



2024 多重 zeta 值与 L-函数相关领域 研讨会

**The 2024 Workshop on Multiple Zeta Values,
L-functions and Related Fields**

Anhui Normal University

Wuhu, China

June 7-9, 2024

2024 多重 zeta 值与 L-函数相关领域研讨会 会议通知

尊敬的数学界各位同仁：

大家好！

为促进多重 zeta 值与 L-函数及相关领域的学术交流，“2024 多重 zeta 值与 L-函数相关领域研讨会”将于 2024 年 6 月 7 日至 9 日在安徽芜湖举行。本次研讨会由安徽师范大学主办，由南昌航空大学、华东师范大学、中南大学、同济大学、浙江理工大学协办。

研讨会将主要展示与交流近年来国内外学者在多重 zeta 值与 L-函数相关领域取得的科研成果，对多重 zeta 值与 L-函数相关领域的前沿方法及理论、最新发展及未来趋势进行广泛而深入的交流，共同探讨并促进多重 zeta 值与 L-函数研究领域的进一步发展。

欢迎国内外同行学者莅临！

研讨会有关事项通知如下：

- 一、**会议时间：**2024 年 6 月 7 日至 9 日。6 月 7 日（周五）下午报到，6 月 8 日至 9 日学术交流，6 月 10 日离会。
- 二、**会议地点：**芜湖中央城大酒店（芜湖市弋江区大工山路 38 号）。
- 三、**会议报名：**见研讨会网址链接 <https://multizetacafe.github.io/anhui2024/>。
- 四、**相关说明：**本次会议不收取注册费，食宿由会务组统一安排，参会者住宿费用和交通费用自理。
- 五、**会议联系人：**徐策，19965380362，cexu2020@ahnu.edu.cn

安徽师范大学数学与统计学院

2024 年 4 月 14 日

Keynote Talks

Takumi Anzawa , <i>Nagoya University</i>	(安沢拓真, 名古屋大学)
Henrik Bachmann , <i>Nagoya University</i>	(Henrik Bachmann, 名古屋大学)
Jin Cao , <i>Tsinghua University</i>	(曹 晋, 清华大学)
Wei Cao , <i>Minnan Normal University</i>	(曹 炜, 闽南师范大学)
Jiahao Cheng , <i>Nanchang Hangkong University</i>	(程家豪, 南昌航空大学)
Hidekazu Furusho , <i>Nagoya University</i>	(古庄英和, 名古屋大学)
Shaofang Hong , <i>Sichuan University</i>	(洪绍方, 四川大学)
Masanobu Kaneko , <i>Kyushu University</i>	(金子昌信, 九州大学)
Takao Komatsu , <i>Nagasaki University</i>	(小松尚夫, 长崎大学)
Jiangtao Li , <i>Central South University</i>	(李江涛, 中南大学)
Rusen Li , <i>Xiangtan University</i>	(李汝森, 湘潭大学)
Zhonghua Li , <i>Tongji University</i>	(李忠华, 同济大学)
Ma Luo , <i>East China Normal University</i>	(罗 马, 华东师范大学)
Guangshi Lv , <i>Shandong University</i>	(吕广世, 山东大学)
Jianbo Sun , <i>Kyushu University</i>	(孙荐博, 九州大学)
Zhi-Wei Sun , <i>Nanjing University</i>	(孙智伟, 南京大学)
Liuquan Wang , <i>Wuhan University</i>	(王六权, 武汉大学)
Weiping Wang , <i>Zhejiang Sci-Tech University</i>	(王伟平, 浙江理工大学)
Xiaoxia Wang , <i>Shanghai University</i>	(王晓霞, 上海大学)
Yingnan Wang , <i>Shenzhen University</i>	(王英男, 深圳大学)
Chuanan Wei , <i>Hainan Medical University</i>	(魏传安, 海南医学院)
Hongyu Xiang , <i>Sichuan University</i>	(向洪玉, 四川大学)
Fei Xu , <i>Capital Normal University</i>	(徐 飞, 首都师范大学)
Zhefeng Xu , <i>Northwest University</i>	(徐哲峰, 西北大学)
Jianqiang Zhao , <i>The Bishop's School</i>	(赵健强, 美国毕夏普学校)
Lilu Zhao , <i>University of Science and Technology of China</i>	(赵立璐, 中国科学技术大学)

Organizing Committee

Jiahao Cheng , <i>Nanchang Hangkong University</i>	(程家豪, 南昌航空大学)
Jiangtao Li , <i>Central South University</i>	(李江涛, 中南大学)
Ma Luo , <i>East China Normal University</i>	(罗 马, 华东师范大学)
Zhonghua Li , <i>Tongji University</i>	(李忠华, 同济大学)
Weiping Wang , <i>Zhejiang Sci-Tech University</i>	(王伟平, 浙江理工大学)
Ce Xu , <i>Anhui Normal University</i>	(徐 策, 安徽师范大学)
Jianqiang Zhao , <i>The Bishop's School</i>	(赵健强, 美国毕夏普学校)

