



<http://cs.ulb.ac.be/conferences/ebiss2013/>









Organized by



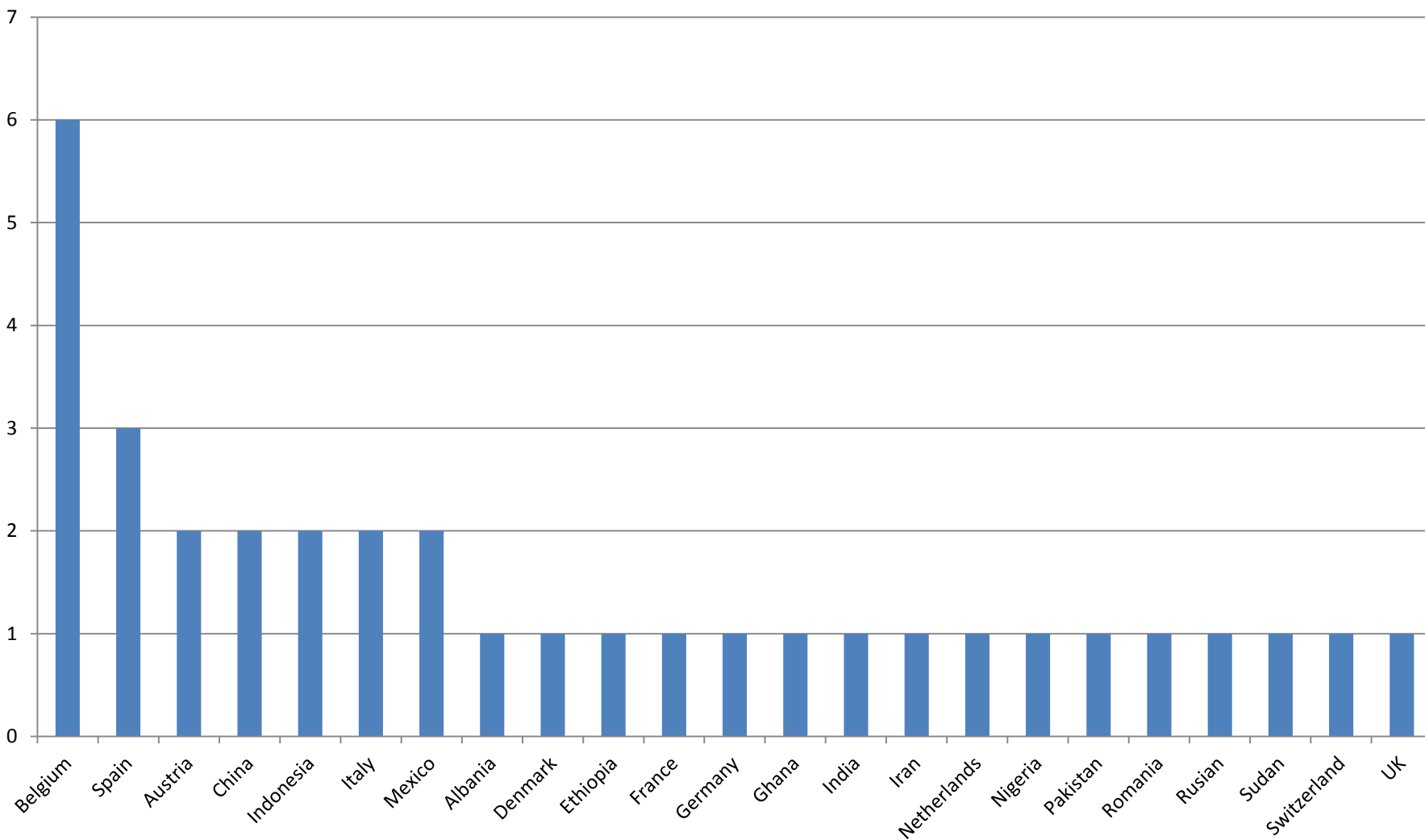
# Rationale

- Presented by leading researchers in the field
- Involvement of industry
- Goal: try to explore together how the BI domain will evolve in the forthcoming years
- A high ratio between tutors (8) and participants (35) to enable “community building” in the BI domain
- Technical and social aspects are equally important

