Department of MATHEMATICS


梨花女大 1945
EWHA W.U.
1886

Overview of Majors

Algebra

Prof. Yoonjin Lee,
Prof. Joonyeong Won

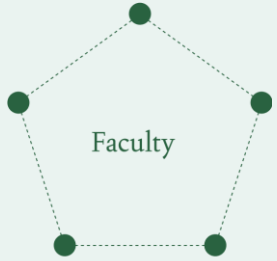
- Selected Topics in Algebra
- Selected Topics in Number Theory
- Algebraic Number Theory
- Applied Algebra
- Lie Group

Numerical Analysis

Prof.Sunyoung Kim, Prof. June-Yub Lee,
Prof. Chohong Min

Numerical Differential Equations
- Numerical Linear Algebra
- Selected Topics in Numerical Analysis
- Applied Differential Equations
- Numerical Method and

Scientific Computation
- Advanced Numerical Analysis
- Optimization



Professors

Analysis

Prof. Chulkwang Kwak

Prof. Jaehyeon Ryu

- Real Analysis
- Complex Analysis
- Harmonic Analysis
- Introduction to Functional Analysis
- Partial Differential Equations

Applied Mathematics

Prof. Hyang-Sook Lee, Prof. Jungho Yoon

- Topics in Modern Cryptography
- Modern Cryptography
- Public Cryptography
- Number theory and Cryptography
- Mathematical Modeling
- Approximation Theory
- Image Processing

Topology & Geometry

Prof Jae-Hyouk Lee, Prof. Min Hoon Kim

- Differential Topology
- Algebraic Topology
- Selected Topics in Topology
- Differential Geometry
- Gauge Theory
- Global Analysis

About Graduate School

The graduate school of the Department of Mathematics at Ewha Womans University aims to raise female professionals in mathematical sciences, through research and education of pure and applied mathematics in the areas including algebra, analysis, geometry, cryptography and numerical analysis. We enhance students' problem solving ability by establishing basic knowledge and creativity in the areas of mathematical sciences. Further, we let them develop the capacity as a leading researcher and raise them to become professionals who contribute to the development of mathematics and related studies, as well as to the society and national industry.

- Our graduate school has been greatly supporting the education and research of graduate students through the Ewha Institute of Mathematical Sciences (EIMS) and the BK program, and also providing opportunities for overseas training.
- Our graduate students receive various scholarships from the funding sources in and out of Ewha Womans University.
- Students can develop broader insight in mathematics by taking courses from Ewha Womans University, Sogang University, Yonsei University, Seoul National University and more, through the credit exchange program.
- After obtaining MS/Ph.D degrees, students proceed to research institutes in Korea and overseas, educational institutes, financial institutes, and leading large corporations, so that they demonstrate their professional mathematical abilities in various areas.

Truth

Study fundamental concepts
and the systems
of modern mathematics

Beauty

Raise creative female
professionals required
by the society

Good

Contribute to the development
of science and technology by
developing relations among the
interdisciplinary areas of study

About Graduate School

<table>
<tr><th>학위과정</th><th>석사과정</th><th>통합과정</th><th>박사과정</th></tr>
<tr><td rowspan="2">Evaluation</td><td>Document
: Academic achievement
+ Research/Academic Plan</td><td colspan="2">Document
: Academic achievement + Research/Academic Plan
+ Recommendation and Comprehensive Evaluation</td></tr>
<tr><td>Interview
: knowledge of major and research potential</td><td colspan="2">Interview
: knowledge of major and research potential
Two of Algebra, Analysis</td></tr>
<tr><td>Subject for Interview*</td><td colspan="2">One of Algebra, Analysis, Topology/Geometry, Numerical Analysis and Cryptography</td><td>Two of Algebra, Analysis, Topology /Geometry, Numerical Analysis, Cryptography and Applied Analysis including the major desired for the Ph. D program</td></tr>
</table>

* Professional consultation available for graduate school comparison in March and September

