

## WFE Clear 2026

### Conference Programme

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#### Day 1 - Tue 21 Apr

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08:30 - 09:00: **Registration**

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09:00 - 09:15: **Opening Remarks**

#### Moderators



**John McKenzie**  
Chief Executive Officer, TMX Group  
Chair, The World Federation of Exchanges



**Nandini Sukumar**  
Chief Executive Officer  
World Federation of Exchanges (WFE)



**Dr. Pedro Gurrola Perez**  
Head of Research  
World Federation of Exchanges (WFE)

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09:15 - 10:15:

## Panel 1: Technology Transformation: Evolving Infrastructure in Central Clearing

Market infrastructures are under pressure to support extended trading hours, faster risk cycles, and higher operational resilience on technology stacks often designed for batch processing and manual intervention. These pressures are being intensified by the move towards 24/7 trading models, the growing use of AI and advanced analytics in risk management, and emerging tokenisation and DLT-based market structures. Where do legacy systems actively constrain resilience and scalability, and where do modern architectures genuinely improve them? What are the concrete advantages and trade-offs of cloud adoption, modular system design, and increased reliance on third-party providers, and how can we be confident that transformation results in greater resilience rather than new points of fragility? How should MIs manage concentration and geopolitical dependencies on global technology providers, including the risk of service disruption, jurisdictional constraints, or loss of access, while maintaining auditability, operational control, and supervisory confidence?

### Moderator



**Amandeep Rehlon**

Head of FMI Portfolio, Committee on Payments and Market Infrastructures (CPMI)  
Bank for International Settlements (BIS)

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### Speakers



**Cindy Hull**

Vice President and Head of Financial Markets Group  
Federal Reserve Bank of Chicago



**Christian Sjöberg**

President, Nasdaq Clearing AB  
Nasdaq, Inc



**Michael Carty**

Chief Executive Officer, LME Clear  
London Metal Exchange (LME)



**Vikram Kothari**

Managing Director & CEO, NSE Clearing  
National Stock Exchange of India (NSE)

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10:15 - 10:45:

### Coffee Break

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10:45 - 11:30:

## **Academic Paper Presentation 1: Expanded Value at Risk (eVaR) - Risk Management for Multi-Asset and Multi-Product Portfolios at CCPs by Fernando Cerezetti, George Kapetanios, and Alexia Ventouri**

As markets evolve and technology advances, market integration enables not only larger-dimension portfolios but also more complex financial contracts. Any risk metric that fails to correctly measure these two dimensions will deliver biased risk estimates. When multivariate distributions are considered, traditional risk metrics used by central counterparties (CCPs) are typically deployed using a simplified characterisation of the probability space. This raises the question of whether these metrics could be enhanced to capture the risks of today's portfolios. The objective of this paper is to propose an alternative method for assessing the market risk of multi-asset and multi-product portfolios, namely an expanded Value at Risk (eVaR). There are two key benefits of the eVaR. First, loss of information is reduced by defining the metric at the risk-factor level. Traditional risk methods assess probability based on a portfolio's profit and loss (PnL), which can underestimate risk for non-outright exposures. Second, the eVaR is a portfolio-specific risk metric. The method inverts the traditional logic whereby all portfolios are assessed under the same set of states of the world, even though they may have substantially different risk profiles. The proposed method can be used to complement existing risk tools used by CCPs by locally expanding estimates already available, or it can be used as a standalone, end-to-end risk calculation.

[Download Paper](#)

### **Moderator**



**Fernando Cerezetti**  
Researcher, King's College London, and Chief Risk Officer  
ClearToken

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### **Discussant**



**Dr. Radoslav Raykov**  
Principal Researcher, Financial Stability Department  
Bank of Canada

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11:30 - 12:15:

## Practitioner Session 1: Clearing For Extended Hours Trading

This practitioner session will explore the operational, strategic, and economic realities of extending trading and clearing hours. This discussion will examine why momentum toward near-24/5 markets is accelerating, and what it takes to deliver it in practice. Drawing on experience across post-trade infrastructures, the session will unpack key dependencies, including operational readiness, industry coordination, and unresolved design questions such as defining the trading day, managing outages, and handling corporate actions. It will also challenge assumptions around demand, assessing whether extended hours create new liquidity or simply redistribute it, and what lessons can be drawn from existing overnight derivatives markets.

