

**Announcement of ‘The International
Conference and PhD-Master Summer School
on Groups and Graphs, Designs and Dynamics
(G2D2)’ to be held at China Three Gorges
University, Yichang, Hubei province, CHINA,
August 12–25, 2019**

Yaokun Wu

August 19, 2018, Novosibirsk, G2R2

Where: Yichang, Hubei Province, CHINA.

When: August 12 - 25, 2019

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Organizers of G2D2

- China Three Gorges University, Yichang, Hubei province, CHINA

Coorganizers of G2D2

- Shanghai Jiao Tong University, Shanghai, CHINA

Where: Yichang, Hubei Province, CHINA.

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Dr. Huye Chen from China Three Gorges University will give you more information about China Three Gorges University and Yichang city.



Steering Committee of G2D2

- Eiichi Bannai, China Three Gorges University
- Alexander Ivanov, Imperial College
- Vladislav Kabanov, Krasovskii Institute of Mathematics and Mechanics
- Elena Konstantinova, Sobolev Institute of Mathematics
- Jiping Zhang, Peking University

- Graphs and Groups, Cycles and Coverings (G2C2), Novosibirsk, Russia, September 23–26, 2014.
- Groups and Graphs, Algorithms and Automata (G2A2), Yekaterinburg, Russia, August 09–15, 2015.
- Graphs and Groups, Spectra and Symmetries (G2S2), Novosibirsk, Russia, August 15–28, 2016.
- Groups and Graphs, Metrics and Manifolds (G2M2), Yekaterinburg, Russia, July 22–30, 2017.
- Graphs and Groups, Representations and Relations (G2R2), Novosibirsk, Russia, August 06–19, 2018.
- Groups and Graphs, Designs and Dynamics (G2D2), Yichang, China, August 12–25, 2019.
- Graphs and Groups, Geometries and GAP (G2G2), St. Bernardin, Slovenia, July 2020.



Algebra	Groups	Time	Dynamics
Geometry	Graphs	Space	Designs

Confronted with the bewildering complexity of the world we inhabit, scientists of all ages have attempted to bring order and simplicity to this apparent chaos (P. Thyssen, A. Ceulemans, *Shattered Symmetry*, Oxford University Press, 2017). **Groups** are the simplest algebraic structure and **graphs** are the simplest geometric structure. Algebra is concerned with manipulation in time, and geometry is concerned with space (Atiyah 2001). Space has no meaning without **designs** while time has no meaning without **dynamics**. Groups and graphs have been the most basic concepts for us to describe and discover order in the world, in its rich designs and dynamics.

Overview of G2D2 2019

- August 12, Monday, Registration and welcome party.
- August 19, Monday, Excursion.
- August 13–18, Courses 1 and 2 and invited/contributed talks.
- August 20–25, Courses 3 and 4 and invited/contributed talks.

Course 1

Course title: Laplacian Eigenvalues and Optimality

Lecturers:

- Rosemary Bailey, University of St Andrews, UK
- Peter Cameron, University of St Andrews, UK

Lecture time: August 13, 14, 16, 17, 9:00–10:30, 13:30–14:20 (560 minutes)

Problem solving session: August 14, 17, 20:00 – 22:00

Course title: Topics in Representation Theory

Lecturer:

- Tullio Ceccherini-Silberstein, University of Sannio, Italy

Lecture time: August 13, 14, 16, 17, 10:45–11:35, 14:30–15:20
(400 minutes)

Problem solving session: August 13, 16, 20:00 – 22:00

Course 3

Course title: Symbolic Dynamics and the Stable Algebra of Matrices

Lecturers:

- Mike Boyle, University of Maryland, USA
- Scott Schmieding, Northwestern University, USA

Lecture time: August 20, 21, 23, 24, 9:00–10:30, 13:30–14:20 (560 minutes)

Problem solving session: August 21, 24, 20:00 – 22:00

Course 4

Course title: Spectral Analysis of Growing Graphs – A Quantum Probability Point of View

Lecturer:

- Nobuaki Obata, Tohoku University, Japan

Lecture time: August 20, 21, 23, 24, 10:45–11:35, 14:30–15:20
(400 minutes)

Problem solving session: August 20, 23, 20:00 – 22:00

If there are suitable speakers, we may organize 4 fifty minutes colloquium talks with titles like "What is a group", "What is a graph", "What is a design", "What is a dynamical system".

We plan to arrange about 20 forty-five minutes invited talks.

The scientific committee of G2D2 will also choose some twenty minutes contributed talks from received submissions.

Selected papers based on talks in G2D2 will be published in a special issue of

The Art of Discrete and Applied Mathematics

The guest editors for this special issue are:

- Alexander A. Ivanov, Imperial college, UK
- Elena Konstantinova, Novosibirsk State University, Russia
- Jack Koolen, University of Science and Technology of China, China
- Yaokun Wu, Shanghai Jiao Tong University, China

We may use the mailing list of G2R2 to announce the G2D2 website when it is ready, which is expected to be before November 2018. You should also be able to find the website if you can use google.

All details about G2D2 with timely updates will be announced in our website.

Please come and enjoy the art of mathematics with us at G2D2.

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It may be a good idea to combine the participation to G2D2 with a visit to some Chinese institutes or/and some nice sightseeing places in nearby area.

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- Combinatorics Seminar at SJTU
- 2015 Workshop on Combinatorics and Applications at SJTU



Thank
you