About Graduate School

Academic Information

<table>
<tr><th rowspan="2">Program</th><th rowspan="2">Course Credit Requirements</th><th rowspan="2">English Examination</th><th colspan="3">Qualifying Exams</th></tr>
<tr><th>Subject</th><th>Minimum Score</th><th>Time to Apply</th></tr>
<tr><td>석사과정</td><td rowspan="2">24 credits
(+supplementary credits)
+Thesis seminar</td><td rowspan="2">TOEFL
(PBT(over 500),
CBT(over 173),
IBT(over 61)),
TOEIC(over 585),
TEPS(over 468)</td><td rowspan="2">4 subjects:
1 major subject
+3 subjects
in distinct areas</td><td rowspan="2">Over 70</td><td rowspan="2">After the 1st semester</td></tr>
<tr><td>학석사연계과정</td></tr>
<tr><td>석박사통합과정</td><td rowspan="2">60 credits
(+supplementary credits)
+Thesis seminar including 27 credits from the master degree</td><td rowspan="2">TOEFL
(PBT(over 530),
CBT(over 197),
IBT(over 71)),
TOEIC(over 675),
TEPS(over 569)</td><td>Over 80</td><td>After the 5th semester</td></tr>
<tr><td>박사과정</td><td>4 subjects:
Including 2 subjects related to one's major</td><td>Over 70</td><td>After the 3rd</td></tr>
</table>

Linked Bachelor's – Master's Degree

The continuity of major education is improved through the interconnection between the bachelor's degree and graduate school, and the bachelor's degree and master's degree programs are shortened by one semester each. Program that allows students to complete the course (however, the regular graduation course is shortened by 1 semester for the master's degree course)

- Application period: End of each semester
- Early graduation course: Current students completing 6 semesters or students on leave who have completed 6 semesters, meet the 3rd year completion requirements and have a cumulative GPA of 3.3 or higher
- Regular graduation program: Current students completing 7 semesters or students on leave who have completed 7 semesters, meet the 3rd year completion requirements and have a cumulative GPA of 3.0 or higher.

Integrated Ph. D Program

By integrating the Master's and Ph. D programs, we provide students opportunities to focus on their research without going through the graduation school entrance exam for Ph. D program and writing the Master's thesis.

Our Faculty

Number Theory and Coding Theory Lab

Prof. Yoonjin Lee

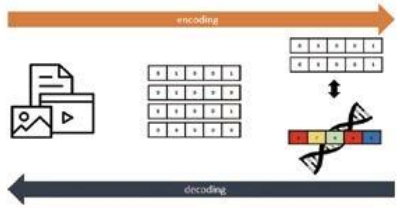
Office Science Complex Building B room 313
Tel. 02-3277-6653
E-mail yoonjinl@ewha.ac.kr
Web math.ewha.ac.kr/~yoonjinl/

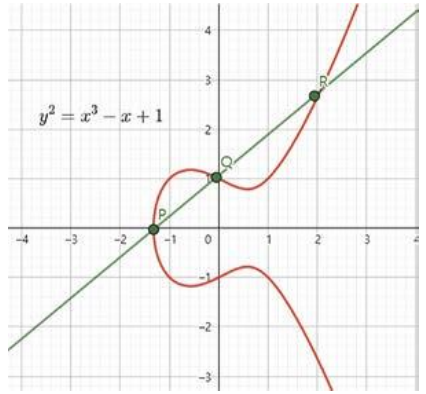
Research Area

Number Theory and Algebra belong to the major areas of mathematics, and they can be applied to Coding Theory, a part of Information Theory. We broadly study the arithmetic of function fields and number fields: structure of class groups, nonvanishing of the L-functions over function fields, surjectivity of Galois representations associated with Drinfeld modules, torsion groups of elliptic curves, and so on. Furthermore, we focus on construction of "good" error-correcting codes, which is one of two major themes of Coding Theory for minimizing the loss of information transmitted through noisy channels. We study a variety of interesting code classes such as self-dual codes, cyclic codes, LCD codes, DNA codes, quantum codes, convolutional codes (turbo codes) and so forth. Graduate students in this lab currently study the arithmetic of function fields and number fields, a variety of algebraic codes (self-dual codes, cyclic codes, LCD codes, convolutional codes, and etc.) and cryptographic functions (bent functions, plateaued functions).