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### Speakers



Arianne M. Collette

Managing Director, Head of US Equities

Depository Trust and Clearing Corporation (DTCC)



Mike Hansen

Chief Clearing and Settlement Services Officer

Options Clearing Corporation (OCC)

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12:15 - 13:45:

### Lunch

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13:45 - 14:45:

## Panel 2: Tokenisation and Digital Collateral in Clearing & Settlement

Tokenisation initiatives and digital asset sandboxes are accelerating, raising fundamental questions about their relevance for clearing and settlement. What near-term benefits are genuinely achievable, such as improved collateral mobility, faster settlement, or intraday liquidity optimisation? What new risks emerge around legal certainty, interoperability, cyber resilience, and governance? And how can lessons from pilot regimes and sandboxes be translated into durable improvements for core clearing and settlement processes?

### Moderator



**Dr. Martin Diehl**  
Head of Financial Market Infrastructure Analysis  
Deutsche Bundesbank

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### Speakers



**Val Wotton**  
Managing Director and Global Head of Equities Solutions  
Depository Trust and Clearing Corporation (DTCC)



**Barry King**  
Head of Post Trade Policy  
Bank of England



**Dr. Efthimia Kefalea**  
Head of Derivatives Clearing Market Development  
Eurex Clearing, Deutsche Börse Group



**John McPartland**  
Independent financial regulation and market infrastructure policy  
advisor

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14:45 - 15:30:

## **Academic Paper Presentation 2: Clearing Markets and Client Clearing Services by Salil Gadgil, Robin L. Lumsdaine, and Mark Paddrik**

This paper examines client clearing, which now accounts for the majority of risk managed in centrally cleared markets. Using confidential transaction-level data on credit default swaps, we show that client clearing enhances netting efficiency for dealers and generates pricing advantages for clients. Adoption of central clearing leads clients to expand their sets of dealer trading partners, thereby enhancing market access and competition. To access central counterparties, clients depend on clearing member firms, favoring those with stronger credit quality and with whom they have established trading relationships. Offering these services creates spillover benefits for member firms' market making activity by improving client retention and pricing power. Clients' reliance on clearing members creates operational fragilities under stress, however, especially for those with limited member relationships. The findings provide novel insights about the economic consequences of client clearing and are particularly relevant in light of recent clearing mandates, most notably in U.S. Treasury markets.

[Download Paper](#)

### **Moderator**



Salil Gadgil  
Researcher  
Office of Financial Research (OFR)

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### **Discussant**



Laura Klimpel  
Managing Director, Head of Fixed Income and Financing Solutions  
Depository Trust and Clearing Corporation (DTCC)

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15:30 - 15:45:

### **Coffee Break**

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15:45 - 16:45:

### **Panel 3: Exchanges & FMIs: Design Choices and Market Alignment**

As new central counterparties emerge and existing clearing structures evolve across both developed and growing markets, exchanges are revisiting a core strategic question: what do they need from an FMI to underpin liquidity and provide long-term resilience? This session examines the exchange perspective when establishing or reshaping clearing arrangements, including governance models, ownership structures, and service design. Drawing on practical experience, we will share insights on sequencing a new FMI build, aligning with regulatory expectations, and shaping clearing ecosystems - offering a view of how exchanges and FMIs can align incentives and market objectives from the outset.

#### **Moderator**



**Bruce Butterill**  
Executive Director  
Americas' Central Securities Depository Association (ACSDA)

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#### **Speakers**



**Stan Ivanov**  
President, ICE Clear Credit  
Intercontinental Exchange, Inc. (ICE)



**Francesco Mazzaferro**  
Head of Secretariat  
European Systemic Risk Board (ESRB)



**Ante Romić**  
Managing Director, Market Infrastructure  
Edaa (Qatar CSD)



**John Fennell**  
Chief Risk Officer & Head of Clearing Operations  
EDX Markets

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17:30 - 19:30:

### **Opening Reception**

## **Day 2 - Wed 22 Apr**

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08:30 - 09:00:

### **Registration**

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09:00 - 09:45:

## Academic Keynote: Do we need a clearing system for stablecoins?

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### Speaker



Rod Garratt  
Professor of Economics  
University of California at Santa Barbara

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09:45 - 09:50:

## Market Opening Ceremony

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### Speakers



John McKenzie  
Chief Executive Officer, TMX Group  
Chair, The World Federation of Exchanges



Nandini Sukumar  
Chief Executive Officer  
World Federation of Exchanges (WFE)

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09:50 - 10:50:

## Panel 4: The Future of FMI Risk Management: How Will It Evolve?

This panel will explore how CCP risk frameworks are evolving beyond historical stress scenarios and end-of-day processes, as markets shift towards more continuous trading and intraday risk management. Is risk management becoming a genuinely real-time activity, with more dynamic monitoring of exposures, margin requirements, and stress testing? We will examine how stress testing should adapt, and how CCPs can balance procyclicality controls with timely, risk-sensitive responses. The discussion will also consider the role of advanced analytics and AI, including what evidence exists that they materially improve risk outcomes, and where their benefits may be limited, particularly in terms of governance and accountability. Looking ahead, the panel will reflect on whether regulatory scrutiny around model approvals will intensify, or whether more flexible regimes will emerge, to support innovation and competitiveness.