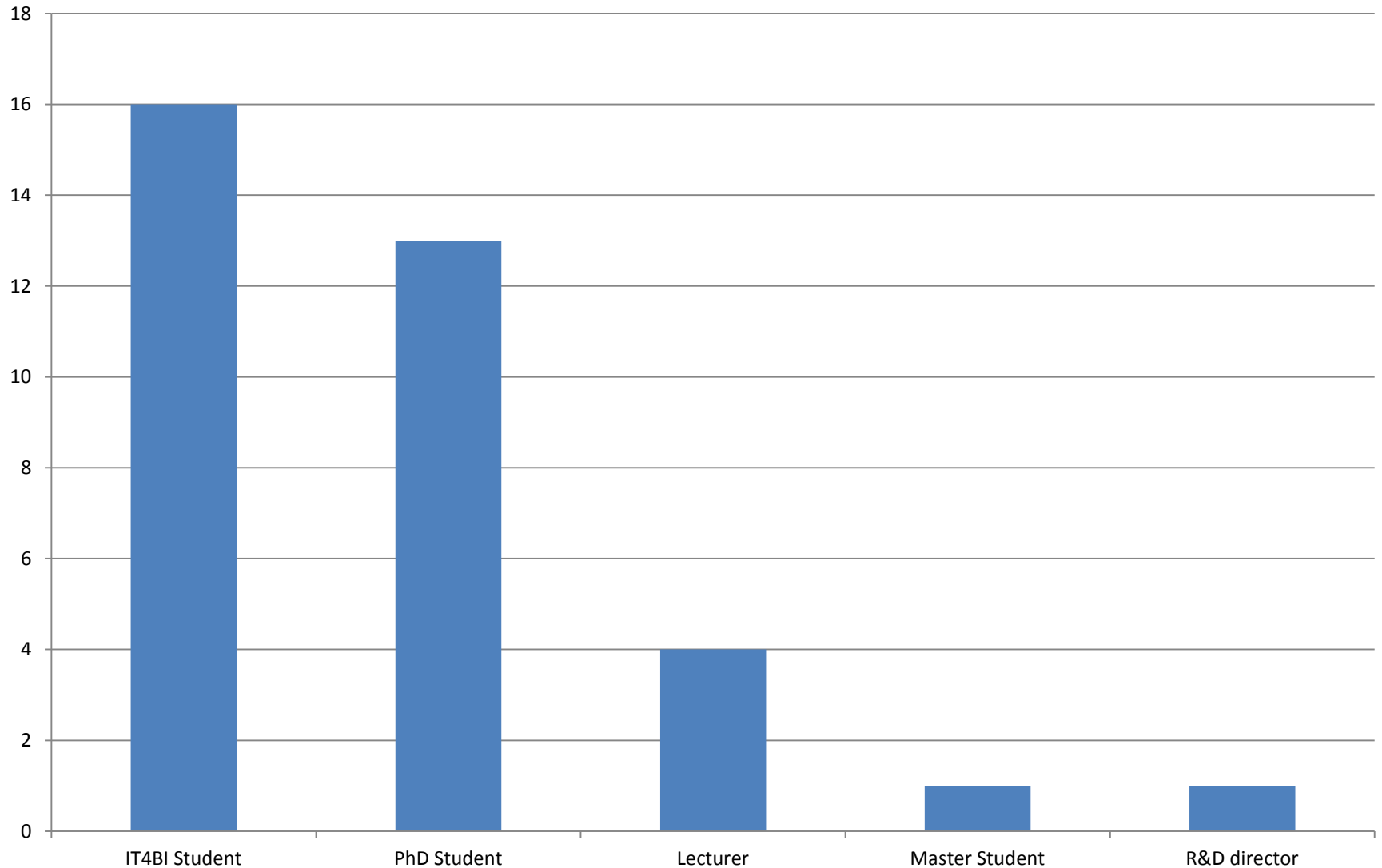
# Program

	Sunday, July 7	Monday, July 8	Tuesday, July 9	Wednesday, July 10	Thursday, July 11	Friday, July 12
08:30 - 09:00		Welcome Session Esteban Zimányi				
09:00 - 10:30		Ontology-driven business intelligence for comparative data analysis Michael Schrefl Johannes Kepler Universität Linz	Data mining techniques for discovering local patterns Toon Calders Université Libre de Bruxelles	Model-based software and data integration for business applications Ralf-Detlef Kutsche TU Berlin	Forecasting and data imputation strategies in database systems Wolfgang Lehner Technische Universität Dresden	Data warehouse physical design Robert Wrembel Poznan University of Technology
10:30 - 11:00		 Coffee break 				
11:00 - 12:30		Ontology-driven business intelligence for comparative data analysis Michael Schrefl Johannes Kepler Universität Linz TU Berlin	Data mining techniques for discovering local patterns Toon Calders Université Libre de Bruxelles	Model-based software and data integration for business applications Ralf-Detlef Kutsche	Forecasting and data imputation strategies in database systems Wolfgang Lehner Technische Universität Dresden	Data warehouse physical design Robert Wrembel Poznan University of Technology
12:30 - 14:00		 Lunch 				
14:00 - 15:30		Attain BI synergy by teaming human capacity with computing Morten Middelfart TARGET	On the feasibility and need of semantic aware business intelligence Oscar Romero BarcelonaTech	Visit to Trier	Process mining Wil van der Aalst TU Eindhoven	Closing Event
15:30 - 16:00		 Coffee break 				
16:00 - 17:30		Attain BI synergy by teaming human capacity with computing Morten Middelfart TARGET	On the feasibility and need of semantic aware business intelligence Oscar Romero BarcelonaTech	Visit to Trier	Process mining Wil van der Aalst TU Eindhoven	
17:30 - 18:30	Registration	Poster Presentation	Poster Presentation			
18:30 - 19:30		 Dinner 				

