C ENTRE FOR
C OMPUTATIONAL
F INANCE AND
E CONOMIC
A GENTS

Centre for
Computational Finance
and Economic Agents
CCFEA

Wivenhoe Park, Colchester CO4 3SQ, UK

Welcome !

Our Interdisciplinary MSc programmes:

➢ High Frequency Finance and Trading
➢ Computational Finance
➢ Financial Computing

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MSc Programme Structure

Lectures & Labs (autumn & spring)
- 6 compulsory modules
- 2 optional modules

Assessment
- coursework (autumn & spring)
- written exams (summer)

Dissertation

What we do …

Interdisciplinary research

Applying methods and techniques **from computer science and engineering science** to solve real-world problems **in finance and economics** …
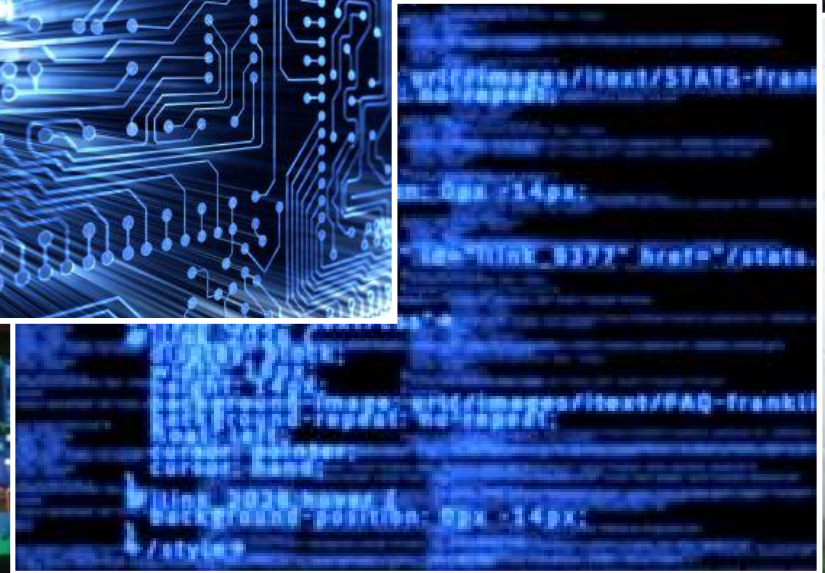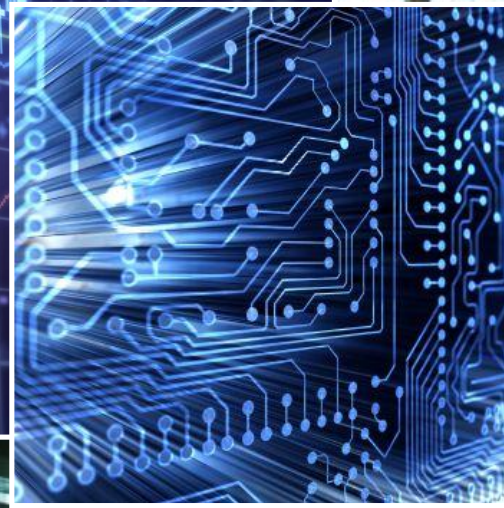
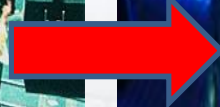**…HOW?**

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High-Frequency Finance & Trading

The Idea:

… example ?

What some ebay-traders love(d):

Snipers, sniffers, guerillas: the algo-trading war

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By Jennifer Ablan
NEW YORK | Thu May 31, 2007 5:00pm EDT

(Reuters) - Snipes, sniffers and guerrillas are lurking in the stock market. So are dark pools, daggers, boxers, slicers and nighthawks.

Reflecting the nature of the struggle for ascendance in algorithmic trading -- or simply, the algo wars -- investment banks and hedge funds have been giving military monikers to their increasingly complex and machine-driven trading strategies.