Workshop Schedule

June 7-9, 2024, Central City Hotel, Wuhu

2024年6月7--9日，芜湖中央城大酒店

June 7 Friday	14:00--22:00	Registration	酒店大厅
	18:00--20:30	Dinner	1楼莱客西餐厅
June 8 Saturday	08:00--08:20	Opening Ceremony	3楼国际厅 A 厅
	08:20--08:30	Photo	
	08:30--09:00	Keynote Talk	3楼国际厅 A 厅
	09:00--09:30	Keynote Talk	
	09:30--10:00	Keynote Talk	
	10:00--10:20	Tea Break	
	10:20--10:50	Keynote Talk	3楼国际厅 A 厅
	10:50--11:20	Keynote Talk	
	11:20--11:50	Keynote Talk	
	12:00--14:00	Lunch	1楼莱客西餐厅
	14:00--14:30	Keynote Talk	3楼国际厅 A 厅
	14:30--15:00	Keynote Talk	
	15:00--15:30	Keynote Talk	
	15:30--15:50	Tea Break	
	15:50--16:20	Keynote Talk	3楼国际厅 A 厅
	16:20--16:50	Keynote Talk	
	16:50--17:20	Keynote Talk	
	17:20--17:50	Keynote Talk	
18:00--20:00	Banquet	3楼国际厅 B 厅	
June 9 Sunday	08:00--08:30	Keynote Talk	3楼国际厅 A 厅
	08:30--09:00	Keynote Talk	
	09:00--09:30	Keynote Talk	
	09:30--10:00	Keynote Talk	

June 9 Sunday	10:00--10:20	Tea Break		
	10:20--11:50	Keynote Talk	3 楼国际厅 A 厅	
	10:50--11:20	Keynote Talk		
	11:20--11:50	Keynote Talk		
	12:00--14:00	Lunch		1 楼莱客西餐厅
	14:00--14:30	Keynote Talk	3 楼国际厅 A 厅	
	14:30--15:00	Keynote Talk		
	15:00--15:30	Keynote Talk		
	15:30--15:50	Tea Break		
	15:50--16:20	Keynote Talk	3 楼国际厅 A 厅	
	16:20--16:50	Keynote Talk		
	16:50--17:20	Keynote Talk		
	17:20--17:30	Closing Ceremony		
	17:30--20:30	Dinner		1 楼莱客西餐厅

June 8, Saturday		
Session Chair	Time	Program at a Glance
Zhonghua Li (李忠华)	08:00--08:20	Opening Ceremony
	08:20--08:30	Photo
Jianqiang Zhao (赵健强)	08:30--09:00	Zhonghua Li (李忠华) Multiple zeta values and their variants <i>Tongji University (同济大学)</i>
	09:00--09:30	Masanobu Kaneko (金子昌信) On finite analogues of Euler's constant <i>Kyushu University (九州大学)</i>
	09:30--10:00	Hidekazu Furusho (古庄英和) On relations among multiple zeta values obtained in knot theory <i>Nagoya University (名古屋大学)</i>
	10:00--10:20	Tea Break
Weiping Wang (王伟平)	10:20--10:50	Zhi-Wei Sun (孙智伟) Historical notes on my discoveries of infinite series identities <i>Nanjing University (南京大学)</i>

Weiping Wang (王伟平)	10:50--11:20	Fei Xu (徐飞) Counting lattice points in central simple algebras with a given characteristic polynomial <i>Capital Normal University (首都师范大学)</i>
	11:20--11:50	Jianqiang Zhao (赵健强) Finite multiple mixed values <i>The Bishop's School (毕夏普学校)</i>
	12:00--14:00	Lunch
Jiangtao Li (李江涛)	14:00--14:30	Jin Cao (曹晋) The motivic fundamental group of a punctured elliptic curve and algebraic cycles <i>Tsinghua University (清华大学)</i>
	14:30--15:00	Jiahao Cheng (程家豪) Tannakian characterization of the category of variations of mixed Hodge structures <i>Nanchang Hangkong University (南昌航空大学)</i>
	15:00--15:30	Ma Luo (罗马) MZVs via iterated integrals of modular forms <i>East China Normal University (华东师范大学)</i>
	15:30--15:50	Tea Break
Zhi-Wei Sun (孙智伟)	15:50--16:20	Chuanan Wei (魏传安) On two conjectural series involving Riemann zeta function <i>Hainan Medical University (海南医学院)</i>
	16:20--16:50	Xiaoxia Wang (王晓霞) Infinity series involving harmonic numbers <i>Shanghai University (上海大学)</i>
Huilin Zhu (祝辉林)	16:50--17:20	Takao Komatsu (小松尚夫) Polynomial identities, Stirling numbers with higher order, and sums of generalized harmonic numbers <i>Nagasaki University (长崎大学)</i>
	17:20--17:50	Weiping Wang (王伟平) Apéry-type series via colored multiple zeta values and Fourier-Legendre series expansions <i>Zhejiang Sci-Tech University (浙江理工大学)</i>
	18:00--20:00	Banquet