# Participants by Country



# Participants by Position



# Tutors

- Academia (9): Spain, Germany, Netherlands, Belgium, Poland, Austria
- Industry (1): Denmark
- Some of them are involved in Erasmus Mundus Master & Doctorate IT4BI
- Reflecting on how to teach BI, how to develop BI curricula
- This summer school is one element in this reflection



<http://cs.ulb.ac.be/conferences/ebiss2011/>



## OLAP on XML Text-Oriented Documents

IRIT (UMR 5505), University Toulouse 1 Capitole, Team SIG/ED (Generalised Information Systems, Data Warehouse)

## Why work with documents ?

Analysis data come from

- 20% of numerical data (transactional Databases)
- 80% from documents (not compatible with OLAP)

Warehousing Documents = Docu

OLAP = On-Line Analytical Processing  
XML = Extensible Markup Language

## Data-Centric XML documents

## Document-Centric XML documents

[illegible]

## Two types of XML documents

- **Data-Centric XML Documents**
  - Element order **does not** matter
  - Usually highly structured
  - Mainly transactional data
- **Document-Centric XML Documents**
  - Element order **does** matter
  - Usually loosely structured
  - Mainly textual data

## 4 ways of

- XML
  - Data
  - XML Data
  - XML Documents
  - XML Documents
    - Data-Centric
    - OLAP analysis

Analysis on Document = OLAP Document = OLAP Textual Analysis

From Numerical Analysis...

	Instiduka	mat1		
Author	A1	A2	A3	
Conference				
Talbot	2	1	-	
IEEE	1	3	-	
CASE	-	1	2	

Number of publications per author per conference

## ysis.

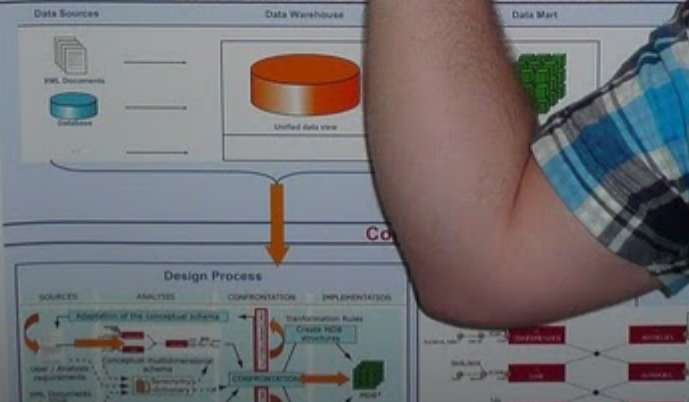
		InsPI	
		A2	A3
Case		Data warehouse	
SCES		RAM, Data mining Constraints	
CAS		Data warehouse	Conceptual model Data mining
Same analysis		on subjects	

Same as above

### Some interesting points

- **OLAP environment**
  - Works well on numerical data
  - Numerous Modelling solutions
- **XML Documents**
  - Some structure (required by data warehouse)
  - Tools
- **Textual Data**
  - Informal
  - Tools

The Ideal Environment Document-centric XML

















<http://cs.ulb.ac.be/conferences/ebiss2012/>



















# Related Activities



## IT4BI Home

### Home

### Background & Objectives

Since its inception 20 years ago, Business Intelligence (BI) has become a huge industrial domain and a major economic driver, however overlooked by academics. It encompasses many scientific and technological fields including data warehouses, data mining, content analytics, business process management, visual analytics, and requires competences in information systems, web science, decision science, software engineering, and innovation and entrepreneurship. The **Erasmus Mundus** Master's Programme in **Information Technologies for Business Intelligence (IT4BI)** is designed to provide understanding, knowledge and skills in this broad scope of fields. Its main objective is to train computer scientists who understand and help develop the strategies of modern enterprise decision makers.