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High-Frequency Finance & Trading

- Introduction to Financial Market Analysis

- Quantitative Methods in Finance and Trading

- Learning and Computational Intelligence in Economics and Finance

- Introduction to Agent-based modelling using OOP

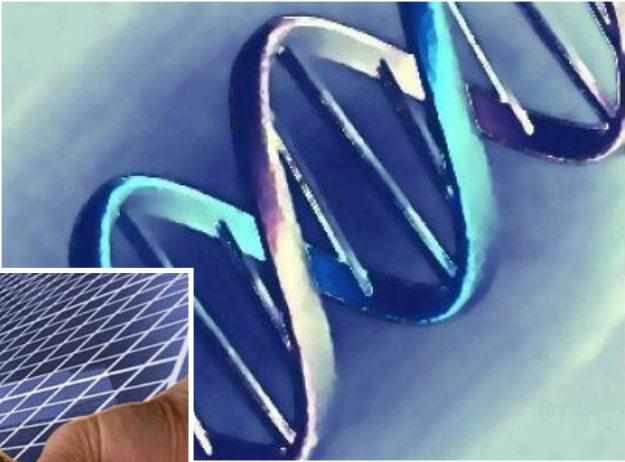- High Frequency Finance and Empirical Market Micro-Structure

- …

Computational Finance

Computational Finance

- Mathematical Research Techniques using Matlab
- Introduction to Financial Market Analysis
- Quantitative Methods in Finance and Trading
- Learning and Computational Intelligence in Economics and Finance
- Financial Engineering and Risk Management
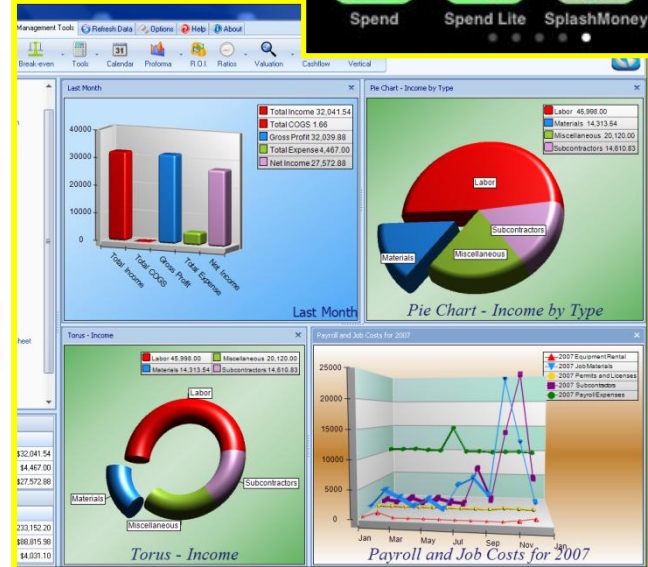- Industry Expert Seminar
- …

