



*Award Presentation*



*RGC Early Career Award*





## *ECA Awardees*

**Dr Venus Hiu Ling LO**

*City University of Hong Kong*

**Dr Xin HUANG**

*Hong Kong Baptist University*

**Prof Kin-wai CHAN**

*The Chinese University of Hong Kong*

**Prof Jacque Pak-kan IP**

*The Chinese University of Hong Kong*

**Prof Changhong ZHAO**

*The Chinese University of Hong Kong*

**Dr Yi JIANG**

*The Hong Kong Polytechnic University*

**Dr Chau-ming SO**

*The Hong Kong Polytechnic University*

**Dr Man-chung YUE**

*The Hong Kong Polytechnic University*





## *ECA Awardees*

**Prof Ivan Chi-ho IP**

**Dr Ke WANG**

**Dr Junzhi LIU**

**Dr Laura Anne MEEK**

**Dr Yung-wa SIN**

*The Hong Kong University of Science and Technology*

*The Hong Kong University of Science and Technology*

*The University of Hong Kong*

*The University of Hong Kong*

*The University of Hong Kong*





*ECA Awardee*

**Dr Venus Hiu Ling LO**  
Department of Management Sciences  
City University of Hong Kong

*Project Title:*

*Multi-Stage Assortment Optimization for an Omnichannel  
Retailer*



**盧曉羚博士**





## *ECA Awardee*



**Dr Venus Hiu-ling LO**

- ☞ PhD from Cornell University
- ☞ Assistant Professor in the Department of Management Sciences at CityU
- ☞ Interests in the field of revenue management, with a focus on assortment optimization in multi-channel and multi-stage settings.
- ☞ Her recent work focuses on developing algorithms and insights for complex models that account for the interactions between a retailer's online retail channel and physical stores.
- ☞ This project studies omnichannel assortment optimization to identify strategies that can help an omnichannel retailer increase his total expected revenue.
- ☞ Her work has been presented at international conferences such as INFORMS and POMS.





*ECA Awardee*

**Dr Xin HUANG**

Department of Computer Science  
Hong Kong Baptist University

*Project Title:*

*Efficient Community Search on Large Directed Graphs*



黃欣博士





## *ECA Awardee*



**Dr Xin HUANG**

- ❧ PhD from the Chinese University of Hong Kong
- ❧ Assistant Professor in the Computer Science at HKBU
- ❧ Interests in developing innovative technologies and theories of data science, especially on large-scale graph data management and mining.
- ❧ This project investigates new problems regarding community search over large directed graphs. It aims at developing novel community models and techniques for efficiently finding query-based dense communities.





*ECA Awardee*

**Prof Kin-wai CHAN**  
Department of Statistics  
The Chinese University of Hong Kong

*Project Title:*

*Multiple Incompatibility Problems in Multiple Imputation  
Procedures*



**陳健威教授**







## *ECA Awardee*



**Prof Kin-wai CHAN**

- ❧ PhD from Harvard University
- ❧ Assistant Professor in the Department of Statistics at CUHK
- ❧ Interests in statistical inference for dependent data and incomplete data. His research topics include covariance matrix estimation, change point detection, multi-phase inference and data privacy.
- ❧ This project aims at developing a unified procedure for handling various incompatible problems. It is particularly important for this age of data science as it enables division of labor, protection of privacy and knowledge fusion.
- ❧ Awards and Honours:
  - 🏆 Faculty Exemplary Teaching Award (2019)





*ECA Awardee*

**Prof Jacque Pak-kan IP**  
School of Biomedical Sciences  
The Chinese University of Hong Kong

*Project Title:*

*Investigating the roles of input-specific cooperative synaptic plasticity in visual cortical plasticity: implications for amblyopia*



葉栢勤教授





## *ECA Awardee*



**Prof Jacque Pak-kan IP**

- ☞ PhD from The Hong Kong University of Science and Technology
- ☞ Assistant Professor in the School of Biomedical Sciences at CUHK
- ☞ Devoted his research to investigate the mechanisms of synaptic plasticity, and will continue to expand his research focus on how such mechanistic defects result in autism-related disorders.
- ☞ This project will provide critical information for understanding the roles of synaptic plasticity in the brains in the context of health and disease.
- ☞ Awards and Honours:
  - 🏆 Croucher Studentship
  - 🏆 Sir Edward Youde Memorial fellowship
  - 🏆 IBRO Rita Levi-Montalcini Research fellowship
  - 🏆 Human Frontier Science Program Long-Term fellowship





