Pohang Mathematics Institute

2013 POSTECH Summer School in Number Theory

2013.07.05 ~ 2013.07.11

NRF 한국연구재단
National Research Foundation of Korea

PMI
Pohang Mathematics Institute

POSTECH
Department of Mathematics

❖ Main Speakers

Gautam Chinta (CUNY)

Solomon Friedberg (Boston College)

Chung Pang Mok (Mcmaster University)

❖ Organizers

YoungJu Choie (POSTECH, PMI)

Jeehoon Park (POSTECH, PMI)

❖ Contact

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❖ Schedule

	Friday (7/5)	Saturday (7/6)
9:30-10:30	Solomon Friedberg	Chung Pang Mok
11:00-12:00	Chung Pang Mok	Chung Pang Mok
2:30-3:30	Solomon Friedberg	
4:00-5:00	Chung Pang Mok	

	Monday (7/8)	Tuesday (7/9)	Wednesday (7/10)	Thursday (7/11)
9:30-10:30	Gautam Chinta	Solomon Friedberg	Solomon Friedberg	Solomon Friedberg
11:00-12:00	Chung Pang Mok	Chung Pang Mok	Chung Pang Mok	Gautam Chinta
2:30-3:30	Gautam Chinta	Gautam Chinta	Gautam Chinta	Chung Pang Mok
4:00-5:00		Chung Pang Mok	Chung Pang Mok	

Abstract

1. Multiple Dirichlet series

Gautam Chinta (CUNY, chinta@sci.ccny.cuny.edu)

Solomon Friedberg (Boston College, solomon.friedberg@bc.edu)

A recent development on Multiple Dirichlet series

Lecture 1 (Friedberg) Eisenstein series and crystal graphs
Lecture 2 (Friedberg) Metaplectic Eisenstein series on GL(2) and
        Kubota Dirichlet series
Lecture 3 (Chinta) Dynkin diagrams and multiple Dirichlet series
Lecture 4 (Chinta) Axiomatic method for the construction of
        Weyl Group Multiple Dirichlet Series
Lecture 5 (Friedberg) Higher rank metaplectic Eisenstein series
Lecture 6 (Chinta) Multiple Dirichlet series over function fields
Lecture 7 (Friedberg) Multiple Dirichlet series involving L-functions
        of higher rank groups
Lecture 8 (Chinta) Periods of Eisenstein series
Lecture 9 (Friedberg) Ice models
Lecture 10 (Chinta) Prehomogeneous vector spaces

Abstract: Multiple Dirichlet Series are functions of several complex variables that mimic Langlands L-functions in that they posses meromorphic continuation and functional equation, but that are not Eulerian. They arise in diverse way, including the study of automorphic forms on covers of groups, by means of deformations of the Weyl character formula, by attaching number-theoretic quantities to vertices of a crystal graph, by considering families of automorphic L-functions, and in the study of prehomogenous spaces. In this series of lectures, we will present an overview of this subject, starting from first principles and developing many aspects.

2. Overview of the Langlands functoriality conjecture

Chung Pang Mok
(Mcmaster University, cpmok@math.mcmaster.ca)

Lecture 1: Introduction to the Langlands functoriality conjecture
Lecture 2: Automorphic L-functions
Lecture 3: Converse theorem
Lecture 4: Introduction to the trace formula
Lecture 5: The notion of endoscopy
Lecture 6: Trace formula and stabilization
Lecture 7: Introduction to Arthur's work on classical groups I
Lecture 8: Introduction to Arthur's work on classical groups II
Lecture 9: Introduction to Arthur's work on classical groups III
Lecture 10: Beyond Endoscopy?

Abstract: The web of conjectures proposed by Langlands in the sixties, now collectively known as the Langlands' program, has been a unifying force in number theory and representation theory in the past two decades. In these lectures, we will give a selected overview of works on the Langlands functoriality conjecture.

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Attendance List

No	Name	Institution	E-mail
1	Hunduma L. Geleta	Addis Ababa University	hunduma2006@ymail.com
2	Yuanqing Cai	Boston College	yuanqing.cai@bc.edu
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4	Min Lee	Brown University	minlee80@gmail.com
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25	Supriya A. Pisolkar	Tata Institute of Fundamental Research	supriya@math.tifr.res.in
26	Maxim Gurevich	Technion - Israel Institute of Technology	max@tx.technion.ac.il
27	Alex Kemarsky	Technion - Israel Institute of Technology	alexkem@tx.technion.ac.il

Access to POSTECH Buildings

Visitors need building entry cards to gain access to POSTECH buildings. You will get a card at PMI office, Room 204-1(#2). Please return the card when you leave POSTECH.

PRINT / COPY / FAX

Making black and white photo copies is available in room #303 during business hours; 09:00 ~ 18:00. The copy machine can be used as a printer as well, since the computers of Visiting Professor's room(#213, #313) have necessary drivers. If you wish to fax a document, a staff member in the office room (#204-1) will assist you.

INTERNET ACCESS

In Math Bldg, you can use wireless internet for your computing devices. ID and Password will be given.

FIRST AID

There is a first aid box in Math office (room #302), and also POSTECH runs a free-of-charge on-campus clinic that is located in the Student Union (2F, Bldg #13).

BANKING

- Woori Bank POSTECH branch: Student Union (1F, Bldg #6)
- ATMs for Woori and Kookmin Bank: Administration Building (1F, Bldg #1)

DINING SERVICES

Building / Dining Place		Description	Telephone	Service Hours
igok Community Center Level 1	Yeon-Ji	Korean Restaurant	279-2658	<Breakfast> 8:00-11:00 <Lunch> 12:30-15:00 <Dinner> 16:30-21:00
	Burger King	Fast Food	279-2585	10:00-22:00
	Monet Cafe	Coffee and Tea	279-2667	10:00-21:00
Jigok Community Center Level 2	Wisdom Cafeteria	Faculty and Staff Cafeteria (Only on weekdays)	279-2656	<Lunch> 11:50-13:00 <Dinner> 18:00-19:00
	Freedom Cafeteria	Student Dining Hall	279-2657	<Breakfast> 7:30-9:30 <Lunch> 11:30-13:30 <Dinner> 17:30-19:00 <Weekends & Holidays> 8:00-9:30
Student Union Building	Oasis Food Court	Offers range of set menus from instant noodles to soup dishes. All menus are posted by the cashier of the convenience store.	279-2630	<Breakfast> 8:00-11:00 <Lunch/Dinner> 11:30-19:00 <Saturday> 11:00-19:00 (Closed on Sundays)
	Rosbud Cafe	Coffee and Tea	279-3720	<Weekdays> 9:00-21:00 <Saturday> 11:00-19:00 (Closed on Sundays)
CO Int'l Center	D'medley (2F)	Buffet Restaurant	279-8531	<Breakfast> 7:00-10:00 <Lunch> 12:00-15:00 <Dinner> 18:00-21:30
	Phoenix (5F)	Chinese Restaurant	279-8538	<Lunch> 12:00-14:30 <Dinner> 18:00-21:30