Siegel modular forms and associated representations

August 7—18, 2017 at IISER Pune

Overview

Modular forms and automorphic representations have played a central role in the research in number theory in the last half-century. Several important problems in mathematics, including Fermat's Last Theorem, have been solved using modular forms. Two of the seven million dollar millennium problems are related to modular forms and related topics.

In this course, we plan to introduce the audience to the topic of Siegel modular forms. The idea is that, via the study of Siegel modular forms, the students will get to know the current directions of research in automorphic forms. We will cover topics ranging from the basic definitions and properties of Siegel modular forms, to the recent research on Langlands transfer and Deligne's conjectures on special values of L-functions, and will also include several important open problems like the Bocherer's conjecture.

This course has two modules that must be taken together. It is intended for graduate students interested in research in number theory. Familiarity with elliptic modular forms and associated representations is preferable but not essential. We will provide a handout for the attendees to read to get them prepared for the lectures. The advanced topics of this course will also be of interested to young as well as established researchers in number theory.

Modules	A: Classical theory of Siegel modular forms: Aug 7—10, 2017 B: Automorphic representations associated to Siegel modular forms: Aug 11—18, 2017 Number of participants for the course will be limited to thirty.
You should attend If…	▪ you are a number theorist or representation theorist and want to know more about Siegel modular forms from a classical or automorphic perspective. ▪ you are interested in learning about important and recent results this area. ▪ you want to know about some of the main open problems for Siegel modular forms coming from analytical number theory and automorphic representation theory. In particular, discussion of Ramanujan conjecture, Langlands conjecture, Deligne's conjecture and Bocherer's conjecture.
Fees	The participation fees for taking the course is as follows: **International participants: US $500** **Academic Institutions in India: Rs. 1000** The above fee includes all instructional materials. The participants will be provided with accommodation on payment basis.

The Faculty

Dr. Ameya Pitale is a faculty at the University of Oklahoma. His research interests include the theory of automorphic forms and automorphic representations for Siegel modular forms. He works on local and global aspects of automorphic representations related to Siegel modular forms, automorphic transfer, special values of L-functions, bounds for Rankin–Selberg L-functions, integral representations of L-functions and Boecherer's conjecture.

Course Coordinators

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