlsson (Harvard University) Sergio Cecotti (SISSA) Boris Feigin (Higher School of Economics, Russia), tbc Amihay Hanany (Imperial College, London) Hiroshi Iritani (Kyoto University) Seok Kim (Seoul National University) Hee Cheol Kim (Harvard University) Albrecht Klemm (Universität Bonn) Martjin Kool (Utrecht University) Marcos Marino (Université de Genève) Kazunobu Maruyoshi (Seikei University) Alexey Morozov (Institute for Theoretical and Experimental Physics, Moscow and Landau Institute for Theoretical Physics, Chernogolovka, Russia) Hiraku Nakajima (Kyoto University) Nikita Nekrasov (Simons Center for Geometry and Physics) Alexei Oblomkov (University of Massachusetts) Soo-Jong Rey (Seoul National University) Fernando Rodriguez Villegas (ICTP) Masahito Yamazaki (Institute for Physics and Mathematics of the Universe, Tokyo) Maxim Zabzine (Uppsala University)







CO-SPONSORS:



Directors:

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Local Organizer:

Lothar Göttsche ICTP, Trieste

GRANTS

A limited number of grants are available to support the travel and living expenses of selected participants, with priority given to participants working in a developing country and who are at the early stages of their career.

HOW TO APPLY FOR PARTICIPATION

The online application form can be accessed **until 25 June** at the activity website <u>http://indico.ictp.it/event/7645/</u>

Once in the website, comprehensive instructions will guide you step-by-step, on how to fill out and submit online the application form.

Recommendation letters are not mandatory, but may help you in the admission process.

Secretariat: e-mail: <u>smr2863@ictp.it</u>phone: +39-040-2240- 551 School's web page: <u>http://indico.ictp.it/event/7645</u> ICTP Home Page: <u>http://www.ictp.it</u>

DEADLINE

for requesting participation

25 June 2016



June 2016