Department of Mathematics

An Overview of HKU Math Department

September 2020

Founding Head

Professor Wong Yung Chow (1913-2004)

People

- **18 Professoriate members**

- **3 Lecturers + 2 Assistant Lecturers**

- **11 Postdoctoral Fellows**

- **6-10 incoming Post-Graduate Students each year**

- **25-30 incoming Math Majors each year**

- **15-20 incoming Applied AI (joint with SAAS) Majors each year**

- **50-60 incoming Math Minors each year**

Teaching

- Algebra I
- Algebra II
- Analysis I
- Analysis II
- Basic Calculus
- Basic Applicable Mathematics
- Multi-variable Calculus
- Development of Mathematical Ideas
- Differential Equations
- Directed Studies in Mathematics
- Discrete Mathematics
- Hidden Order in Daily Life
- Financial Calculus
- Functional Analysis
- Functions of a Complex Variable
- Fundamental Concepts of Mathematics
- Games and the Mathematical Mind
- Game Theory and Strategy
- Geometry
- Introduction to Topology
- Introduction to Mathematical Analysis
- Introduction to Optimization
- Introduction to Partial Differential Equations
- Linear Algebra
- Mathematical Methods for Acturial Science
- Mathematics Seminar
- Mathematics Project
- Mathematics: A Cultural Heritage
- Matrix Theory and Its Applications
- Network Models in Operations Research
- Numbers and Patterns in Nature and Life
- Numerical Analysis
- Numerical methods for financial calculus
- Operations Research I
- Operations Research II
- Probability Theory
- Queuing Theory and Simulation
- Scientific Computing
- Topics in Algebra
- Topics in Mathematical Programming and Optimization
- University Mathematics I&II
- Computational Methods and Differential Equations with Applications

Research

Key Areas of World-Class Research:

- Geometry
- Analysis
- Number Theory
- Optimization and Operations Research
- Computational Mathematics

Geometry

Prof. N. Mok (Stanford)
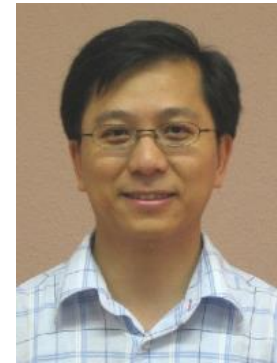several complex variables, complex geometry, algebraic geometry

Prof. W.S. Cheung (Harvard)
differential geometry, differential equations, analytic inequalities

Prof. J.H. Lu (Berkeley)
Poisson geometry and Lie theory

Dr. Z. Hua (Wisconsin)
algebraic geometry

Prof. T.W. Ng (HKUST)
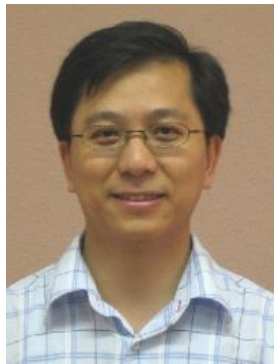complex analysis, game theory and mathematical biology

Analysis

Prof. W.S. Cheung (Harvard)
differential geometry, differential
equations, analytic inequalities

Prof. N. Mok (Stanford)
several complex variables, complex
geometry, algebraic geometry

Prof. T.W. Ng (HKUST)
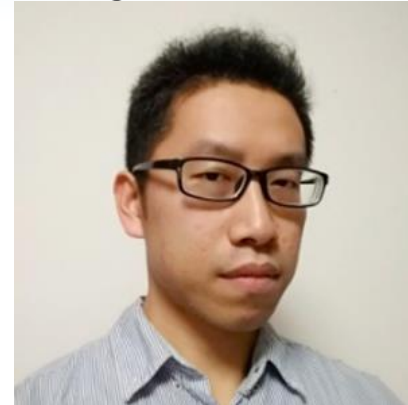complex analysis, game theory
and mathematical biology

