



# Introduction to “Advanced Methods in Informatics“

Ein Weiterbildungsangebot der Universität Zürich

Advanced Studies of the University of Zürich

November 5, 2015



## Target Audience

Computer scientists

Informatics experts

More “less recent” informatics employees – knowing informatics basics

With a masters degree or comparable qualifications

With a true interest in “Life-long Learning”



## Awarded Degree

Certificate of Advanced Studies (CAS) UZH  
in “Advanced Methods in Informatics”

Operated by the Department of Informatics IfI, UZH and  
the Institute of Computational Linguistics, UZH

CAS awarded based on 15 ECTS collected during 5 months

Registration deadline: December 18, 2015

Starting date: February 2016

Location: Zentrum für Weiterbildung der Universität Zürich  
Schaffhauserstrasse 228, 8057 Zürich



## Motivation and Background

Informatics and related methods change at a high pace

Changes and new approaches impact our daily life:

- Reaching out to work-related and private aspects
- Especially the interactions of humans and ICT  
(Information and Communications Technology) are touched



## Goals

This CAS will generally

- emphasize the needs and demands of informatics within our society and economy
- detail a set of emerging technical, scientific, and socio-economic aspects
- embrace the multi-dimensional informatics topics and support the evaluations of impacts to enable appropriate reactions
- introduce those fields and deepen the knowhow of progress in the recent past
- go hand-in-hand with theory, practice, and applications where ever possible

This CAS is content-wise focused specifically on

- Big Data and
- Engineering Solutions



## Organization

Two modules are offered with multiple course days

- Big Data and
- Engineering Solutions

1 course day equals 1 ECTS (app. 30 hours of work, including preparations and post-processing)

Each module will require the preparation of an app. 20 pages long written report.

Attendees decide for that report's topic as one of the course day's topics

- Requires the agreement with the lecturer
- The language (German or English) will be determined with the lecturer

Ending a module will result in a coaching day

- CAS attendees will be taught on the basis of recommendations and examples on how to prepare a written report
- Questions may be asked, the topic chosen can be discussed, and further details can be refined



<b>Modul 1: Big Data</b>		
Data Mining	Deutsch	A. Bernstein
Cluster Computing, MapReduce, and the Future	Deutsch	A. Bernstein
Heterogeneous Data Processing on the Web of Data / Information Visualization	Deutsch	A. Bernstein R. Pajarola
Virtualization and Clouds	Englisch	B. Stiller, T.Bocek, P. Poullie
Computational Perception	Englisch	D. Scaramuzza
Multilingual Text Analysis and Information Extraction	Deutsch	M. Volk
Social Computing	Englisch	A. Bernstein, S. Seuken
Network-based Business Intelligence	Englisch	D. Hu
Coaching Day		



<b>Modul 2: Engineering Solutions</b>		
Requirements Engineering 2.0	Deutsch	M. Glinz
Software Quality Analysis	Deutsch	H. Gall
Software Quality Assurance with Continuous Integration	Deutsch	B. Fluri
Development 2.0: Human-Centered Software Engineering / Open Innovation for Software Products & Processes	Deutsch	T. Fritz, H. Gall
Human Computer Interaction	Englisch	E. Huang
Engineering Electronic Markets	Englisch	S. Seuken
Digital Innovation and Social Networking for Companies	Deutsch	A. Richter
Sustainability and Green IT	Deutsch	L. Hilty
Coaching Day		



## Development 2.0: Human-Centered Software Engineering Open Innovation for Software Products & Processes

### Course Topics

- Developer Productivity
- Personal and Biometric Data to Boost Productivity
- Information Needs and Tool Support
  
- Open Innovation Processes, Platforms and Models for Enabling Innovation Incubation
- OI and software quality aspects



### Course Structure

- Presentations on Methods and Best Practices
- Group Discussions and Hands-on Experiment

Thomas Fritz & Harald C. Gall



## Multilingual Text Analysis and Information Extraction

### Course Topics

- Introduction to Language Technology
- Multilingual Text Analysis for Big Data
- Machine Translation
- Information Extraction from Large Text Collections
- Text Mining

### Course Structure

- Presentations on Methods and Best Practices
- Hands-on Exercises
- Group Discussions

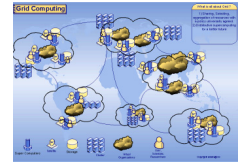
Martin Volk



## Virtualization and Clouds

### Course Topics

- Introduction Virtualization and Clouds
- Virtualization and Clouds in Practice
  - On-line Examples
  - Hands-on Tests
- Key Aspects
  - Dependability, Technology Alternatives, Resource Allocations, Economics
- Recent Advances



### Course Structure

- Presentations of Theory and Technology
- Hands-on Experiment

Burkhard Stiller & Thomas Bocek



## Important Information

Decide if your prerequisites suit the CAS

- In case of doubts, please ask!

Don't miss the registration deadline of December 18, 2015