Algebraic Coding Theory

- Arithmetic of number fields and function fields
- Arithmetic of Drinfeld modules
- Structure of ideal (or divisor) class groups of global function fields and number fields
- Non-vanishing of L-functions for various characters in function fields
- Modularity of various types of continued fractions
- Torsion group structure of elliptic curves and hyperelliptic curves





Algebraic Coding Theory and Discrete Mathematics

- Self-dual codes, Formally self-dual codes
- Cyclic codes, Quasi-cyclic codes
- Algebraic geometry codes, Reed Solomon codes
- Convolutional codes, LCD codes, DNA codes
- Cryptographic functions: Bent functions and Plateaued functions
- Strongly regular graphs, Few-weight codes

Algebraic Geometry Lab

Prof. Joonyeong Won

Office Science Complex Building A room 321
Tel. 02-3277-2377
E-mail leonwon@ewha.ac.kr
Web sites.google.com/site/jwonfano/joonyeong-won

Research Area

Algebra is a field of study that primarily focuses on polynomial equations. When a geometric object, a variety or manifold, is given as the set of roots of a polynomial equation, it is called an algebraic variety. Using algebraic methods, researchers study and classify the characteristics of geometric objects, based on birational morphisms. Kähler complex manifolds are classified into three types: general type, Calabi-Yau, and Fano.
This study focuses mainly on Fano varieties, which are rational varieties that are close to or can be birationally transformed into projective spaces. In addition, research is underway to derive algebraic propositions using geometric properties.

Research on Complex and Algebraic Geometry

One of the most essential problems in complex or algebraic geometry is whether a Fano manifold possesses a Kähler-Einstein metric. This problem originated from the existence problem of solutions to the Monge-Ampère equation in complex or differential geometry. However, it has been revealed that this existence is equivalent to a complete algebraic stability problem called K-stability. Therefore, researchers are studying this K-stability by measuring algebraic invariants such as alpha or delta invariants, which are tools for determining K-stability. The ultimate goal is to classify the existence of Kähler-Einstein metrics on all Fano manifolds.

Research on Complex and Algebraic Geometry

One of the famous conjectures is that the rational points on Fano manifolds are potentially dense. The term "potentially dense" means that rational points on an algebraic variety defined over a given field (K) become dense when extended to a finite extension of K, which is essentially a problem in number theory. This problem is studied based on geometric properties.

Analysis & PDE Lab

Prof. Chulkwang Kwak

Office Science Complex Building A room 319
Tel. 02-3277-4439
E-mail ckkwak@ewha.ac.kr
Web sites.google.com/site/ckkwak84

Research Area

Analysis helps us to understand in mathematical languages various phenomena arising from the fields of not only mathematical sciences, but also realit y. Particularly, nonlinear Partial Differential Equations(PDEs) describe such phenomena, and enable to predict future phenomena based on the study of existence and global dynamics of solutions. In Analysis and PDE Lab, we particularly study theories of well-posedness and long time dynamics of solu tions to nonlinear dispersive equations involving asymptotic models for water waves.

Well-posedness theory

This field aims to develop properties of nonlinear solutions from ones of linear solutions investigated by Harmonic analysis technique.

Asymptotic dynamics

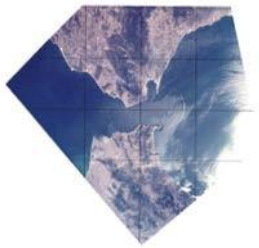
This field aims to describe global-in-time dynamics of nonlinear solutions based on dispersive properties of solutions and specific structures of equations .

