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ALGANT Alumni in China
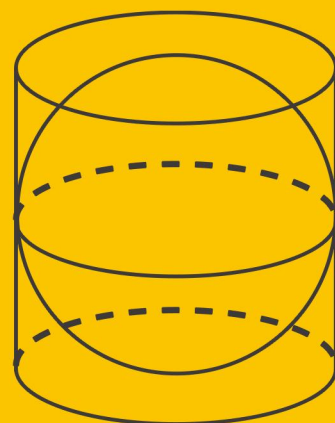
20th anniversary

廿载ALGANT在中国

Organizers:

梁永祺　Yongqi Liang
赵和耳　Heer Zhao

中国科学技术大学
University of Science and Technology of China

ALGANT

ALGANT Alumni in China - Program
廿载ALGANT在中国 - 日程

The conference is endorsed by the ALGANT Consortium.
The official ALGANT website is https://www.algant.eu/.
Venue
Room 5301, the 5th Teaching Building
27-28 December 2025
Organizers
梁永祺 Yongqi Liang
赵和耳 Heer Zhao

Dining information.
Friday: no meal.
Saturday: Guest House 2nd floor for lunch using the ticket. Jiangnanchun Hotel for banquet dinner for ALGANT teachers and students, no dinner provided for other participants.
Sunday: Guest House 2nd floor for lunch and dinner using the tickets.
Monday: no meal except breakfast at hotel.

　数海归舟
廿载数论如星河，欧陆灯下挑孤影。
双轮几何似画卷，东方梦里忆乡音。
——百度AI文心助手

Preface

前言

ALGANT program opened to students from all over the world in 2005. It has been exactly 20 years now. More than 60 Chinese students participated in the program, more than one half of them were funded, most of whom are still active in academia. The organizers are former students of the ALGANT program, and we have benefited a lot from the program. We are very grateful for the funding and the opportunity to study aboard that the program has given us. We believe that many ALGANT Chinese students will have similar feelings. However, many of us may not know each other yet. From 27th to 28th December 2025, we organize an academic conference "ALGANT Alumni in China" to invite all Chinese who have participated in the program to come together to share common experiences and discuss mathematics.

<div align="right">December 2025</div>

ALGANT项目面向国际招生至今正好20年。 超过60名中国学生参与了该项目，至少半数受到了资助，其中大部分仍活跃于学术界。 两位组织者曾是ALGANT项目之前资助过的学生，我们从该项目中获益良多。我们很感激项目曾经对我们的资助和提供了留学机会，我们也相信很多参与过该项目的中国学生也会有同感。虽然参与了同一个项目，但是我们之中还有很多人相互不认识。趁此机会，我们于2025年12月27-28日组织"廿载ALGANT在中国"学术会议邀请几乎所有参加过项目的中国学生到一起分享共同经历和讨论数学。

<div align="right">2025年12月</div>

27 Dec. 2025 Saturday morning

08:55-09:00 **Opening**: Yongqi Liang and Heer Zhao

09:00-09:45 Chair: Yi Ouyang (ALGANT visiting professor Leiden-Bordeaux-Padova-Orsay)

Francesco Baldassarri *Università di Padova*

- p-adic measures and Fourier analysis on $\mathbb{Q}_p$: towards a p-adic analog of Dirichlet series

Abstract. We discuss Fourier theory for p-adic functions on $\mathbb{Q}_p$ in terms of a family $\{G_q\}_q$, for $q \in S := \mathbb{Z}[1/p] \cap \mathbb{R}_{\geq 0}$, of entire functions bounded by 1 on $\mathbb{Q}_p$. We then introduce a reasonable notion of p-adic *Dirichlet series* justified by the

Theorem 0.1. *For any perfectoid extension $C/\mathbb{Q}_p$ and any $c \in 1 + C^{\flat\circ\circ}$, let $\lambda \in C^{\flat\circ\circ}$ be the Artin–Hasse logarithm of c. Then the p-adic analytic function $s \mapsto (c^\sharp)^s$, a priori defined only for small s, extends as*

$$\sum_{q \in S} G_q(s)(\lambda^q)^\sharp$$

on a tubular neighborhood of $\mathbb{Q}_p$ in the analytic C-line.

