Schedule

Date	Time	Name of Speakers and Talk Titles
16 July 2017	8:30am - 11:30am	Min DAI *Pricing of Exotic and Structured Products*
	2:00pm - 5:00pm	Daqing WANG *Application of Mathematical and Computational Finance in Investment Bank and Asset Management*
17 July 2017	8:30am - 11:30am	Jingzhi HUANG *Topics on Bond Pricing*
	2:00pm - 5:00pm	Ting CHEN *Corporate Bond, Real Estate Investment Trusts, and Securitization in U.S. Market*
18 July 2017	8:30am - 11:30am	Jingzhi HUANG *Topics on Bond Pricing*
	2:00pm - 5:00pm	Ting CHEN *Corporate Bond, Real Estate Investment Trusts, and Securitization in U.S. Market*
19 July 2017	8:30am - 11:30am	Yimin YANG *Selected Topics in Derivative Pricing and Risk Management*
	2:00pm - 5:00pm	Jingzhi HUANG *Topics on Bond Pricing*
20 July 2017	8:30am - 11:30am	Yimin YANG *Selected Topics in Derivative Pricing and Risk Management*
21 July 2017	8:30am - 11:30am	Ting CHEN *Corporate Bond, Real Estate Investment Trusts, and Securitization in U.S. Market*
	2:00pm – 5:00pm	Steven KOU *Two research problems in Quantitative Finance*
22 July 2017	8:30am - 11:30am	Yimin YANG *Selected Topics in Derivative Pricing and Risk Management*
	2:30pm - 5:30pm	Min DAI *Pricing of Exotic and Structured Products*
23 July 2017	8:30am - 11:30am	Xinfu CHEN *Mathematical Analysis for Optimal Strategies in Finance*

Corporate Bond, Real Estate Investment Trusts, and Securitization in U.S. Market

Ting CHEN, Practitioner for Quantitative Strategies, USA

Abstract:

1. Corporate Bond Market
   - ❖ Introduction and market overview
   - ❖ Basic types of corporate bonds
   - ❖ Pricing and risk analysis
   - ❖ Hedging strategies
   - ❖ Investing in corporate bonds

2. U.S. Real Estate Investment Trusts (REITs)
   - ❖ REITs structures and evolution timeline
   - ❖ Equity REITs
   - ❖ Mortgage REITs
   - ❖ Investment analysis framework

3. U.S. Securitization Market Overview
   - ❖ History of Asset Backed Securities in the U.S.
   - ❖ Role of securitization in funding the economy
   - ❖ ABS fundamentals and types of ABS
   - ❖ Structure of plain vanilla ABS and its asset specific variations
   - ❖ New issue process and secondary trading
   - ❖ Comparison to the corporate bond market
   - ❖ Benefits, risks and future of securitization

Biography:

As a long-term practitioner in the quantitative analysis of financial instruments, especially various fixed income securities. Dr. Ting Chen has first-hand experience in both primary and secondary markets and in-depth knowledge in the pricing, risk and hedging of corporate bonds, mortgage and asset backed securities, as well as their derivative products. Dr. Chen is currently responsible for the quantitative strategies of credit and asset backed securities for a top U.S. bank.

Dr. Chen holds a B.S. in Space Physics from University of Science and Technology of China, and a Ph.D. in Atmospheric and Planetary Sciences from Columbia University.

Mathematical Analysis for Optimal Strategies in Finance

Xinfu CHEN, University of Pittsburgh, USA

Abstract:
In this lecture series, standard mathematical tools from theory of partial differential equations will be introduced for solving mathematical finance problems that involved choices of optimal strategies. As a prototype, the American put option will be studied for illustration.

Biography:
To be advised

Pricing of Exotic and Structured Products

Min DAI, National University of Singapore, Singapore

Abstract:
It covers the valuation of various exotic and structured products in the financial markets, including convertible bonds, Parisian/Parasian options, volatility swaps, annuity products in insurance, etc. Numerical methods and implementations are also covered.

Biography:
Prof. DAI Min is currently the Director of the Centre for Quantitative Finance and the Deputy Direct of the Risk Management Institute, National University of Singapore (NUS) He had taught at Peking University before joining NUS. His research focuses on mathematical finance, particularly on financial derivative pricing and optimal investment with market imperfections. Currently he is in the Editorial Board of Journal of Economic Dynamics and Control, SIAM Journal on Financial Mathematics, Mathematics and Financial Economics, etc.