### Moderator



Robert Steigerwald  
Independent policy advisor

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### Speakers



Massimo Cutuli  
Chief Financial Risk Officer  
Options Clearing Corporation (OCC)



Tao Chen  
Group Head of Quantitative Risk Management  
Hong Kong Exchanges & Clearing (HKEX)



Huan Zhang  
Chief Risk Officer  
Nodal Clear



Roberto Bermejo Aparicio  
Head of CCP Supervision & Post-Trading Division Deputy Director  
Spanish National Securities Market Commission (CNMV)

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10:50 - 11:15:

### Coffee Break

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11:15 - 12:00:

### **Academic Paper Presentation 3: Deepening the Secondary Market: Integrating Trade Credit into Market Clearing with the Cycles Protocol by Tomaž Fleischman and Ethan Buchman**

Current post-trade clearing systems rely almost exclusively on cash or cash-like collateral, leaving vast reserves of short-term liquidity embedded in trade credit outside formal settlement infrastructures. This paper introduces a clearing framework that integrates accounts receivable and payable (AR/AP) into secondary market settlement via the Cycles Protocol, a distributed, multilateral mechanism based on double-entry accounting and atomic cycle execution.

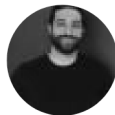
By representing both past obligations and future commitments as edges on a unified obligation graph, the protocol enables direct offsetting of interlocking balance-sheet claims across firms, exchanges, and clearinghouses without novation and without a central counterparty (CCP). Compared with liquidity-saving mechanisms (LSMs) in RTGS systems, this approach extends liquidity optimisation beyond interbank payments to real-economy financing networks, reducing systemic reliance on scarce collateral and central intermediaries.

[Download Paper](#)

#### **Moderators**



**Tomaž Fleischman**  
Principal Scientist and Co-Founder  
Cycles Protocol SA



**Ethan Buchman**  
Chief Executive Officer and Co-Founder  
Cycles Protocol SA

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#### **Discussant**



**John Fennell**  
Chief Risk Officer & Head of Clearing Operations  
EDX Markets

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12:00 - 13:30:

**Lunch**

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12:15 - 13:15:

## CCP Working Group Meeting - Roundtable on CCP Resolution Preparedness & Coordination

WFE members and invited speakers only

### Moderators



**Charlie Ryder**  
Senior Manager, Regulatory Affairs  
World Federation of Exchanges (WFE)



**Louise Waterhouse**  
Managing Director, Business Management & Strategic Initiatives, The  
Canadian Depository for Securities Limited (CDS)  
TMX Group

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### Speakers



**Craig Logan**  
Principal Economist, Financial Stability Department  
Bank of Canada



**Barry King**  
Head of Post Trade Policy  
Bank of England



**Amandeep Rehlon**  
Head of FMI Portfolio, Committee on Payments and Market  
Infrastructures (CPMI)  
Bank for International Settlements (BIS)



**Roberto Bermejo Aparicio**  
Head of CCP Supervision & Post-Trading Division Deputy Director  
Spanish National Securities Market Commission (CNMV)



**Vikram Kothari**  
Managing Director & CEO, NSE Clearing  
National Stock Exchange of India (NSE)



**Nathan Ice**  
Managing Director, Financial & Operational Risk Oversight  
Options Clearing Corporation (OCC)



**Val Wotton**  
Managing Director and Global Head of Equities Solutions  
Depository Trust and Clearing Corporation (DTCC)



**Huan Zhang**  
Chief Risk Officer  
Nodal Clear

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13:30 - 14:15:

## Practitioner Session 2: Risk Modelling

This session discusses how approaches to risk modelling evolve in a world shaped by changing regulation, increasing product complexity, and expanding uncertainty. What are critical failure points when designing a risk model? What are the main challenges when modelling risk factor dynamics? Are we over-reliant on historical data in environments that are fundamentally forward-looking and uncertain? When do correlations break down—and what does that imply for models built upon them? More fundamentally, how should risk modellers think about the boundary between measurable risk and irreducible uncertainty? What principles should guide model design? Finally, the session will explore whether emerging technologies — from advanced analytics to AI — can meaningfully transform risk modelling, or whether they risk reinforcing the same underlying assumptions in more sophisticated forms.