*ECA Awardee*

# Prof Changhong ZHAO

Department of Information Engineering  
The Chinese University of Hong Kong

*Project Title:*

*Optimizing Multiphase Power Flow via Exact Convex  
Relaxation and Distributed Feedback Design*



趙常宏教授





## *ECA Awardee*



**Prof Changhong ZHAO**

- ☞ PhD from California Institute of Technology
- ☞ Assistant Professor of Information Engineering at CUHK
- ☞ Interests in control and optimization of network systems such as power grid.
- ☞ This project aims to develop a fast and scalable method to solve the fundamental and challenging optimal power flow (OPF) problem for operating a power network integrated with a large number of distributed energy resources.
- ☞ Awards and Honours:
  - 🏆 Best PhD thesis awards at both department and division levels from California Institute of Technology
  - 🏆 Led multiple research projects at the U.S. National Renewable Energy Laboratory on smart grid control





*ECA Awardee*

**Dr Yi JIANG**

Department of Civil and Environmental Engineering  
The Hong Kong Polytechnic University

*Project Title:*

*Advanced Nanocomposite Membranes Synthesized by An  
Aerosol-assisted Fabrication Approach for Water and  
Wastewater Treatment*



蔣毅博士





## ECA Awardee



**Prof Yi JIANG**

- ❧ PhD from Washington University
- ❧ Assistant Professor in the Department of Civil and Environmental Engineering at PolyU
- ❧ Major research interests and areas are environmental applications and implications of nanotechnology, aerosol technology and advanced water treatment.
- ❧ This project plans to develop a novel aerosol-assisted fabrication approach for synthesizing a new paradigm of nanocomposite water treatment membranes with high and uniform surface coverage of engineered functional nanomaterials.
- ❧ Awards and Honours:
  - 🏆 Excellence in Review award from the journal Environmental Science & Technology
  - 🏆 CH2M/AEESP Outstanding Doctoral Dissertation Award from the Association of Environmental Engineering and Science Professors
  - 🏆 Graduate Student Award from the American Chemical Society
  - 🏆 Doctoral Research Award from Washington University in St. Louis.







*ECA Awardee*

## **Dr Chau-ming SO**

Department of Applied Biology and Chemical Technology  
**The Hong Kong Polytechnic University**

*Project Title:*

*A Rational Design of Heterocyclic-based Ligands and  
Application in Carbon–Carbon and Carbon–Heteroatom  
Bond Forming Coupling Reactions*



**蘇秋銘博士**







## ECA Awardee



**Dr Chau-ming SO**

- ☞ PhD from the Hong Kong Polytechnic University
- ☞ Assistant Professor in the Department of Applied Biology and Chemical Technology at PolyU
- ☞ Interests in developing new ligands and exploring their application in carbon-carbon and carbon-heteroatom bond formation reactions.
- ☞ This project will establish a facile approach for synthesizing phosphine ligands, constructing the ligand library, and developing a methodology to address currently problematic coupling reactions and unexplored substrates transformations.
- ☞ Awards and Honours:
  - 🏆 Hong Kong Young Scientist Award
  - 🏆 Eli Lilly Asia Outstanding Graduate Thesis Award (1<sup>st</sup> Place Award)
  - 🏆 Higher Education Outstanding Scientific Research Output Awards (Science and Technology) Second-class Award in Natural Science, Ministry of Education, PR China





*ECA Awardee*

**Dr Man-chung YUE**  
Department of Applied Mathematics  
The Hong Kong Polytechnic University

*Project Title:*

*Distributional Robustification with Fisher-Rao Ambiguity  
Sets*



余文忠博士





## *ECA Awardee*



**Dr Man-chung YUE**

- ☞ PhD from the Chinese University of Hong Kong
- ☞ Assistant Professor in the Department of Applied Mathematics at PolyU
- ☞ Interests in continuous optimization and its applications in machine learning, data science, signal processing and operations research.
- ☞ This project proposes and studies a new methodology for decision making under uncertainty. The project is expected to make a positive impact to the application domains.
- ☞ He settles an open question in the theory of interior-point methods. It is recently published in the journal *Mathematics of Operations Research*.