June 9, Sunday		
Session Chair	Time	Program at a Glance
Qinghu Hou (侯庆虎)	08:00--08:30	Shaofang Hong (洪绍方) Multiple reciprocal sums and multiple reciprocal star sums of polynomials are almost never integers <i>Sichuan University (四川大学)</i>
	08:30--09:00	Guangshi Lv (吕广世) Correlations of multiplicative functions with coefficients of automorphic L -functions <i>Shandong University (山东大学)</i>
Ma Luo (罗马)	09:00--09:30	Liuquan Wang (王六权) Mizuno's rank three Nahm sums I: identities of index (1,1,2) <i>Wuhan University (武汉大学)</i>
	09:30--10:00	Lilu Zhao (赵立璐) A new upper bound on Ruzsa's number <i>University of Science and Technology of China (中国科学技术大学)</i>
	10:00--10:20	Tea Break
Bin Zhang (张斌)	10:20--10:50	Henrik Bachmann Formal analogues of multiple zeta values and their variants <i>Nagoya University (名古屋大学)</i>
	10:50--11:20	Takumi Anzawa (安沢拓真) Certain congruence of the q -Fibonacci sequence and its finite transcendence <i>Nagoya University (名古屋大学)</i>
	11:20--11:50	Jianbo Sun (孙荐博) Multiple zeta values, the variants and connections to modular forms <i>Kyushu University (九州大学)</i>
	12:00--14:00	Lunch
Jiahao Cheng (程家豪)	14:00--14:30	Wei Cao (曹炜) Zeta functions of p -adic analytic varieties <i>Minnan Normal University (闽南师范大学)</i>
	14:30--15:00	Zhefeng Xu (徐哲峰) Mean value of Dirichlet L -functions <i>Northwest University (西北大学)</i>

Jiahao Cheng (程家豪)	15:00--15:30	Yingnan Wang (王英男) On the first sign change of Fourier coefficients of cusp forms <i>Shenzhen University (深圳大学)</i>
	15:30--15:50	Tea Break
Li Lai (赖力)	15:50--16:20	Jiangtao Li (李江涛) Fractal structures in zeta-star values <i>Central South University (中南大学)</i>
	16:20--16:50	Rusen Li (李汝森) Euler sums of generalized alternating hyperharmonic numbers <i>Xiangtan University (湘潭大学)</i>
	16:50--17:20	Hongyu Xiang (向洪玉) Duality of Hopf algebras related to multiple zeta values <i>Sichuan University (四川大学)</i>
Ce Xu (徐策)	17:20--17:30	Closing Ceremony
	17:30--20:30	Dinner

Certain congruence of the q -Fibonacci sequence and its finite transcendence

Takumi Anzawa (安沢拓真)

Nagoya University (名古屋大学)

Email: atakumi86@gmail.com

Abstract: J.Rosen('20) proposes a notion of algebraic numbers in the algebra \mathcal{A} related with the finite multiple zeta values. In this talk, we focus on the q -Fibonacci sequence and prove its specific congruence, from which we deduce a construction of certain finite transcendence numbers. This research is a joint work with Hidetaka Funakura.

Formal analogues of multiple zeta values and their variants

Henrik Bachmann

Nagoya University (名古屋大学)

Email: henrikbachmann85@gmail.com

Abstract: Conjecturally, all relations among multiple zeta values result from the extended double shuffle relations. Formal multiple zeta values are defined as symbols that precisely satisfy these relations. In this talk, we will introduce formal multiple zeta values and discuss their connections to formal multiple Eisenstein series and formal finite multiple zeta values. We will motivate these objects and discuss results concerning the connection to modular forms, the \mathfrak{sl}_2 -structure of the algebra of formal multiple Eisenstein series, and a formal analog of the Kaneko-Zagier conjecture for formal finite multiple zeta values. This talk is based on a joint work with Jan-Willem van Ittersum (Cologne) and ongoing work with Risan (Nagoya).

The motivic fundamental group of a punctured elliptic curve and algebraic cycles

Jin Cao (曹晋)

Tsinghua University (清华大学)

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Abstract: In this talk, we will construct some algebraic cycles from the cycle algebraic construction of the motivic fundamental group of a punctured elliptic curve. This is joint work with Tomohide Terasoma.