Nonlinear dispersive equations

- Local and global well-posedness
- Continuum limit problems
- Decay property

Water wave models

- Asymptotic models
- Small amplitude limit
- Long time dynamics



$$\begin{aligned}
\partial_t u - \partial_x u = 0 \quad & \int \frac{1}{2}u^2, \\
\partial_t u - \partial_x^3 u + 6u^2\partial_x u = 0 \quad & \int \frac{1}{2}u_x^2 + \frac{1}{2}u^4, \\
\partial_t u - \partial_x^5 u + 40u\partial_x u\partial_x^2 u + 10u^2\partial_x^3 u & \\
+ 10(\partial_x u)^3 - 30u^4\partial_x u = 0 \quad & \int \frac{1}{2}u_{xx}^2 + u^6 + 5u^2u_x^2. \\
\vdots \quad & \vdots
\end{aligned}$$

Harmonic Analysis Lab

Prof. Jaehyeon Ryu

Office Science Complex Building A room 324
Tel. 02-3277-3450
E-mail jhryu67@ewha.ac.kr
Web https://sites.google.com/view/jhryu67/home

Lab Introduction

Harmonic Analysis is a branch of mathematics that studies the behavior of functions through oscillation and their representation in frequency. Fourier series expansion and Fourier transform are standard methods to conduct this study. Harmonic Analysis has become a subject of intense study in connection with diverse fields including number theory, partial differential equations, representation theory, signal processing, quantum mechanics, probability theory, and neurosciences.

Summability of eigenfunction expansions and bounds of eigenfunctions

Fourier series offers an elegant way to represent functions as sums of trigonometric functions, which are eigenfunctions of the Laplacian. A fundamental question in Harmonic Analysis is determining under what conditions the Fourier series of a given function converges to the original function. This lab focuses on studying the convergence properties of eigenfunction expansions for various types of eigenfunctions, as well as investigating the bounds of eigenfunctions in Lebesgue spaces.

Boundedness of Maximal operators

The boundedness of the Maximal operator is a subject studied intensively in Harmonic Analysis. The Hardy–Littlewood maximal operator is one of the most fundamental examples, and besides, the Kakeya maximal operator is another interesting object. This lab aims to study the boundedness of maximal operators in Euclidean spaces and the Heisenberg group.

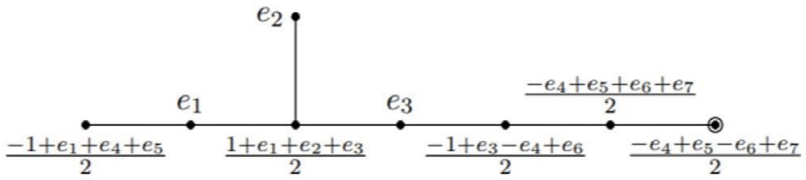
Geometry Lab

Prof. Jae-Hyouk Lee

Office Science Complex Building B room 314
Tel. 02-3277-3346
E-mail jaehyoukl@ewha.ac.kr
Web home.ewha.ac.kr/ jaehyouk/

Research Area

We study differential geometry, symplectic geometry, and algebraic geometry. Distinctive characters and uniform aspects of these geometries, especially octonions, are main motives for our researches. The researches have been successfully performed in the geometry of manifolds with special holonomies, comparative study of polytopes and complex surfaces along the representations of exceptional Lie groups. Therefrom, we contribute to construct new geometric spaces and to produce creative comparative studies among them.



Coxeter-Dynkin diagram of 4_{21}.