*ECA Awardee*

**Prof Ivan Chi-ho IP**  
Department of Mathematics  
The Hong Kong University of Science  
and Technology

*Project Title:*

*The Theory of Positive Representations and its Applications*



**葉智皓教授**





## *ECA Awardee*



**Prof Ivan Chi-ho IP**

- ☞ PhD from Yale University
- ☞ Assistant Professor in the Department of Mathematics at HKUST
- ☞ Interests in intersection of representation theory, quantum geometry and mathematical physics.
- ☞ This project will promote connections to different areas of mathematics and physics, including cluster algebra and quantum integrable systems.
- ☞ Awards and Honours:
  - 🏆 International Mathematical Olympiad Medalist for the Hong Kong team (2002)
  - 🏆 International Consortium of Chinese Mathematicians Distinguished Paper Award (2018)





*ECA Awardee*

**Dr Ke WANG**

Department of Mathematics

The Hong Kong University of Science  
and Technology

*Project Title:*

*Low-rank perturbations of large random matrices*



王可博士





## *ECA Awardee*



**Dr Ke WANG**

- ☞ PhD from Rutgers University-New Brunswick
- ☞ Assistant Professor of Mathematics at HKUST
- ☞ Interests in probabilistic combinatorics and random matrix theory and made significant contributions to the understanding of the theory and applications of random matrices and random graphs.
- ☞ This project elucidates the asymptotic statistical behavior of the extreme eigenvalues and eigenvectors of a large random matrix perturbed by a low-rank error. It find numerous applications in computer science, finance, statistics, signal processing, and wireless communication.





*ECA Awardee*

**Dr Junzhi LIU**  
Department of Chemistry  
The University of Hong Kong

*Project Title:*

*Exploring solution-phase synthetic approaches to nonalternant ring topologies in graphene nanostructures*



劉俊治博士







## ECA Awardee



**Dr Junzhi LIU**

- ☞ PhD from the Max Planck Institute for Polymer Research
- ☞ Assistant Professor at HKU
- ☞ Interests in bottom-up organic synthesis of topological carbon nanostructures and their applications in organic electronics.
- ☞ Published more than 40 peer-reviewed papers in high-impact chemistry journals, including Science (1 paper), J. Am. Chem. Soc. (14 papers), Angew. Chem. Int. Ed. (7 papers), Adv. Mater. (1 paper), Chem. Sci. (1 paper), etc.
- ☞ This project will provide a route for accessing novel properties of graphene nanostructures containing non-alternant topologies, such as curvatures, large open-shell biradical characters, increased chemical activities and new electronic functionalities (for applications in organic field effect transistors, nonlinear optics or spintronics).
- ☞ Awards and Honours:
  - 🏆 “Marie-Curie” fellowship (2011-2014)
  - 🏆 Chinese Government Award for Outstanding Self-financed Students Abroad (2015)
  - 🏆 International Union of Pure and Applied Chemistry (IUPAC) International Award for Young Chemists - Honorable Mention Award (2017)





*ECA Awardee*

**Dr Laura Anne MEEK**  
Centre for the Humanities and Medicine  
The University of Hong Kong

*Project Title:*

*Fakes, Poisons, and Medicines: Reconfiguring  
Pharmaceuticals in Tanzania*





## *ECA Awardee*



**Dr Laura Anne MEEK**

- ☞ PhD from the University of California, Davis
- ☞ Assistant Professor in the Centre for the Humanities and Medicine at HKU
- ☞ Interests in biomedical globalization, bodily epistemologies, and the politics of healing in East Africa.
- ☞ This project will address critically important issues regarding pharmaceutical use in Tanzania, where 30-60% of drugs are counterfeit. Understanding how people respond to such uncertain conditions will help policymakers and medical practitioners concerned about pharmaceutical use in and beyond Tanzania.





*ECA Awardee*

**Dr Yung-wa SIN**  
School of Biological Sciences  
The University of Hong Kong

*Project Title:*

*Genetic Basis of Plumage Coloration in the Seasonally and Sexually Dichromatic American Goldfinch and the Evolution of Plumage Patterns*



冼雍華博士





## ECA Awardee



**Dr Yung-wa SIN**

- ☞ PhD from the University of Oxford
- ☞ Assistant Professor in the School of Biological Sciences at HKU
- ☞ Interests in molecular ecology, evolutionary biology and behavioural genomics.
- ☞ Research topics include mate choice, animal behaviour, animal coloration, host-pathogen co-evolution, gene family evolution, genotype-phenotype association, phylogenomics, and conservation genomics.
- ☞ This project investigate the genes and regulatory elements responsible for plumage color patterning, and sexual and seasonal dichromatism.
- ☞ Awards and Honours:
  - 🏆 Croucher Scholarship