Zeta functions of p -adic analytic varieties

Wei Cao (曹炜)

Minnan Normal University (闽南师范大学)

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Abstract: In this talk, we will introduce the zeta function of a p -adic analytic variety defined over a p -adic number field. This zeta function counts Techmuller points on the analytic variety. It is proven that this zeta function is a rational function. Our approach is based on the addition operation of Witt vectors, Dwork's rationality theorem and Hilbert's basis theorem. We also propose some problems to prompt the research on this new kind of zeta functions. This is a work joint with Professor Daqing Wan.

Tannakian characterization of the category of variations of mixed Hodge structures

Jiahao Cheng (程家豪)

Nanchang Hangkong University (南昌航空大学)

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Abstract: The Tannakian category of variations of mixed Hodge structures

(VMHS) is important in geometry and number theory. Iwanari proved Tannakian characterization results for general k -linear symmetric monoidal stable presentable ∞ -categories (k is a field of characteristic zero). In this talk, we explore the Tannakian characterization of the category of VMHS, in the sense of Iwanari.

On relations among multiple zeta values obtained in knot theory

Hidekazu Furusho (古庄英和)

Nagoya University (名古屋大学)

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Abstract: My talk discusses linear and algebraic relations among multiple zeta values which are obtained in knot theory. I explain that they can be derived from the associator relations, i.e. the pentagon equation and the shuffle relation.

Multiple reciprocal sums and multiple reciprocal star sums of polynomials are almost never integers

Shaofang Hong (洪绍方)

Sichuan University (四川大学)

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Abstract: Let n and k be integers such that $1 \leq k \leq n$ and $f(x)$ be a nonzero polynomial of integer coefficients such that $f(m) \neq 0$ for any positive integer m . For any k -tuple $\vec{s} = (s_1, \dots, s_k)$ of positive integers, we define

$$H_{k,f}(\vec{s}, n) := \sum_{1 \leq i_1 < \dots < i_k \leq n} \prod_{j=1}^k \frac{1}{f(i_j)^{s_j}}$$

and

$$H_{k,f}^*(\vec{s}, n) := \sum_{1 \leq i_1 \leq \dots \leq i_k \leq n} \prod_{j=1}^k \frac{1}{f(i_j)^{s_j}}.$$

If all s_j are 1, then let $H_{k,f}(\vec{s}, n) := H_{k,f}(n)$ and $H_{k,f}^*(\vec{s}, n) := H_{k,f}^*(n)$. Hong and Wang refined the results of Erdős and Niven, and of Chen and Tang by showing that $H_{k,f}(n)$ is not an integer if $n \geq 4$ and $f(x) = ax + b$ with a and b being positive integers. Meanwhile, Luo, Hong, Qian and Wang established the similar result when $f(x)$ is of nonnegative integer coefficients and of degree no less than two. For any k -tuple $\vec{s} = (s_1, \dots, s_k)$ of positive integers, Pilehrood, Pilehrood and Tauraso proved that $H_{k,f}(\vec{s}, n)$ and $H_{k,f}^*(\vec{s}, n)$ are nearly never integers if $f(x) = x$.

In this talk, we show that if $f(x)$ is a nonzero polynomial of nonnegative integer coefficients such that either $\deg f(x) \geq 2$ or $f(x)$ is linear and $s_j \geq 2$ for all integers j with $1 \leq j \leq k$, then $H_{k,f}(\vec{s}, n)$ and $H_{k,f}^*(\vec{s}, n)$ are not integers except for the case $f(x) = x^m$ with $m \geq 1$ being an integer and $n = k = 1$, in which case, both of $H_{k,f}(\vec{s}, n)$ and $H_{k,f}^*(\vec{s}, n)$ are integers. Furthermore, we prove that if $f(x) = 2x - 1$, then both $H_{k,f}(\vec{s}, n)$ and $H_{k,f}^*(\vec{s}, n)$ are not integers except when $n = 1$, in which case $H_{k,f}(\vec{s}, n)$ and $H_{k,f}^*(\vec{s}, n)$ are integers. The method of the proofs is analytic and p -adic.

On finite analogues of Euler's constant

Masanobu Kaneko (金子昌信)

Kyushu University (九州大学)

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Abstract: Motivated by the theory of finite multiple zeta values, we introduce a finite analogue of Euler's constant as a finite version of a

regularized value of $\zeta(1)$. We also define another analogue based on Mascheroni's series for Euler's constant using Gregory coefficients. We discuss a relation between them as well as other variants.

Polynomial identities, Stirling numbers with higher order, and sums of generalized harmonic numbers

Takao Komatsu (小松尚夫)
Nagasaki University (长崎大学)
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Abstract: We show some polynomial identities from which we deduce congruences for the Fermat quotient. We also observe some congruences for the Fermat quotient that generalize Eisenstein's classical congruence. Using such polynomial identities, we obtain some sums involving harmonic numbers. We show some formulae for binomial sums of harmonic numbers of higher order and some relations from Stirling numbers with higher order to be applicable for certain kinds of multiple zeta values.

