CBER-CDFT-DSF Summer School
June 20 - 21, 2024
Columbia Engineering Innovation Hub
2276 12th Avenue, Floor 2 Tang Family Hall, New York, NY 10027

June 20th: Microstructure of Ethereum Blockchain

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome and Opening Remarks</td>
<td>8:15 am – 8:30 am</td>
<td>Agostino Capponi, Columbia University</td>
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<tr>
<td>Introduction to Ethereum</td>
<td>8:30 am – 9:45 am</td>
<td>Fahad Saleh, University of Florida</td>
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<tr>
<td>Coffee Break</td>
<td>9:45 am – 10:00 am</td>
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<tr>
<td>Decentralized Exchanges</td>
<td>10:00 am – 11:15 am</td>
<td>Andreas Park, University of Toronto</td>
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<tr>
<td>Lunch with DSF Session</td>
<td>11:15 am – 12:45 am</td>
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<tr>
<td>Proposer-Builder-Separation</td>
<td>12:45 am – 2:00 pm</td>
<td>Agostino Capponi, Columbia University</td>
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</tbody>
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Readings:
- **John, Monnot, Mueller, Saleh, and Schwarz-Schilling (2024)**
- Buterin, Hernandez, Kamphofner, Pham, Qiao, Ryan, Sin, Wang, and Zhang (2020)
- Roșu and Saleh (2021)
- Saleh (2021)
- Schwarz-Schilling, Saleh, Thiery, Pan, Shah, and Monnot (2023)
- Park (2022)
- Barbon and Ranaldo (2021)
- Milionis, Moallemi, Roughgarden, and Zhang (2022)
- Capponi and Jia (2023)
- Hasbrouck, Rivera, and Saleh (2023)
- Park (2023)
- Lehar and Parlour (2024)
- **Capponi, Jia, and Olafsson (2024)**
- Bahrani, Garimidi, and Roughgarden (2024)
- Gupta, Pai, and Resnick (2023)
- John et al. (2024)
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker</th>
<th>University</th>
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<tbody>
<tr>
<td>2:00 pm – 2:15 pm</td>
<td>Coffee Break</td>
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<tr>
<td>2:15 pm – 3:30 pm</td>
<td>AMM Design and Maximal Extractable Value</td>
<td>Ciamac Moallemi</td>
<td>Columbia University</td>
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<td>3:30 pm – 3:45 pm</td>
<td>Coffee Break</td>
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<tr>
<td>3:45 pm – 5:00 pm</td>
<td>Computer Science Perspective</td>
<td>Vassilis Zikas</td>
<td>Purdue University</td>
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<tr>
<td>8:30 am – 9:45 am</td>
<td>Introduction to Smart Contracts</td>
<td>Fahad Saleh</td>
<td>University of Florida</td>
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<tr>
<td>9:45 am – 10:00 am</td>
<td>Coffee Break</td>
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<tr>
<td>10:00 am – 11:15 am</td>
<td>Tokenomics: Categorization, Functionality, Pricing and Design</td>
<td>Lin William Cong</td>
<td>Cornell University</td>
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<tr>
<td>11:15 am – 12:45 am</td>
<td>Lunch with DSF Session</td>
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Readings:
- **Milionis et al. (2022)**, Herrmann (2022), Canidio and Fritsch (2023), Dewey, Moallemi, and Brown (2023), Milionis, Moallemi, and Roughgarden (2023), Adams, Moallemi, Reynolds, and Robinson (2024), Fritsch and Canidio (2024)
- **John, Kogan, and Saleh (2023)**, Wood (2014)
- **Cong and Xiao (2021)**, **Cong, Li, and Wang (2021b)**, **Cong, Li, and Wang (2022b)**, **Cong, Karolyi, Tang, and Zhao (2021a)**, **Cong, He, and Tang (2022a)**, **Cong, Easley, and Prasad (2023a)**, **Cong, He, and Tang (2023b)**, **Malinova and Park (2023)**
<table>
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<tr>
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<td>Coffee Break</td>
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<tr>
<td>2:15 pm – 3:30 pm</td>
<td>Stablecoins and Decentralized Lending Protocols</td>
<td>Quentin Vandeweyer, University of Chicago</td>
<td></td>
<td>d’Avernas, Maurin, and Vandeweyer (2024), Rivera, Saleh, and Vandeweyer (2024), Gorton, Klee, Ross, Ross, and Vardoulakis (2022), Lyons and Viswanath-Natraj (2023)</td>
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<td>3:30 pm – 3:45 pm</td>
<td>Coffee Break</td>
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<tr>
<td>3:45 pm – 5:00 pm</td>
<td>Systemic Risk in Decentralized Lending Protocols</td>
<td>Julien Prat, Ecole Polytechnique</td>
<td></td>
<td>Tovanich, Kassoul, Weidenholzer, and Prat (2023), Eisenberg and Noe (2001), Glasserman and Young (2016), Bartoletti, Chiang, and Lafuente (2021), Lehar and Parlour (2022)</td>
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<tr>
<td>5:00 pm – 5:15 pm</td>
<td>Closing Remarks</td>
<td>Agostino Capponi, Columbia University</td>
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References


