

CIMPA School Final Report

Please fill in this report with your favorite text editor. The final document has to be converted to a pdf file and sent to the CIMPA supervisor of your school.

Title of the school : Automorphic L-functions.

Dates : 30th June-11th July 2025.

Location : IIT Ropar, India.

I. Summary

The school was well-attended and the lecturers made a lot of effort to make their talks accessible. The young students and researchers participated and asked questions during after the talks.

Before the school there was a two-week course on *Zeros of L-functions* offered at IISER Kolkata and some of the students benefitted from this preparatory material. Links were forged and will hopefully be maintained.

The absence of foreign participants (there was only one CIMPA supported attendant from outside India) was a drawback, since CIMPA schools are meant to attract them. To begin with, there were few relevant candidates .

Some chosen candidates and one of the speakers did not obtain visa and some could not attend due to the geo-political situation.

General presentation of the event: goals achieved, issues, links you have created in the country or the region, follow-up of your action.

II. Scientific content

There were 9 talks, each of 2 sessions of 2 hours. Further each speaker held a tutorial session of 2 hours.

Only one speaker delivered his talk and tutorial virtually.

Introductory Courses :

1 : Introduction to Modular Forms : Soumya BHATTACHARYA

2 : Introduction to analytic methods in number theory : Lucile DEVIN

3 : Introduction to Automorphy : Ila VARMA

4 : Introduction to Fourier analysis in number fields : Aditya KARNATAKI.

Advanced Courses :

5 : Sub-convexity of L-functions : Ritabrata MUNSHI

6 : Trace formulas : Masao TSUZUKI

7 : Multiple Zeta Values : Leila SCHNEPS

8 : Explicit formula and Selberg class : Masatoshi SUZUKI

9 : Random Matrices : Emmanuel ROYER .

The details are available at <https://www.mathconf.org/alfitr2024>

Related Activities :

1. Screening of a French feature film ***Marguerite's Theorem*** with subtitles.
2. Screening of a documentary film on Mirzakhani., ***Secrets of the Surface*** .
2. Public Talk : ***Going to Prison for a math error*** by Leila Schneps.

Social Activities :

1. Excursions to Amritsar and the Anandpur Sahib .
2. A Special Dinner.

List here the activities and lectures which took place with the names of teachers.

III. Participants

List here all participants, including local participants, foreign participants without CIMPA support and foreign participants supported by CIMPA. Indicate the gender of each person. Please mention possible strong participants (with their email) that you think

CIMPA should follow (CIMPA wishes to serve as recommendation centre for students applying to doctoral or postdoctoral grants. Also these persons may be natural contacts for CIMPA in the future).

1. Women Participants

- (1) Dr. Hena Rani Biswas, BANGLADESH. (C)
- (2) Raveena Ganash. NISER Bhubaneswar.
- (3) Neha Tiwari. IIT Bhubaneswar.
- (4) Riya Mandal, IIT Kharagpur.
- (5) Snigdha Bagui. IISER Kolkata.
- (6) Dr. Shivani Goel. CMI Chennai. (C)
- (7) Shruthi Chethan Bhat. Manipal Institute of Technology.
- (8) Dr. Sonam Garg, IMSc Chennai. (C)
- (9) Palak Narula, IIT Ropar.
- (10) Dr. Himanshi Chanana. IIT Kanpur.
- (11) Nargish Punia. IIT Roorkee.
- (12) Priya Jain, IIT Ropar.
- (13) Kritika Aggarwal. IIIT Delhi.
- (14) Bina Jha. HRI Allahabad.
- (15) Riya, IIT Ropar.
- (16) Jashoda Kumari, IIT Ropar.

2. Men Participants

- (17) Animesh Sarkar. IIT Varanasi.
- (18) Md. Shahvez Alam, IIT Varanasi.
- (19) Lalit Vaishya, ISI Delhi.
- (20) Bittoo Chahal, IIIT Delhi.
- (21) Bikram Misra, IIT Delhi.
- (22) Prabhat Kumar Mishra, IIT Jammu.
- (23) Nilmoni Karak. IIT Kharagpur.
- (24) Pritam Naskar. IIT Indore.
- (25) Karishan Kumar, IIT Ropar.
- (26) Guru Sharan N. IIT Gandhinagar.
- (27) Prassanna Nand Jha. IIT Gandhinagar.
- (28) Mohammed Harun, IIT Kanpur.
- (29) Narendra Kumar Sahoo. NISER Bhubaneswar.
- (30) Sourav Das. RKMVERI Belur.
- (31) Suvajit Ghosh, IIT Ropar.
- (32) Priyaranjan Mallick. NIT Raipur.
- (33) Arun Wandakar. ISI Kolkata.
- (34) Nabarun Dutta, ISI Kolkata.
- (35) Soumyadipta Maiti. ISI Kolkata.
- (36) Habibur Rahaman. IISER Kolkata.
- (37) Dr. Suraj Singh Khurana, SRM University-AP.
- (38) Lucas Dauger, Sorbonne University, FRANCE.
- (39) Dr. Prashant Tiwari, IIT Ropar.
- (40) Abhirup Chatterjee, IMSc Chennai.
- (41) Gurinder Singh. IIT Guwahati. (C)
- (42) Jasbir Parashar, IIT Ropar.
- (43) Deepak Bhat, IIT Ropar.
- (44) Ritesh Bhagat, IIT Ropar.
- (45) Yuta Suzuki , Rikkyo University, JAPAN.

(C) indicates a CIMPA-supported attendant.

Candidates who might later be considered for Post-Doctoral positions :

Riya Mandal <riyamandaljkc@gmail.com>; Habibur Rahaman <hr21rs044@iiserkol.ac.in>;

IV. Financial Report

CIMPA

15000 euros sanctioned. Used 6590 euros. All bills have already been sent.

IMU

1500 euros sanctioned. Used 1184 euros.

All bills and a report has been sent to them.

NCM India

Used : 189000 Rs, approximately 1825 euros.

Provide here the list of all grants received for the organisation of your school, highlighting the grants which come from CIMPA State Members¹ governmental sources (either directly, or through universities or embassies, etc). Then give details and amounts about expenses made with CIMPA funding.

V. Pictures

Please include pictures of school and social activities.