Fractal structures in zeta-star values

Jiangtao Li (李江涛)
Central South University (中南大学)
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Abstract: In this talk we will give the order structure of multiple zeta-star values. We will compare the theory of Zeta-star correspondence and the theory of continued fractions. The relations between multiple zeta-star values (including their variants) and fractal geometry are also discussed.

Euler sums of generalized alternating hyperharmonic numbers

Rusen Li (李汝森)

Xiangtan University (湘潭大学)

Email: limanjiashe@163.com

Abstract: In this talk, we introduce a new type of generalized alternating hyperharmonic number $H_n(p, r, s_1, s_2)$, and show that the Euler sums of these numbers can be expressed in terms of linear combinations of the classical (alternating) Euler sums.

Multiple zeta values and their variants

Zhonghua Li (李忠华)

Tongji University (同济大学)

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Abstract: This is an introductory talk about the multiple zeta values and their variants. I will mainly focus on the relations satisfied by these values, and also some evaluation formulas.

MZVs via iterated integrals of modular forms

Ma Luo (罗马)

East China Normal University (华东师范大学)

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Abstract: Iterated integrals of modular forms contain not only MZVs, but also non-critical values of L -functions of modular forms. In this talk, we will explain how to obtain MZVs via double iterated integrals of Eisenstein series, by finding precise linear combinations that come from period polynomials of cusp forms.

Correlations of multiplicative functions with coefficients of automorphic L -functions

Guangshi Lv (吕广世)
Shandong University (山东大学)
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Abstract: In this talk, we introduce our recent work on correlations of multiplicative functions with coefficients of automorphic L -functions. In particular, nontrivial savings are achieved for shifted convolution problems on $GL(m) \times GL(2)$ ($m \geq 4$) and Hypothesis C of Iwaniec–Luo–Sarnak for the first time.

Multiple zeta values, the variants and connections to modular forms

Jianbo Sun (孙荐博)
Kyushu University (九州大学)
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Abstract: Multiple zeta values (MZVs) have a profound and mysterious connection to modular forms. Starting with the research initiated in 2006 by Herbert Gangl, Masanobu Kaneko, and Don Zagier, this relationship was uncovered. Their work led to the discovery of many modular phenomena through the study of MZVs and their variants. In this talk, I will provide a survey of this fascinating story and discuss recent developments in the field.

Historical notes on my discoveries of infinite series identities

Zhi-Wei Sun (孙智伟)
Nanjing University (南京大学)
Email: zwsun@nju.edu.cn

Abstract: Since 2010 I have posed hundreds of conjectural infinite series

identities most of which are related to powers of π or the Riemann zeta function. In this talk, we present some historical remarks and focus on how I found those series identities.

Mizuno's rank three Nahm sums I: identities of index (1,1,2)

Liuquan Wang (王六权)
Wuhan University (武汉大学)
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Abstract: Mizuno provided 19 examples of generalized rank three Nahm sums with symmetrizer $\text{diag}(1,1,2)$ which are conjecturally modular. We confirm their modularity by establishing Rogers--Ramanujan type identities of index $(1,1,2)$ for these examples. We first reduce these Nahm sums to some double sums or single sums, and then we use known results or apply the theory of Bailey pairs to prove the desired identities. Meanwhile, we generalize some triple sum identities to general multi-sum identities. This talk is based on a joint work with Boxue Wang.

Apéry-type series via colored multiple zeta values and Fourier-Legendre series expansions

Weiping Wang (王伟平)
Zhejiang Sci-Tech University (浙江理工大学)
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Abstract: By applying the general Fourier-Legendre series expansion, we establish four series transformations, and obtain a range of relations between the parametric Apéry-type series and the double sums of products of multiple harmonic sums (MHSs) or multiple t -harmonic sums (MtSs). By establishing the linearization theorems for the double sums above, and using the methods

of partial fraction decomposition and transformation of summations, we show that these parametric Apéry-type series are expressible in terms of some elementary series involving MHSs and MtSs, and finally reduce to linear combinations of alternating multiple zeta values and colored multiple zeta values of level four. By specifying the parameters, we determine the evaluations of many special Apéry-type series. This is a joint work with Xin Chen.

Infinity series involving harmonic numbers

Xiaoxia Wang (王晓霞)
Shanghai University (上海大学)
Email: xiaoxiawang@shu.edu.cn

Abstract: By applying the derivative operator to the known identities from hypergeometric series or WZ pairs, we obtain several series associated with harmonic numbers, including Sun's five conjectural series. Specifically, some of them are Ramanujan-like formulas for $1/\pi$. By applying the Taylor expansion to hypergeometric formulae and then extracting the Taylor coefficients, we evaluate some infinite series involving harmonic numbers in closed form. Otherwise, we establish some results with their q -analogues.