We apply these results to provide meromorphic extensions of each branch of the p-adic Riemann zeta function to a tubular neighborhood of $\mathbb{Q}_p$.

09:45-10:15 **Tea Break**

10:15-10:30 Chair: Francesco Baldassarri

Heer Zhao 赵和耳 Padova-Leiden 2007

Harbin Institute of Technology 哈尔滨工业大学

- Kummer log flat cohomology

10:30-10:45 Chair: Heer Zhao

Zongbin Chen 陈宗彬 Orsay-Leiden 2008

Shandong University 山东大学

- Purity of the affine Springer fibers

10:45-11:00 Chair: Zongbin Chen

Yong Hu 胡勇 Orsay-Leiden 2008

Southern University of Science and Technology 南方科技大学

- Cohomological invariants of hermitian forms

11:00-11:30 **Break**

11:30-11:45 Chair: Yong Hu

Yongqi Liang 梁永祺 Padova-Orsay 2008

University of Science and Technology of China 中国科学技术大学

- Smallest Brauer subgroup obstructing the Hasse principle

11:45-12:00 Chair: Yongqi Liang

Chunhui Wang 汪春晖 Padova-Orsay 2009

Wuhan University 武汉大学

- On the Weil representation

12:00-12:15 Chair: Chunhui Wang

Haoran Wang 王浩然 Orsay-Leiden 2009

Capital Normal University 首都师范大学

- Branching problem for GL_2

12:15-14:00 **Lunch**

27 Dec. 2025 Saturday afternoon

14:00-14:45 Chair: Haoran Wang
  Peter Stevenhagen *Universiteit Leiden*
- Negative Pell and arithmetic statistics

Abstract. I will explain a 1992 conjecture of mine regarding the "average solvability" of the negative Pell equation $x^2 - dy^2 = -1$ in integers x and y for square-free positive integers d. Equivalently, the question is "how many" real quadratic fields have units of negative norm.

The conjecture has remained open for 30 years, with several steps being made by different people until it was recently proved by Peter Koymans and Carlo Pagano.

14:45-15:15 **Tea Break**

15:15-15:30 Chair: Peter Stevenhagen
  Jinbo Ren 任金波 Leiden-Orsay 2015
  Xiamen University 厦门大学
- Arithmetic group theory and Diophantine geometry

15:30-15:45 Chair: Jinbo Ren
  Yisheng Tian 田乙胜 Essen-Orsay 2017
  Harbin Institute of Technology 哈尔滨工业大学
  A survey on Brauer–Manin obstruction

15:45-16:00 Chair: Yisheng Tian
  Luming Zhao 赵路明 Pardova-Bordeaux 2017
  Dalian University of Technology 大连理工大学
- A prismatic Herr complex for Bloch–Kato Selmer groups

16:00-16:30 **Group Photo and Break**

16:30-16:45 Chair: Luming Zhao
  Khai-Hoan Nguyen-Dang Leiden-Padova 2021 (Vietnamese)
  Morningside Center of Mathematics CAS 晨兴数学中心
- Monogeneity of pure number fields

16:45-17:00 Chair: Khai-Hoan Nguyen-Dang
  Zhenghang Du 杜正航 Leiden-Regensburg 2022
  Universität Regensburg
- On the Eisenstein–Kronecker classes

17:00-17:15 Chair: Zhenghang Du
  Zhenghui Li 李正辉 Regensburg-Bordeaux 2022
  Sorbonne Université
- Syntomic cohomology and arithmetic application

17:15-17:30 Chair: Zhenghui Li
  Shanwen Wang 王善文 Padova-Bordeaux 2007
  Renmin University of China 中国人民大学
- On the p-adic transcendence of ...

18:00-23:59 **Banquet** for ALGANTers := (former) students and professors of the ALGANT program

28 Dec. 2025 Sunday morning

09:00-09:45 Chair: Shanwen Wang

Chia-Fu Yu 余家富 *Academia Sinica* (ALGANT visiting professor Padova 2008)

- Supersingular Ekedahl–Oort strata and Oort's conjecture

Abstract. Let $\mathcal{A}_g$ be the moduli space over $\overline{\mathbb{F}}_p$ of g-dimensional principally polarized abelian varieties and $\mathcal{S}_g$ be the supersingular locus of $\mathcal{A}_g$. Oort's conjecture asserts that when $g \geq 2$, every geometric generic member in $\mathcal{S}_g$ has automorphism group $\{\pm 1\}$. In this talk we shall discuss the progress of this problem, and sketch the proof of our result using supersingular Ekedahl–Oort strata, which confirm Oort's conjecture when g is even and p is greater than 3, and $g = 4$ and any p. This is joint work with Valentijn Karemaker.