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### Speakers



Dr. Pedro Gurrola Perez  
Head of Research  
World Federation of Exchanges (WFE)



Stan Ivanov  
President, ICE Clear Credit  
Intercontinental Exchange, Inc. (ICE)

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14:15 - 14:45:

### Coffee Break

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14:45 - 15:45:

## Panel 5: Launching New Derivatives Markets and Kickstarting Liquidity

Developing liquid and resilient derivatives markets remains a priority for many, yet the road to success is often uneven and non-linear. What conditions need to be in place for a new derivatives market to gain traction? How can we design products, margin frameworks, and access models that manage risk and attract participation? How should consumer protections be implemented without impeding access to those who need derivatives to hedge risks? This panel explores practical lessons from markets that have launched new derivatives or successfully scaled liquidity, and examines how clearing, market structure, and regulatory design can enable sustainable growth.

### Moderator



**Richard Metcalfe**  
Head of Regulatory Affairs  
World Federation of Exchanges (WFE)

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### Speakers



**Jiyouji Ueda**  
Executive Director of CCPs, Securities and Derivatives  
Grupo Bolsa Mexicana de Valores (Grupo BMV)



**Ahmed Arharbi**  
Chief Executive Officer of CCP Morocco, Chief Operating Officer  
Casablanca Stock Exchange



**Cristina Di Luigi**  
Deputy Head of Post Trading Division, Markets and Payment  
Systems Oversight Directorate  
Banca d'Italia



**Neeraj Kulshrestha**  
Managing Director and CEO, NSE International Clearing Corporation,  
National Stock Exchange of India (NSE)

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15:45 - 16:30:

### **Academic Paper Presentation 4: Climate Risk Premium: Evidence from Commodity Options by Xin Gao, Bingxin Li, Kaitao Lin, and Rui Liu**

This paper investigates the pricing of climate-related risks in the commodity derivatives market. Leveraging a proprietary dataset of “brown” and “green” iron ore options traded on the Singapore Exchange, we document the existence of significant climate-specific variance and skewness risk premia. Our analysis reveals a nonlinear, inverted U-shaped relationship between climate policy uncertainty and these risk premia. Low-to-moderate uncertainty elevates premia by destabilising market expectations, whereas extreme uncertainty suppresses them by reducing market activity. We also find that the impact of climate policy uncertainty is asymmetric, with sustained levels having a stronger effect than transient shocks. These effects are concentrated in short-maturity options, highlighting the transitional nature of policy-induced risks. By employing a novel dual-differencing methodology, our study provides a direct and robust measure of climate-specific risk premia. This advances the understanding of climate risk pricing in commodity derivatives and offers valuable insights for policymakers and investors.

[Download Paper](#)

#### **Moderator**



Dr. Kaitao Lin  
Senior Financial Economist  
World Federation of Exchanges (WFE)

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#### **Discussant**



Dr. Xuhui (Nick) Pan  
Assistant Professor of Finance  
University of Oklahoma

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18:00 - 22:00:

### **Gala Dinner**

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## **Day 3 - Thu 23 Apr**

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09:00 - 09:30:

### **Registration**

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09:30 - 10:50:

## Innovation Award Presentations

### Moderator



Nandini Sukumar  
Chief Executive Officer  
World Federation of Exchanges (WFE)

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### Speakers



Dale Michaels  
Head of Cboe Clear U.S.  
Cboe Global Markets



Rana Usman  
Chief Operating Officer, NSE Clearing  
National Stock Exchange of India (NSE)



Benjamin Landis  
Senior Associate Vice President  
Deutsche Börse

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10:50 - 11:15:

## Coffee Break

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11:15 - 12:00:

## **Academic Paper Presentation 5: Factor Model Analysis of Margin Backtesting for CCPs by Rama Kumanduri and Shahrzad Karimi**

Central counterparties (CCPs) globally conduct backtesting of margin model performance for clearing member accounts to ensure models meet the required 99% coverage threshold. The Principles for Financial Market Infrastructures (PFMI) provide guidance on aggregate coverage and the analysis of backtesting exceptions to inform model enhancement decisions.

CCPs typically employ traditional statistical tests, such as Kupiec and Christoffersen tests, alongside distributional approaches such as probit or quantile tests to assess model performance. While regulatory guidance exists for core model backtesting using representative portfolios, there is limited direction on how to link backtesting performance at the level of individual risk factor portfolios to overall model performance.

This paper proposes a method to estimate the expected number of margin backtesting exceptions using a factor model framework, enabling model developers and risk managers to stress test margin model performance. Backtesting exceptions can be decomposed into systematic and idiosyncratic components, allowing deviations from expected performance to highlight potential model deficiencies, including issues in modelling risk factor volatilities and correlations.