On the first sign change of Fourier coefficients of cusp forms

Yingnan Wang (王英男)
Shenzhen University (深圳大学)
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Abstract: In the talk, we will survey some recent progress on the first sign-change of Fourier coefficients of cusp forms and present a variant of the

current widely used method initiated by Choie and Kohnen in the study of the location of the first sign-change of the Fourier coefficients of a holomorphic cusp form when all the coefficients are real. This variant of Choie and Kohnen's method applies to more cases including integral weight cusp forms on congruence subgroups of any levels as well as half-integral weight cusp forms. This is a joint work with Guohua Chen and Yuk-Kam Lau.

On two conjectural series involving Riemann zeta function

Chuanan Wei (魏传安)

Hainan Medical University (海南医学院)

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Abstract: Riemann zeta function is important in a lot of branches of number theory. With the help of the operator method and several transformation formulas for hypergeometric series, we prove four series involving Riemann zeta function. Two of them are series expansions for $\zeta(7)$ and $\zeta(3)^2$ recently conjectured by Z.-W. Sun.

Duality of Hopf algebras related to multiple zeta values

Hongyu Xiang (向洪玉)

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Abstract: In this talk, we will explore the structures related to multiple zeta values. By using differential operators, the shuffle product defined on positive integer point to encode the shuffle relation for multiple zeta values can be extended to all integer points. When this extended shuffle product restricted to positive integer points and nonpositive integer points, there are

compatible coproducts compatible, which make them Hopf algebras. We then show the duality between these two Hopf algebras. This work is joint with Professor Bin Zhang.

Counting lattice points in central simple algebras with a given characteristic polynomial

Fei Xu (徐飞)

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Abstract: Eskin, Mozes and Shah determined an asymptotic formula for integral matrices with a given irreducible characteristic polynomial over \mathbb{Z} . We'll extend this result to a central simple algebra based on our previous work about counting integral points in homogeneous spaces. This is a joint work in progress with Jiaqi Xie.

Mean value of Dirichlet L -functions

Zhefeng Xu (徐哲峰)

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Abstract: Let χ be a Dirichlet character modulo $q \geq 2$, and $L(s, \chi)$ denote the Dirichlet L -functions corresponding to χ . In this talk, we shall introduce a series of works focusing on the connections between the Dirichlet L -functions and the Bernoulli polynomials, the mean value of L -functions weighted by character sums, and some new mean values of Dirichlet L -functions.

Finite multiple mixed values

Jianqiang Zhao (赵健强)

The Bishop's School (毕夏普学校)

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Abstract: In recent years, a variety of variants of multiple zeta values (MZVs) have been defined and studied. One way to produce these variants is to restrict the indices in the definition of MZVs to some fixed parity pattern, which include Hoffman's multiple t -values, Kaneko and Tsumura's multiple T -values, and multiple S -values first studied by Xu and the speaker. We have also considered the so-called multiple mixed values by allowing all possible parity patterns and studied a few important relations among these values. In this talk, I will turn to their finite analogs and their symmetric forms, motivated by a deep conjecture of Kaneko and Zagier which relates the finite MZVs and symmetric MZVs, and a generalized version of this conjecture by the speaker to the Euler sum (i.e., level two) setting. I will present a few important relations among these values such as the stuffle, reversal, and linear shuffle relations.

A new upper bound on Ruzsa's number

Lilu Zhao (赵立璐)

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

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Abstract: We shall talk about the topic on Ruzsa's number introduced by Y.-G. Chen. The Ruzsa number is an analogy of the Erdos-Turan conjecture on cyclic group. We show that the Ruzsa number R_m is upper bounded by 192 for any positive integer m , which improves the prior bound 288 given by Y.-G. Chen in 2008. This is based on a joint work with Y.-C. Ding.

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安徽师范大学简介

安徽师范大学是安徽建校最早的高等学府，坐落在具有“徽风皖韵、千湖之城”美誉的国家级开放城市——芜湖，濒临浩瀚长江，傍依灵秀赭山，集江南自然之神秀、汇安徽人文之灵杰，是安徽省人民政府与教育部共建高校、安徽省委省政府优先建设的省属重点综合性大学和安徽省特色高水平大学重点建设高校，入选全国重点马克思主义学院（安徽省唯一）、全国首批省委宣传部与学校共建新闻学院试点单位，荣获第二届“全国文明校园”称号。

学校前身是1928年创建于安庆市的省立安徽大学，1946年更名为国立安徽大学，1949年12月成建制迁至芜湖。后又经历安徽师范学院、合肥师范学院、皖南大学（刘少奇题写校名）、安徽工农大学等几个办学阶段。1972年，经国务院批准，正式定名为安徽师范大学（郭沫若题写校名）。2005年，芜湖师范专科学校整体并入安徽师范大学。

