

# Curriculum Vitae of Hongyu Liu

## Contact Information

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## Academic Experience

Chair Professor of Applied Mathematics (2024–),  
Professor (2020–2024), Associate Head (2022–2023):  
Department of Mathematics, City University of Hong Kong, Hong Kong SAR, China

Acting Head and Professor (2021):  
Department of Biostatistics, City University of Hong Kong, Hong Kong SAR, China

Professor (2018–20), Associate Head (2017–20), Associate Professor (2014–18):  
Department of Mathematics, Hong Kong Baptist University, Hong Kong SAR, China

Assistant Professor (2011–14):  
Department of Mathematics, University of North Carolina, Charlotte, USA

Lecturer (2011):  
Department of Mathematics, University of Reading, UK

Acting Assistant Professor (2007–2010):  
Department of Mathematics, University of Washington, Seattle, USA.

Ph.D. in Mathematics (2007) The Chinese University of Hong Kong, Hong Kong SAR

## External Academic Appointments:

Distinguished Visiting Professor, Academy of Mathematics and Systems Science, Chinese Academy of Sciences (6–7/2024)

Changjiang Chair Professor, Central South University, Changsha, China (2021–2024)

Minjiang Chair Professor, Minjiang University, Fuzhou, China (2021–2024)

Chair Professor, Shenzhen MSU-BIT University, Shenzhen, China (2023–present)

## Research Interest

Inverse Problems and Imaging; Wave Propagation; Analysis and PDEs; Mathematical Materials Science; Scattering Theory; Spectral Theory; Mean Field Games; Mathematical Biology; Geometric Integration of Dynamical Systems; Numerical Analysis and Scientific Computing; Biomimetic Learning and AIs.

## Scholarly Works

3 patent disclosures (2 to China and 1 to USA);

4 books (3 by Springer and 1 by Société Mathématique de France);

180 journal papers+11 accepted for publication+21 preprints submitted for publication

3 conference proceeding papers

## Honors, Awards and Prizes

### International:

Fellow of IOP, Institute of Physics, UK, 2023.

Fellow of IMA, Institute of Mathematics and its Applications, UK, 2023.

IOP Trusted Reviewer Status, IOP Publishing, UK, 2023.

World's Top 2% Most Highly Cited Scientist, List by Stanford University, 2022 & 2023.

Calderón Prize, Inverse Problems International Association (IPIA), 2017.

MediaV Prize, International Conference on Inverse Problems and Related Topics, 2016, Seoul, South Korea.

Plenary Speaker, AIP Conference 2017, Inverse Problems International Association (IPIA), Hangzhou, China.

Plenary Speaker, AIP Conference 2015, Inverse Problems International Association (IPIA), Helsinki, Finland.

PIMS Postdoctoral Fellowship, Pacific Institute of Mathematical Sciences, Canada, 2008–2010.

### National/Regional:

Distinguished Visiting Professorship, AMSS, Chinese Academy of Sciences, 2024.

Beijing Science and Technology Award (Second Prize), 2023.

Guangxi Science and Technology Award (Second Prize), 2023.

Changjiang Chair Professorship, Changjiang Scholars Program, Ministry of Education, China, 2020.

Minjiang Chair Professorship, Minjiang Scholars Program, Fujian Province, China, 2020.

HKMS Young Scholar Award, Hong Kong Mathematical Society, 2019.

### Internal:

Faculty/School Performance Award in Scholarly Work, HKBU, 2018.

Academic Staff Fellowship, HKBU, 2017.

Award for the Best Research Output by Research Postgraduate Students, The Chinese University of Hong Kong, 2007–2008.

### Scholarly:

The paper “Recovering piecewise constant refractive indices by a single far-field pattern” in Inverse Problems, was awarded an IOP Publishing Top Cited Paper Award, 2023. (*The award “recognizes it as one of the most cited papers, with a corresponding author from China, published across the entire IOP Publishing journal portfolio within the past three years (2020 to 2022). It also features in the top 1% of most cited articles in the Mathematics subject category. This data is from the citations recorded in Web of Science.*)

The paper “Enhanced Near-Cloak by FSH Lining” was awarded Highly Cited Research by the Journal de Mathématiques Pures et Appliquées in 2016.

5 papers were selected into “Editorial Highlights of the Year” by the journal, Inverse Problems ( 2017/2015/2009/2008/2007).

1 paper was selected as “Insight Article” by the journal, Inverse Problems, 2012.

1 paper was selected a “Research Highlight” and Cover by the journal, Journal of Mathematical Physics, 2012.

1 paper was selected as “Featured Article” by the journal, Inverse Problems, 2006.

### **Professional and Outreach Activities and Services**

Council Member, Hong Kong Mathematical Society, 2024–present

Secretary and Executive Committee Member, Inverse Problems International Association (IPIA), 2023–present

Panel Member of Physical Sciences, Hong Kong Research Grants Council (RGC), 2018–present

Board Member, Hong Kong Society for Industrial and Applied Mathematics, 2020–present

Founding Vice Chair, Activity Group on Analysis and Simulation of Uncertain Systems, China Simulation Federation, 2020–present

Secretary (2015–2024), Council Member at large (2024–), East Asia Section of Inverse Problems International Association (EAIPIA)

Member, Liu Bie Ju Centre for Mathematics Sciences, City University of Hong Kong, 2020–present

Selection Panel Member, Hong Kong PhD Fellowship Programme, Hong Kong Research Grants Council, 2018/19.

Selection Committee, Calderón Prize, Inverse Problems International Association (IPIA), 2019.

Panel Member of Inverse Problems, NSF of USA, 2013.

### **Editorial Services:**

**Co-Founding Editor-in-Chief**, *Communications on Analysis and Computation*, American Institute of Mathematical Sciences, 2022–present.

### **Editorial Board Members:**

*Journal of Nonlinear Mathematical Physics*, Springer, 2022–present.

*Heliyon*, Cell Press, Advisory Board Member, Mathematics Section, 2022–present.

*Inverse Problems and Imaging*, American Institute of Mathematical Sciences, 2016–present.

*Journal of Korean Society for Industrial and Applied Mathematics*, 2014–present.

*e-Journal of Analysis and Applied Mathematics*, 2018–present.

*Contemporary Analysis and Applied Mathematics*, 2015–2018.

### **Guest Editors:**

*East Asian Journal on Applied Mathematics*, 2018.