- Geometry of polygon spaces via spin representation
- Isoparametric geometry of spheres and complex geometry of spherical varieties
- Geometry along the magic square and its complexification
- Comparative study of moment polytopes in symplectic geometry and algebraic geometry

Geometric Topology Lab

Prof. Min Hoon Kim

Office Science Complex Building A room 322
Tel. 02-3277-2294
E-mail minhoonkim@ewha.ac.kr
Web minhoon.kim/

Research Area

In geometric topology, we study topological spaces which locally resemble Euclidean space, called manifolds. The fundamental problem is to classify manifolds. The classification results depend on the dimension. Classifying 0 and 1-dimensional manifolds is rather trivial because there are few exam ples. It turns out that 2- and 3-dimensional manifolds admit geometric structures after cutting them into canonical pieces and we can classify them by studying their geometry. High-dimensional manifolds whose dimensions are greater than or equal to 5 are classified by (after fixing their homoto py type) some algebraic topological data via surgery theory and the s-cobordism theorem. In the intermediate dimension, namely 4, there is a striking difference between topological and smooth 4-manifolds and techniques from low-dimensional topology and highdimensional topology only partly work and classifying 4-manifolds is one of the remaining fundamental problems.

Research topic 1: Topology 4-manifolds

Classifying 4-manifolds is a fundamental problem. In this project, we investigate various research problems on 4-manifolds. Specific topics include the following: (a) To find explicit diffeomorphisms between 4-manifolds. (b) To develop techniques to compute Floer homology theoretic invariants. (c) Construct homemomorphic, but not diffeomorphic 4-manifolds. (d) Understand homology cobordisms and rational homology cob ordisms between 3-manifolds.

Research topic 2: Topology of knots and links

Knots and links are embedded circles in the 3-dimensional Euclidean space. They play a central role in lowdimensional topology. 3- and 4-dimensional manifolds can be explicitly described by knots and links. Moreover, some important classification problems of 4-manifolds can be ref ormulated as concordance problems of knots and links. We investigate various research problems on concordances of knots and links partly inspir ed by the classification problems of 4-manifolds.

Cryptography Lab

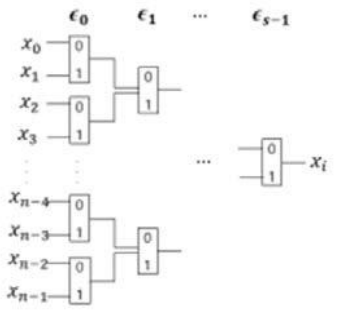
Prof. Hyang-Sook Lee

Office Science Complex Building A room 510
Tel. 02-3277-2591
E-mail hsl@ewha.ac.kr
Web my.ewha.ac.kr/hsl

Research Area

As quantum computers are being developed in earnest, research on Post Quantum Cryptography which is a next-generation public-key cryptosystem, is being actively carried out in an environment where existing mathematical-based public-key cryptosystem is threatened by the quantum algorithm proposed by Peter Shor. Lattice-based cryptography, Isogeny-based cryptography, Code-based cryptography, and Multivariate- based cryptography without efficient attacks based on quantum algorithms are candidates for Post-Quantum Cryptography. In particular, Lattice-based cryptography has the advantages in the sense that it is efficient to calculate and provides a variety of applications. This lab focuses on the study of Post-Quantum public-key cryptography for quantum computing environments. Especially, we conduct studies on Homomorphic Encryption, Secret Sharing, Security Analysis, etc., along with studies on Lattice-based public-key cryptography which is secure and efficiently applicable in multi-party environments.

- The Multi-Party Cryptographic Application of Lattice- Based Fully Homomorphic Encryption Scheme
- Computational Mathematics for Integrated Science-Based Technology
- Lattice-based Public-Key Cryptography for IoT
- The Application of Computational-Based Mathematical Sciences
- One-Way Function for Multi-functional Cryptographic System with High-Efficiency



ϵ_{s-1}	...	ϵ_0	Data
0	...	0	x_0
0	...	1	x_1
⋮	⋮	⋮	⋮
1	...	1	x_{n-1}

Applied Analysis & Data Approximation Lab

Prof. Jungho Yoon

Office Science Complex Building A room 509
Tel. 02-3277-2293
E-mail yoon@ewha.ac.kr
Web math.ewha.ac.kr/~yoon

Research Area

We conduct research on data approximation theories and algorithms which are fundamental components in the area of data science. We develop line ar or non-linear approximation schemes for various types of data that are generated in various fields of scientific computation. Specifically, our resea rch interests include the following topics:

Nonlinear data approximation

We develop non-linear theories and algorithm for multi-dimension (scattered) data containing various types of singular points that are arising in the areas such as image processing, fluid PDEs and computer visualizations.