在九十多年的办学历程中，刘文典、周建人、郁达夫、苏雪林、陈望道、朱湘、朱光潜、王星拱、杨亮功、程演生、陶因、张慰慈、丁绪贤、项南、许杰等一大批知名专家学者、社会贤达先后汇聚在菱湖之畔、镜湖之滨，著书立说，弘文励教。经过一代代师大人潜心耕耘、励志践行、培育后学、薪火相继、言传身教，砥砺出“厚重朴实、至善致远、追求卓越、自强不息”的精神，积淀出“严谨治学、敬业奉献、教书育人、为人师表”的教风，培育出“勤学慎思、质朴谦逊、知行合一、求实求新”的学风，凝炼出“厚德、重教、博学、笃行”的校训。建校以来，累计为国家培养全日制高等专门人才30多万名。

学校现有文学院、马克思主义学院、法学院、经济管理学院、音乐学院、美术学院、历史学院、教育科学学院、外国语学院、体育学院、新闻与传播学院、数学与统计学院、计算机与信息学院、物理与电子信息学院、化学与材料科学学院、地理与旅游学院、生命科学学院、生态与环境学院等18个学院以及继续教育学院、国际教育学院、教师教育学院，并办有安徽师范大学皖江学院、附中、附小和附幼。

学校学科涵盖了哲学、经济学、法学、教育学、文学、历史学、理学、工学、农学、管理学、艺术学、交叉学科等12个门类，形成了博士、硕士、学士教育等不

同层次，全日制高等教育、继续教育、留学生教育等不同类型的完整人才培养体系。入选安徽省高峰学科 6 个、高峰培育学科 4 个，进入 ESI 全球前 1% 学科 4 个，安徽省重点学科 18 个，省级学科建设重大项目 3 个。现有博士后流动站 7 个，博士学位授权一级学科 11 个，硕士学位授权一级学科 29 个，硕士专业学位授权点 24 个，本科专业 91 个。

学校现有教育部人文社会科学重点研究基地 1 个，教育部重点实验室 1 个，教育部国别和区域研究中心 1 个，省部共建协同创新中心 1 个，安徽省基础学科研究中心 1 个，安徽省重点智库 1 个，安徽省“2011 协同创新中心”1 个，安徽省高校人文社会科学重点研究基地 5 个，安徽省重点实验室 7 个，安徽省高校重点实验室 4 个，安徽省工程研究中心（工程实验室）7 个，安徽省高校工程技术研究中心 1 个，安徽省哲学社会科学重点实验室 1 个，安徽省新型产业共性技术研究中心 1 个，安徽省乡村振兴协同技术服务中心 1 个。现有国家级一流本科专业建设点 34 个，省级一流本科专业建设点 21 个，国家级特色专业 9 个，国家级专业综合改革试点 1 个，国家级一流本科课程 19 门（国家级在线开放课程 1 门，国家级线下课程 14 门，国家级线上线下混合式课程 4 门），国家级精品课程 8 门，国家级精品资源共享课程 8 门，国家级精品视频公开课 2 门，国家级教学成果奖 3 项，国家级大学生校外实践教育基地 2 个，国家级实验教学示范中心 1 个，国家级双语课程 1 门，国家级规划教材 6 部，教育部卓越教师培养计划改革项目 2 项，教育部新工科研究与实践项目 2 项，教育部新文科研究与改革实践项目 1 项。

学校现有教职工 2712 人（不含“三附”），其中专任教师 1889 人，教授、副教授及其他高级职称教职工 1063 人。学校拥有院士 1 人，聘任院士 2 人，拥有“长江”7 人，国家“杰青”9 人，“万人计划”哲学社会科学领军人才 2 人、科技创新领军人才 2 人、教学名师 2 人、青年拔尖人才 1 人，文化名家暨“四个一批”人才 2 人，“千人”2 人，中科院“百人”5 人，“百千万人才工程”国家级人选 7 人，国家“优青”4 人，海外“优青”1 人，教育部“新世纪优秀人才”支持计划 9 人，享受国务院“特殊津贴”15 人，奥运冠军和世界冠军等 3 人，共有在职的省级以上人才称号（荣誉）教师 600 余人次。拥有国家级教学团队 3 个，全国高校黄大年式教师团队 1 个，省级教学团队 51 个，省级教学名师 24 人，省级教坛新秀 45 人。各类在籍学生 56000 余人，其中普通本科生 30400 余人、研究生 7800 余人（其中博士研究生 470 余人）、留学生 190 余人、