09:45-10:15 **Tea Break**

10:15-10:30 Chair: Chia-Fu Yu

Jhan-Cyuan Syu 許展銓 Montréal-Essen 2022
National University of Singapore
- Categorical local Langlands conjecture

10:30-10:45 Chair: Jhan-Cyuan Syu
Yuchen Wu 吴雨宸 Regensburg-Orsay 2022
University of California San Diego
- A synthetic approach for equivariant slice differentials

10:45-11:00 Chair: Yuchen Wu
Yaxi Zhu 朱雅熹 Regensburg-Milano 2022
Regensburg-Milano
- I came, I saw, and I counted: a story of line counting on smooth cubic surfaces

11:00-11:30 **Tea Break**

11:30-11:45 Chair: Yaxi Zhu
Qike Li 李奇颗 Leiden-Bordeaux 2023
Università di Trieste
- Equivariant Chen–Ruan cohomology of orbifolds and Ruan's conjecture

11:45-12:00 Chair: Qike Li
Chenying Lin 林晨滢 Regensburg-Bordeaux 2023
Universität Regensburg
- An introduction to tropical intersection theory

12:00-12:15 Chair: Chenying Lin
Zhubin Wang 王祝斌 Milano-Bordeaux 2023
Université de Bordeaux
- Trace map in syntomic cohomology

12:15-14:00 **Lunch**

28 Dec. 2025 Sunday afternoon

14:00-14:15 Chair: Zhubin Wang
Yikun Fan 范仪坤 Leiden-Essen 2025
Leiden-Essen
- On Multilinear forms for modular representations of GL_2 over non-Archimedean local fields

14:15-14:30 Chair: Yikun Fan
Junchi Li 李俊池 Leiden-Milano 2025
Leiden-Milano
- A 15-minute introduction to ∞-categories

14:30-14:45 Chair: Junchi Li
Kaicheng Dong 董开承 Regensburg-Bordeaux expected 2026
Université de Bordeaux
- Arithmetic bigness and uniformal Bogomolov-type theory

14:45-15:15 **Tea Break**

15:15-15:30 Chair: Kaicheng Dong
Ningyi Li 李宁懿 Leiden-Regensburg expected 2026
Universität Regensburg
- On the finite flat group scheme

15:30-15:45 Chair: Ningyi Li
Yiheng Liu 刘一恒 Leiden-Regensburg expected 2026
Universität Regensburg
- Family Seiberg–Witten invariants

15:45-16:00 Chair: Yiheng Liu
Zhicheng Lyu 吕志诚 Regensburg-Bordeaux expected 2026
Université de Bordeaux
- A brief review of the structure of Fargues–Fontaine curves

16:00-16:15 **Break**

16:15-16:30 Chair: Zhicheng Lyu
Shenguanlin Lin 林沈冠霖 Regensburg-Bordeaux expected 2027
Universität Regensburg
- An introduction to p-adic geometry

16:30-16:45 Chair: Shenguanlin Lin
Yangyu Fan 范洋宇 Milano-Essen Doc-2018
Beijing Institute of Technology 北京理工大学
- p-adic special values formulae

17:00-19:00 **Dinner**

References

[1] Alice Firedman. *Introduction to Fish Touching*. 摸鱼学导论. Grand Talent Mission 211. 世界图书出版公司, 2021.

[2] Bob Firedman. *Principles of Water Skiing*. 划水学原理. Graduate Texts in Mathematics 985. 世界图书出版公司, 2021.

——我们致($sh\bar{a}n$)敬($zh\grave{a}i$)经典，谢谢数学给我们带来了那么多快乐！

东校区

运动场

Jiangnanchun Hotel
江南春酒店

Guest House 专家楼

5th Teaching Building - lecture hall
第五教学楼 - 报告厅

Metro Line 5 地铁5号线