Topics on Bond Pricing

Jingzhi HUANG, Pennsylvania State University's Smeal College of Business, USA

Abstract:
"The subject of this talk is the valuation of both default-free and defaultable bonds. Specifically, we focus on the structural approach to credit risk modeling, and discuss both structural credit risk models and recent evidence in the literature on their empirical performance. We also consider recent developments in affine term structure models."

Biography:
Jingzhi Huang is Professor of Finance, McKinley Professor of Business and Professor of Mathematics at Pennsylvania State University's Smeal College of Business in the U.S. His research interests include derivatives markets, credit risk, fixed-income markets, mutual funds, and hedge funds. He currently serves on the editorial boards of Asia-Pacific Journal of Financial Studies, China Finance Review, Journal of Credit Risk, Journal of Finance and Data Science, Quarterly Journal of Finance, and Quarterly Journal of Finance and Accounting, and has served as a guest editor of the Journal of Fixed Income. He is also a charter member of The Chinese Finance Association and has served as its vice president. He received a B.S. from the University of Science and Technology of China, a Ph.D. in Physics from Auburn University and a Ph.D. in Finance from New York University.

Two research problems in Quantitative Finance

Steven KOU, National University of Singapore, Singapore

Abstract:
In this talk, we will present two research papers:
(1) The overpricing of leveraged products: a case study of dual-purpose funds in China.
(2) Consistent advices to financial advisors: bridging dynamic mean-variance and CRRA utility.

Biography:
Steven Kou is a Class ‘62 Chair Professor of Mathematics and the Director of the Risk Management Institute at the National University of Singapore. Previously, he taught at Columbia University (from 1998 to 2014), University of Michigan (1996-1998), and Rutgers University (1995-1996). He teaches courses in quantitative finance, stochastic models, and statistics. Currently he is a co-area-editor for Operations Research and has served on editorial boards of many journals, such as Management Science, Mathematical Finance, Advances in Applied Probability, Mathematics of Operations Research. He won the Erlang Prize from INFORMS in 2002. Some of his research results have been incorporated into standard MBA textbooks and have implemented in commercial software packages and terminals, e.g. in Bloomberg Terminals.

Application of Mathematical and Computational Finance in Investment Bank and Asset Management

Daqing WANG, Managing Director at Equity Division of China International Capital Corp, China

Abstract:
1. Application of Mathematical and Computational Finance in different era

2. How Investment Bank and asset management use financial derivative products, role of hedging in set up pricing models

3. Evolution of Financial Derivative products, its reason and restriction

4. Uses of Mathematical Finance in asset management and its implication for sell side
5. New Recent Development for investment banks and brokers in the demand of mathematical & computational finance

Biography:
Daqing WANG is currently Managing Director at Equity Division in CICC, running Equity Delta One Business. He used to work in Scotiabank and Deutsche Bank in the area of fixed income derivative and algorithmic and quantitative trading. A Graduate with Applied Math Ph.D. from Carnegie Mellon University and Computational Mathematics B.S from Nanjing University

Selected Topics in Derivative Pricing and Risk Management

Yimin YANG, Managing Director of major US Consulting Firm, USA

Abstract:

1. Evaluation of Mortgage Servicing Rights
   - ❖ Mortgage servicing rights, or MSR, are contractual agreements to administer mortgages and earn resulting fees. They can produce significant revenues over the life of the loan. But they have always been particularly difficult to evaluate. We will explain the valuation methodology for MSR.

2. MOATS model for Current Coupon
   - ❖ When OAS is used in evaluating mortgage products, it is critical to model the Current Coupon as a key driver for refinancing. CITI bank uses the MOATS in its YieldBook to forecast Current Coupon.

3. Fundamental Review of Trading books (FRTB) and Current Expected Credit Loss (CECL)
   - ❖ FRTB is the current largest business initiative for market risk and CECL is the upcoming Loss reserve model for credit risk. Both will have significant impacts on banks and their implementations are challenging.

4. ISDA Initial Margin SIMM model
   - ❖ OTC transactions are now required to be cleared through clearinghouses. This effectively eliminates Counterparty Credit Risk. ISAD published a standard Initial Margin model for calculating margin requirements

Biography:

Dr. Yimin Yang is a managing director at a major US consulting firm. He has over 15 years of experience in financial risk management, including heading credit and market risk analytics for two top 10 U.S. banks where he developed enterprise-wide methodologies, techniques and applications for risk modeling and business development. It is the 6th largest risk consulting firm in USA and Yimin is responsible for credit and market risk analytics, capital management and anti-money laundering quantitative assessment.

Dr. Yang has a Ph.D. from University of Chicago and was a faculty member at University of Minnesota.