Dr. T. K. Wong (New York University)
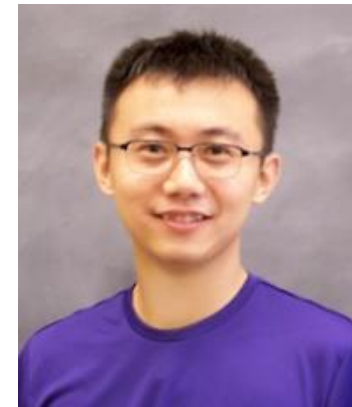partial differential equations

Number Theory

Prof. Y.K. Lau (HKU)
number theory

Dr. Chun Yin Hui (Indiana)
algebraic number theory,
arithmetic geometry

Dr. B. Kane (Wisconsin)
number theory,
combinatorics

Dr. Z. Zhang (StronyBrook)
number theory

Optimization and Operations Research

Prof. W.K. Ching (CUHK)
mathematical modeling, applied computing, optimization

Prof. W. Zang (Rutgers)
combinatorics and optimization

Dr. Z. Qu (Ecole Polytechnique)
operations research, optimal control and optimization

Prof. X.M. Yuan (CityU)
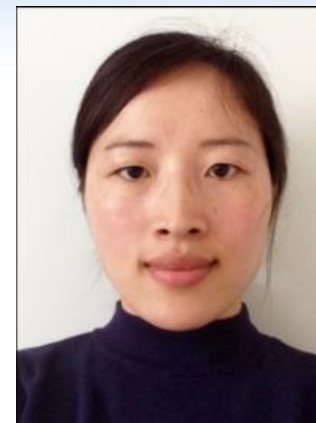numerical optimization and its applications to AI and scientific computing

Computational Mathematics

Prof. W.K. Ching (CUHK)
mathematical modeling, applied computing, optimization

Prof. X.M. Yuan (CityU)
numerical optimization and its applications to intelligence and scientific computing

Dr. Guanglian Li (Texas A&M)
numerical analysis, computational mathematics

Prof. G. Han (Notre Dame)
coding and information theory, cryptography

Dr. Z. Zhang (Tsinghua)
scientific computation, biomechanics

Prof. K.P. Ng (CUHK)
scientific computing, numerical linear algebra

Some Postdocs

Dr. Yuguang Yan
(Postdoctoral Fellow)
machine learning, data mining

Dr. Kwok Kin Wong
(Postdoctoral Fellow)
geometry

Dr. Sudhir Kumar Pujahari
(Postdoctoral Fellow)
number theory

Dr. Dayoon Park
(Postdoctoral Fellow)
number theory

Dr. Minjoo Jang
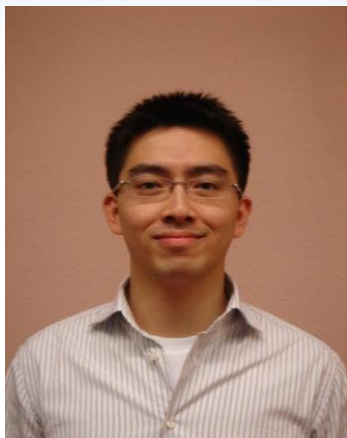**(Postdoctoral Fellow)**
number theory

Dr. Sandy Shan Tai Chan
(Postdoctoral Fellow)
several complex variables

Lecturers

Dr. C.W. Wong
analysis and
control theory

Dr. Y.M. Chan
complex, symplectic
and differential geometry

Dr. K.H. Law
combinatorics, graph
theory

Dr. H. Zhang
asymptotic analysis,
integral and differential
equations

Dr. T. W. Ching
number theory

Career Prospects

❖Academia: post-doctoral fellowships and tenure track professorships at major universities in the greater China area and overseas.

❖Industries: R&D positions in high-tech industry, financial industry and so on in the greater China area.

You are most welcome to join us...

Thank you