Additional scenario analysis, particularly under stress conditions, can further inform decisions on mitigating margin procyclicality, based on expected model performance at the targeted 99% confidence level.

[Download Paper](#)

### **Moderators**



**Rama Kumanduri**

Managing Director & Head of Model Risk Management  
Options Clearing Corporation (OCC)



**Shahrzad Karimi**

Director in Model Risk Management  
Options Clearing Corporation (OCC)

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### **Discussant**



**Roberto Bermejo Aparicio**

Head of CCP Supervision & Post-Trading Division Deputy Director  
Spanish National Securities Market Commission (CNMV)

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12:00 - 13:30:

**Lunch**

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13:30 - 14:30:

## Panel 6: Prediction Markets and Event-Based Trading

Prediction markets and event-based contracts are gaining visibility across jurisdictions, raising new questions for market infrastructures about product design, risk management, and regulatory treatment. How should we assess the risk characteristics of event-driven products that settle on discrete, binary outcomes rather than continuous price formation? Do existing margin models, default management tools, and stress frameworks adequately capture jump risk, concentration, and information asymmetries inherent in these markets? And what lessons can we draw from early experiences to determine where central clearing adds value, where guardrails are needed, and how to engage constructively with regulators as these markets continue to evolve?

### Moderator



**John Lothian**  
Executive Chairman  
John J. Lothian & Company, Inc.

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### Speakers



**Robert Tasca**  
Managing Director, Derivatives Products and Services, Montréal  
Exchange  
TMX Group



**Prof. Paolo Saguato**  
Professor of Law, Antonin Scalia Law School  
George Mason University



**Dr. Julie Schoening**  
Global Chief Operating Officer  
Graviton Research Capital



**Angelina Kwan**  
Chief Executive Officer  
Stratford Finance

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14:30 - 15:15:

### **Practitioner Session 3: General Business Risks and Non-Default Losses - Operational Resilience at CCPs**

Central counterparties have developed robust frameworks to manage non default losses and general business risks alongside their well established default management arrangements. This session will explore how CCPs structure and operationalise these safeguards in practice, covering risks arising from operational disruption, cyber incidents, legal exposures, investment activity, and third party dependencies. How are capital buffers calibrated and governed? How do recovery planning tools interact with general business risk frameworks? And what does effective operational resilience look like in an environment of increasing technological complexity, interconnection, and geopolitical uncertainty?

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#### **Speakers**



**Ashwini Panse**

Chief Risk Officer, North American Clearing; Managing Director, ICE India  
Intercontinental Exchange, Inc. (ICE)



**Olivier Léon**

Vice-President & Chief Risk Officer, TMX Post-Trade Services  
TMX Group

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15:15 - 15:45:

### **Coffee Break**

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15:45 - 16:30:

## **Academic Paper Presentation 6: Risk Management for Options Using Deep Generative Modelling of Risk-Neutral Distributions by Rohit Barve, Aniket Bhanu, and Rejaul Barbhuyan**

Risk management models for cleared options at Central Counterparties (CCPs) conventionally rely on simulations of risk factors such as underlying prices and implied volatilities to generate option price returns. These models compress rich market information and introduce model dependent biases. This paper presents a model-independent methodology for simulating option price returns by capturing changes in risk-neutral distributions (RNDs) derived from historical option prices. The approach involves training a Tabular Variational Autoencoder (TVAE), a deep generative model, to learn and generate daily variations in RND based on observed historical patterns. The approach is evaluated on Indian options market data and demonstrates superior performance to Monte Carlo simulations in capturing option price return distributions.

This method provides CCPs with a more accurate framework for risk measurement, margin setting, stress scenario design, and model validation.

[Download Paper](#)

### **Moderator**



Rohit Barve

Deputy Manager, Research & Policy, NSE Clearing  
National Stock Exchange of India

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### **Discussant**



Dr. Jorge Cruz Lopez

Managing Director, Head of Research  
Global Risk Institute

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16:30 - 16:45:

## Concluding Remarks & Announcement of WFEclear 2027

### Moderators



John McKenzie  
Chief Executive Officer, TMX Group  
Chair, The World Federation of Exchanges



Nandini Sukumar  
Chief Executive Officer  
World Federation of Exchanges (WFE)



Dauletbek Kussainov  
Ambassador Extraordinary and Plenipotentiary of the Republic of  
Kazakhstan to Canada  
Embassy of the Republic of Kazakhstan



Yekaterina Andryushina  
Managing Director for International Cooperation & Sustainability  
Kazakhstan Stock Exchange (KASE)

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17:00 - 18:00:

### Farewell Reception

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