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Financial Computing

Financial Computing

- Underlying Technology in Financial Systems
- Advanced Relational and Object-Oriented Databases
- Software Design and Architecture
- Distributed Computing
- Introduction to Financial Market Analysis
- Financial Engineering and Risk Management
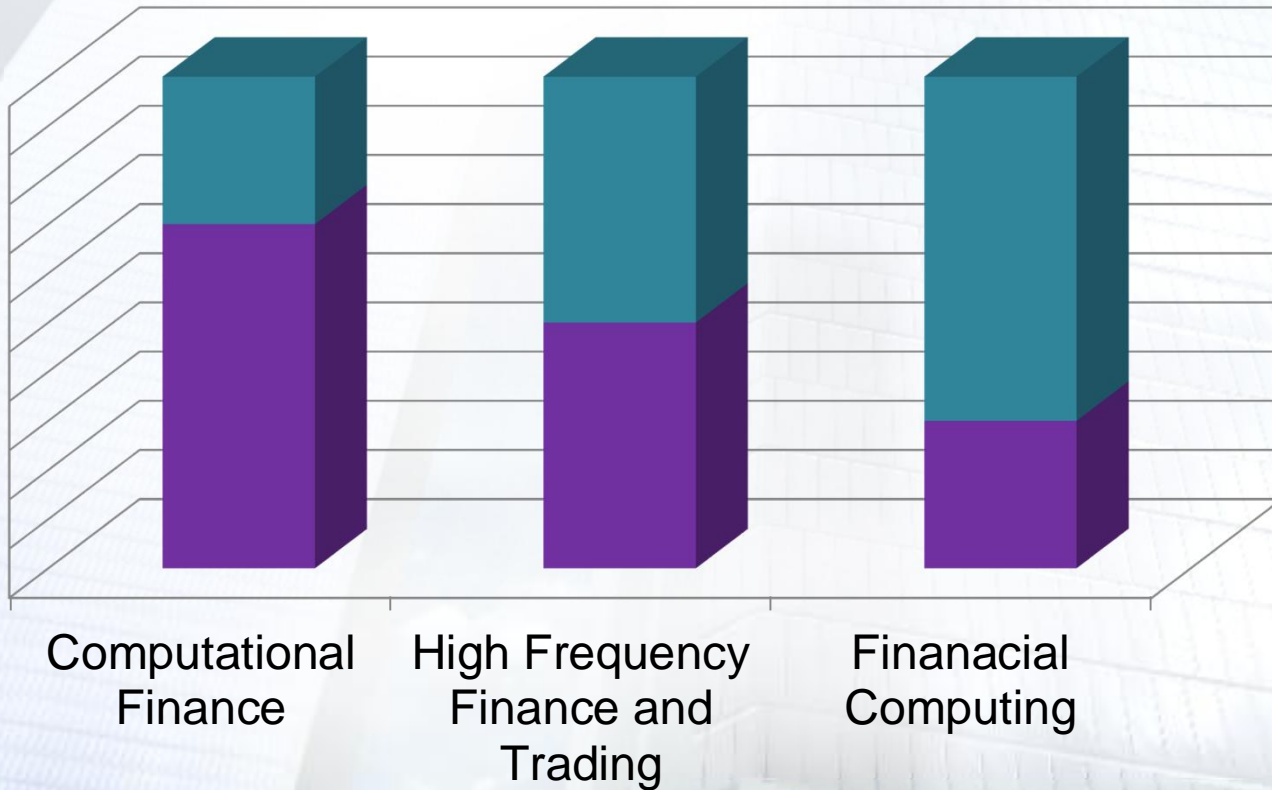- Agent-Based Modelling in Finance & Economics
- …

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Balance

Legend: ■ Computer Science & Engineering ■ Finance & Economics

Categories: Computational Finance | High Frequency Finance and Trading | Finanacial Computing

Employability?

Hands-on & Relevant Curriculum:

- ➢ Teaching content reviewed by industry experts
- ➢ Industry expert lecture series
- ➢ MSc research projects (potential internships!)
- ➢ Alumni & industry contacts

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MSc Entry Requirements

- Computational Finance (CF): 2.1 or first class Bachelors degree in Engineering, Physics, Computer Science, Statistics, Mathematics or Quantitative Economics/Finance.

- High-Frequency Finance and Trading (HFT): same as CF, however, knowledge of C++ or Java programming is desirable.

- Financial Software Engineering (FSE): same as in CF, however, a high level of programming expertise in languages such as in C++, JAVA and/or .NET is required.

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CCFEA MSc-alumni …

Where do they work now?

- Armajaro Holdings Ltd.
- Bank of America
- Deutsche Bank
- KPMG
- MarkitSERV
- Mitsubishi UFJ Securities Petrologica Ltd.
- Reuters
- SunGard Financial Systems
- …

What do they do?

- Clearing & Settlement
- Trading & Execution
- Investment Strategies
- Research Analyst
- Insurance
- Risk Assessment
- Portfolio Management
- …

PhD Entry Requirements

Entry to our PhD programme in Computational Finance requires applicants to have a

Masters degree at distinction level in Engineering, Physics, Computer Science, Statistics, Mathematics or Quantitative Economics/Finance.

OR

2.1 or first class MSc degree in Computational Finance (or similar).

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Where do our PhD-alumni work now?

Financial Industry:

- Alerio Capital
- Allianz Global Investors
- Bank of Japan
- Citigroup
- Columbian Central Bank
- Franklin Templeton
- HSBC
- ING Bank
- Legal & General
- Nomura Securities
- Mexican Central Bank
- Old Mutual Asset Management
- …

Academia:

- Basel, University of
- Bath, University of
- Birbeck, University of London
- Macau, University of
- Macquarie University, Sydney
- Malta, University of
- Monash University, Melbourne

MORE?

http://www.essex.ac.uk/ccfea/

… the "CCFEA After-Life" …

… Partys …

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… Outdoor Activities …

Welcome to CCFEA !

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