# Florence School of Banking and Finance

# Smart Data Analytics for Banking and Finance

Instructor: **Wolfgang Karl Härdle** | Humboldt University

Theatre

## 4 - 6 February 2019

## Programme

### 4 February

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| 14.00 - 15.30 | **Session 1. What do we see?**<br>• Basic concepts, Data Management<br>• Structuring Data elements<br>• 'Fitting an Elephant with 4 params' |
| 15.30 - 16.00 | *Coffee break* |
| 16.00 - 17.30 | **Session 2. Data Analysis**<br>• LDA Latent Dirichlet Analysis<br>• Sentiment extraction<br>• DTM Dynamic Topic Modeling |
| 17.30 | *Social activities outside the EUI (TBD)* |

### 5 February

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| 09.30 - 11.00 | **Session 3. Modern Data Analysis – Part 1**<br>• Scagnostics<br>• Cluster Analysis and Classification<br>• CRIX a CRypto currency IndeX |

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| 11.00 - 11.30 | *Coffee break* |
| 11.30 - 13.00 | **Session 4. Modern Data Analytics – Part 2** |

- R and Python tools for text mining
- text mining in Quantitative Finance
- TEDAS Tail Event Driven Asset Allocation

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| 13.00 - 14.00 | *Lunch* |
| 14.00 - 15.30 | **Session 5. Smart Data Analytics – Part 1** |

- Network Centrality, Herding effects
- TENAR Tail Event driven Network AutoRegression
- DYTEC DYnamic Tail Event Curves

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| 15.30 - 16.00 | *Coffee break* |
| 16.00 - 17.15 | **Session 6. Smart Data Analytics – Part 2** |

- Financial Risk Meter
- DDI Networks Topology
- Q3 D3 LSA

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| 17.15 | *Social activities outside the EUI (TBD)* |

## 6 February

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| 09.30 - 11.00 | **Session 7. Very Smart Data Analytics** |

- Bayes and Fraud detection
- Options on cryptos
- Adaptive weight clustering

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| 11.00 - 11.30 | *Coffee break* |
| 11.30 - 13.00 | **Session 8. Practice of Smart Data Analytics** |

- Machine learning in Economics
- Deep Learning of Forecasts
- Complexity in Banking, Scores and Networks