Multi-dimensional large-scale data approximation

In order to handle large-scale data efficiently, we study sparse-grid approximation and multi-resolution analysis by using radial basis functions and subdivision methods.

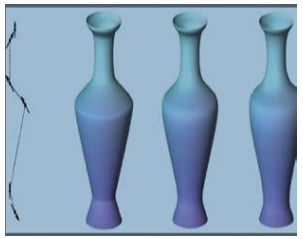
CAGD (computer aided geometric design)

We study subdivision and spline theories and algorithms for geometric modeling for computer graphics, animation, and multi-resolution analysis.

Mathematical Image processing

Based on non-linear data approximation theories, we develop algorithms of image super-resolution, image denoising, and deblurring. In addition, we solve image processing problems that occur in industries such as 3D semi-conductors and medical imaging, This research topic is being studied in connection with data science, especially deep learning algorithms of artificial intelligence.

- Scattered data approximation by radial basis function and nonlinear moving least squares method
- Approximation of multivariate functions on Sparse grid
- Subdivision for Computer Aided Geometric Design
- Mathematical Image Processing: image interpolation, super-resolution, denoising, deblurring
- Construction of nonlinear scheme for hyperbolic conservation laws



Scientific Computing Lab

Prof. June-Yub Lee

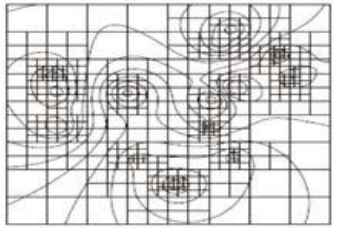
Office Science Complex Building A room 324
Tel. 02-3277-2921
E-mail jyllee@ewha.ac.kr
Web math.ewha.ac.kr/~jylee

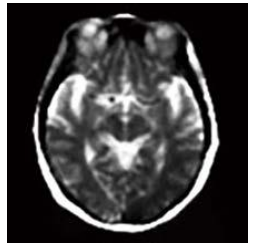
Research Area

The research topics include numerical analysis, more specifically high-speed numerical methods based on the integral equations, and mathematical analysis of inverse problems using the high-speed methods. Among many research results, accelerating the non-uniform Fast Fourier Transform is a major research achievement that extends the FFT developed in 1965 and is one of the representative research achievements in the field of applied mathematics. The type3 NUFFT which extends the non-uniform Fourier transform technique, and MRI reconstruction technique using the NUFFT were studied. In addition, various studies on the inverse problem were conducted to develop the reconstruction formula, MREIT-related numerical technique, and the Equipotential method. And the polarization tensor and moment tensor methods that analyze the mathematical characteristics of the inverse problem were studied. Since 2014, research on the phase field equation such as the spectral method of the Allen-Cahn equation, the phase field crystal equation, the convex splitting RK method, and the 2nd order operator separation method are in progress. Recently, researches on scientific computation using artificial neural networks have been conducted.

Numerical Computation Tools including Elliptic PDE solver

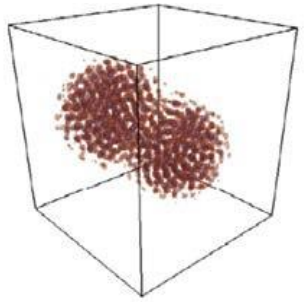
- Triple junction problem, Quasi-periodic direct, Parareal DC, Flux conservative
- Prolate function, Non-Uniform FFT, Fast Sinc Trans.
- Parallel Poisson solver, Poisson solver, Nonseparable elliptic PDE
- Two-point BVP, Singularly Perturbed BVP, Rosenau-Burgers Eq.