继续教育学生 18000 余人。

校园占地总面积 202.43 万平方米,建筑面积 105.34 万平方米,固定资产总值 30.98 亿元,其中教学科研仪器设备总值 7.39 亿元。学校图书馆是全国古籍重点保护单位,藏书丰富,种类齐全,现有纸质图书 305.53 万册,电子图书 259.48 万种,电子期刊 6.89 万种,数据库 106 种,古籍总量 19.56 万册,其中普通古籍 17.49 万册、善本古籍 0.88 万册、新古籍 1.19 万册,《洪武正韵》为国内唯一不配不补全本。学校办有安徽师范大学出版社和《安徽师范大学学报》《高校辅导员学刊》《中国诗学研究》《学语文》《安徽师大报》等多种公开发行的学术期刊、报纸。

学校是全国首批获准招收公费留学生的高校之一,也是国家华文教育基地、安徽省国际交流合作基地、安徽省汉语国际推广中心。学校先后接收 60 多个国家(地区)的长短期进修和学历教育留学生 5000 余人次,与美国、英国、法国、澳大利亚、俄罗斯、乌克兰、韩国、日本、越南、马来西亚等国家(地区)的几十所高等院校、科研机构、学术团体和教育机构建立了长期友好合作与学术交流关系,并与澳大利亚查尔斯·达尔文大学共建了孔子学院、在乌克兰扎波罗热国立大学设立了孔子课堂。拥有教育部中外合作办学本科、硕士项目各 1 个。

学校拥有教育部高校思想政治工作队伍培训中心、国家语言文字推广基地、教育部全国普通高校中华优秀传统文化传承基地、教育部中小学骨干教师国家级培训基地、全国智慧教学示范基地、全国高校毕业生就业能力培训基地、全国“青年马克思主义者培养工程”研究培训基地、全国卓越中学教师培养计划、教育部体育美育浸润行动计划、国家社会工作专业人才培养基地、国家社会体育指导员培训基地、国家体育总局安徽省特种行业职业技能培训基地、国家体育总局文化研究基地、国家体育总局足球 D 级教练员培训考试基地、国家级大学生理科实践教育基地、全国社会组织教育培训基地、安徽省高校师资培训中心等社会服务平台。

奋进新征程,勇担新使命。学校正在高举习近平新时代中国特色社会主义思想伟大旗帜,围绕教育强国、教育强省建设,抢抓长三角一体化发展战略机遇,秉承“特色、开放、创新”的办学理念,大力实施“大学生护航”“学科振兴”“基础教育振兴”三大行动计划,踔厉奋发、勇毅前行,知重负重、实干苦干,奋力朝着国内一流、特色鲜明的高水平大学建设目标加速迈进,努力为现代化美好安徽和中国式现代化建设贡献安徽师大的智慧和力量。

安徽师范大学数学与统计学院简介

安徽师范大学数学与统计学院源于省立安徽大学数学系，创建于1929年9月，是国内较早建立的大学数学系之一。1992年创办计算机系，是省内较早开展计算机人才培养的单位。1999年4月，数学系、计算机系、计算中心合并组建数学计算机科学学院。2005年5月原芜湖师范专科学校数学系和计算机教学部整体并入安徽师范大学数学计算机科学学院。2018年2月，计算机科学与技术、软件工程、物联网工程等3个专业剥离出去，独立组建计算机与信息学院，数学计算机科学学院更名为数学与统计学院。

学院现有数学与应用数学（师范）、统计学2个本科专业（两个专业皆为国家级一流本科专业建设点）；拥有数学博士后科研流动站，数学博士学位授权一级学科点，数学、统计学2个硕士学位授权一级学科点，学科教学（数学）、应用统计2个硕士专业学位授权点；拥有基础数学、应用数学2个省级重点学科。设有数学与应用数学、统计2个系，高等数学教学部。现有3个省级教学团队，1个省级特色专业，1个省一流（品牌）专业建设项目，1个省地方高水平大学建设项目，1个省卓越人才教育培养计划建设项目，1个教育部产学研合作协同育人基地项目，1个校级高端科研平台“随机分析与数理金融研究中心”。

2018年学院更名以来，获批国家自然科学基金项目30项和国家社会科学基金项目2项，安徽省自然科学基金和教育部人文社科基金在内的省部级以上科研项目33项，安徽高校省级自然科学研究重点项目及厅局级课题36项，安徽省科学技术奖2项。2018年以来，教师在 *Inventiones Mathematicae*、*Advances in Mathematics*、*Journal of the American Statistical Association* 等国内外重要期刊上发表学术论文450余篇，其中SCI收录论文300余篇。近五年，获得省级教学成果奖5项，其中一等奖3项，二等奖2项。学院重视对外学术交流和合作，“零壹论坛”开讲三百余场，每年选派多名教师出国（境）进修、访学。

学院继续发扬“严谨、质朴、务实、求真”的精神，秉承“质量是兴院之本、人才是强院之源”的办院理念，紧紧围绕“立德树人”根本任务，坚持内涵式发展道路，凝心聚力，开拓进取，促进各项事业再上新台阶，取得新成绩！