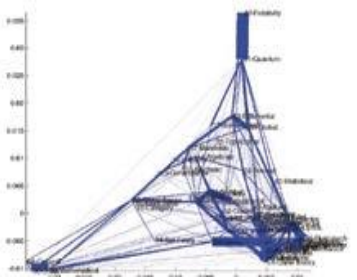




Inverse Problems and Electrical Impedance Tomography

- Thin elastic inclusion, Polarization tensors, Electrical anomalies
- Curl-J method, Equipotential line method, Forward Solver
- High Contrast Composites, Cauchy problem, Elasticity
- P-Laplacian, Free-boundary, Bernoulli type Eq.





Vortex Calculation, CFD, and Phase Field computation

- Operator Splitting : Image-segment, Semi-Analytic, PF-Crystal, Epitaxial Thin Film
- Energy-Stable Methods : CSRK, CSRK-R, cCS-vCH, CSRK-x-CH, ConvexGrad-RK
- Phase-Field Models : PFC-CS_BF, Modified PFC, PFC-CSRK-LongTime
- Long time Vortex sheet, Recirculating flow

Mathematical Education, Neural Networks (AI), and Miscellaneous

- Internet usage, Two-way communication, Graph Clustering

Numerical Analysis Lab

Prof. Chohong Min

Office Science Complex Building A room 320
Tel. 02-3277-2292
E-mail chohong@ewha.ac.kr
Web math.ewha.ac.kr/~chohong/

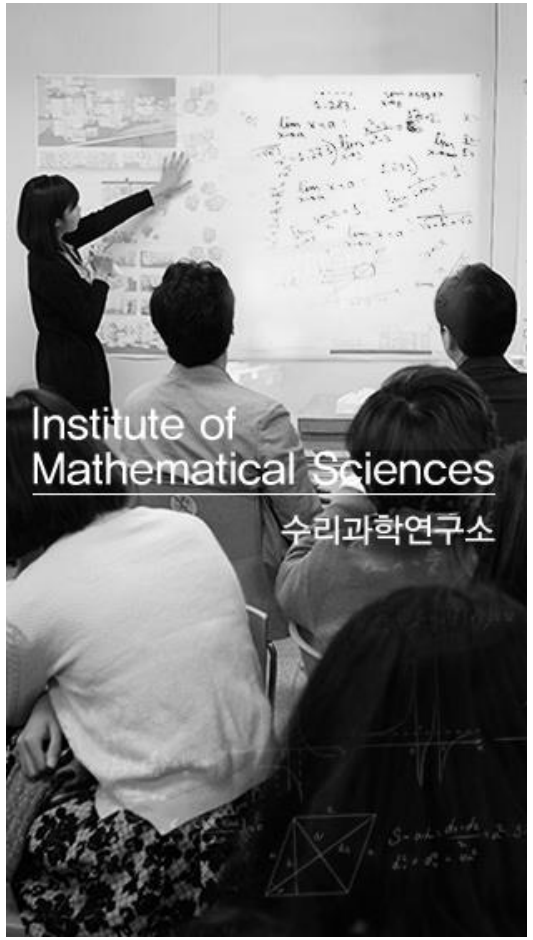
Research Area

Based on numerical analysis and optimization theories, we study the mathematical characteristics and the convergences of approximations in the area s of deep learning, homomorphic encryption and computational fluid dynamics.

Specifically, our research interests include the following topics:

- Deep learning theory
- Homomorphic encryption
- Numerical Analysis

Ewha Institute of Mathematical Sciences (EIMS)



EIMS has been contributing to the development of national industry and advance d science and technology, as well as playing a central role in creating future values , through connecting crucial technologies of the 4th industrial revolution, focusing on the Computational Mathematics based on numerical analysis, image processing, cryptography, coding, biology, and medical statistics. Through the 'Key Research Institutes in Universities of National Sciences and Engineering' program (2009-2017, 2019-2025), the institute has been fostering full-time research professionals and graduate students in the specialized areas by strengthening their research competence.

Web : http://ims.ewha.ac.kr

Scholarship

Name of Scholarship	Coverage*	Candidate
Research Assistant Scholarship	Full Tuition	General graduate school with an undergraduate (including other schools) cumulative graduation GPA of 4.0 or higher (4.3 out of 4.3) New students in master's, doctoral, integrated master's and doctoral programs (for those who pass the first round of recruitment)
Woowall Kim Hwal-ran 21st century	Full tuition and research support fee of 3 million won (term)	Completion of 6 credits in the previous semester, GPA 3.75 or higher in the previous semester Cannot be carried over when taking a leave of absence (can be carried over when taking a leave of absence due to childbirth)
Research Assistant Scholarship	Full, Half, One third of Tuition fee	Students with high grades and recommended by a professor as a research assistant ※ Only applicable for enrolled students including freshmen (course completed students are not applicable)
Student Assistant Scholarship	A: 4,000,000 won B: 2,000,000 won C: 1,210,000 won	Students who assist with administrative tasks or support research, practice, and class activities
Study incentives (N)	Part of Tuition	Students from general graduate school master's or integrated master's and doctoral programs (1st to 3rd semester) who are enrolled full-time and have financial difficulties GPA 3.0 or higher in the previous semester (no grade criteria for new students)
Ewha Plus	cost of living 1 million won	Regular graduate students enrolled in master's, doctoral, or integrated programs with difficult family circumstances GPA 3.0 or higher in the previous semester (no grade criteria for new students)
Empowering	Part of tuition	Students who are enrolled full-time in an integrated doctoral, master's, and doctoral course (4 semesters or more) and whose family circumstances are difficult. GPA 3.0 or higher in the previous semester (no grade criteria for new students)
Overseas research (Writing thesis)	Round-trip fare and Staying expenses (maximum 6 months)	Students who are enrolled in a doctoral degree program at a general graduate school and who wish to conduct research abroad to submit a doctoral thesis must have a doctoral course completion GPA of 3.7 or higher (4.3 out of 4.3). Applicants who have passed the examinations (English, second language, comprehensive) required to be eligible to submit a doctoral thesis
Excellent research	Research support fee 3 million won (1st semester)	Graduate school with a cumulative GPA of 3.75 or higher We have excellent academic research capabilities and have established clear goals for future development. Willingness to carry out continuous academic activities Full-time registered student with at least 4 semesters of integrated master's and doctoral program and doctorate in general graduate school (including new students, no grade standards for new students) *Non-recipients of other scholarships in the nature of research support expenses

* As of the second semester of 2024

** Scholarships for Ewha Research Excellence, Excellent Ewha (Science), and Bachelor's and Master's degree programs are selected and notified by the Scholarship Welfare Team without a separate application.

Scholarship

Research

- Graduate School (Master / Ph. D)
- The Institute for Basic Science (IBS)
- National Institutute for Mathematical Sciences (NIMS)
- Korea Institute for Advanced Study (KIAS)

Education

- Korean Educational Development Institute (KEDI)
- Korea Institute for Curriculum and Evaluation (KICE)

Accountant

- Patent & Law Firm
- Accounting firm

Security

- National Security Research Institute
- Electronics and Telecommunications Research Institute(ETRI)
- Korea Internet & Security Agency (KISA)
- Samsung SDS
- Samsung Advanced Institute of Technology (SAIT)

Financial

- PB
- Certified Inverstment Analyst
- Foreign-exchange Dealer
- Damage adjuster
- Analyst
- Actuary
- Fund Manager
- Account Executive

AI / Big Data

- Big Data Professionalist
- Dataminer
- Database Administrator
- Data Engineer
- Data Scientist

Ewha Womans University Department of Mathematics

Department of Mathematics, Ewha Womans University 52, Ewhayeodae-gil,
Seodaemun-gu, Seoul, 03760, Republic of Korea
TEL. 02-3277-2290 Email. mathdept@ewha.ac.kr Homepage. math.ewha.ac.kr