### Presentation & Structure

The programme favours the integration of students into a network of specialists and researchers in BI. The curriculum is jointly delivered by Université Libre de Bruxelles (ULB) in Belgium, Université François Rabelais Tours (UFRT) in France, Ecole Centrale Paris (ECP) in France, Universitat Politècnica de Catalunya (UPC) in Spain, and Technische Universität Berlin (TUB) in Germany. Scholars from academic partners around the world and partners from leading industries in BI, private R&D companies, service companies, public research institutes, and public authorities will contribute to the programme by training students, providing computers, software, course material, job placement or internship perspectives, as well as financial support. This consortium will prepare the graduates not only to answer today's professional challenges by a strong connection with the needs coming from the industry, but also to pursue their studies into doctorate programs, through strong connections with the researchers' and innovators' views.

### News

#### Student guide online

IT4BI student guide is online, to download it, visit the facilities and support services page.

#### Applications for 2013-2015

Applications for 2012-2014 are closed after June 30th, 2012. There will be a new application session for 2013-2015, starting from September 1st, 2012.

#### IT4BI invites scholars

Scholars are invited to contribute to IT4BI.

For more information on the application procedure please consult the scholars page.

#### Academic calendar for year 2012-2013

The academic calendar for year 2012-2013 is on line. Please consult the academic calendar page.

[More news...](#)

### Shortcut to

The [online application form](#)

The [FAQ](#)

The [flyer](#)

<http://it4bi.univ-tours.fr/>



# IT4BI-DC

Erasmus Mundus Joint Doctorate on Information Technologies for Business Intelligence

[About](#) | [Topics](#) | [Programme](#) | [Team](#) | [How to apply](#) | [Fellowships](#) | [FAQ](#) | [Contact](#) | [Partners](#)

## ▼ About IT4BI-DC

- [What is IT4BI-DC?](#)
- [Why IT4BI-DC?](#)
- [PhD degrees](#)

## ► [Partners](#)

## ► [Research topics](#)

## ▼ [Programme](#)

- [Doctoral process](#)
- [Joint supervision](#)

## ► [IT4BI-DC team](#)

## ◦ [How to apply](#)

## ▼ [Fellowships](#)

- [General information](#)
- [Available funds](#)

## ► [FAQ](#)

## ▼ [Contact](#)

- [Secretariat](#)
- [Partner institutions](#)
- [Associated institutions](#)
- [Useful links](#)

## What is IT4BI-DC?

Since its inception 20 years ago, Business Intelligence (BI) has become a huge industrial domain and a major economic driver, however overlooked by academics. It encompasses many scientific and technological fields including data warehouses, data mining, content analytics, business process management, visual analytics, and requires competences in information systems, web science, decision science, and software engineering. The Erasmus Mundus Joint Doctorate in Information Technologies for Business Intelligence - Doctoral College (IT4BI-DC) is designed to develop research excellence in this broad scope of fields. Its main objective is to train computer scientists who understand and help develop the strategies of modern enterprise decision makers. IT4BI-DC is a continuation of the EMMC "Information Technologies for Business Intelligence" (IT4BI).

The programme favours the integration of students into a network of world-renowned researchers and specialists in BI. The curriculum is jointly delivered by Université Libre de Bruxelles (Belgium), Aalborg Universitet (Denmark), Technische Universität Dresden (Germany), Universitat Politècnica de Catalunya (Spain), and Poznań Technical University (Poland). Associated partners from around the world include top-ranked universities, leading industries in BI, public and private research organizations, R&D companies, consulting companies, and public authorities. Associated partners will contribute to the programme by training students, providing job placement or internships, as well as financial support, in particular through additional scholarships. This consortium will prepare graduates to address major governance challenges in today's knowledge-based society by developing the three interdependent components of the "knowledge triangle", i.e., education, research, and innovation.

Subscribe to receive updated news about IT4BI-DC!

Name:

Email:



European Commission  
**ERASMUS  
MUNDUS**

**EAC**  
EA  
Education, Audiovisual & Culture  
Executive Agency

<http://it4bi-dc.ulb.ac.be/>





SCHLOSS DAGSTUHL  
Leibniz-Zentrum für Informatik



About Dagstuhl

Program

Publications

Library

You are here: [Program](#) » [Calendar](#) » Seminar Homepage

( <http://www.dagstuhl.de/11361> )

**04.09.11 - 09.09.11, Seminar 11361**

## Data Warehousing: from Occasional OLAP to Real-time Business Intelligence

### Organizers

Umeshwar Dayal (HP - Palo Alto, US)

Markus Schneider (University of Florida - Gainesville, US)

Gottfried Vossen (Universität Münster, DE)

Esteban Zimanyi (Université Libre de Bruxelles, BE)

### For support, please contact

Simone Schilke for administrative aspects

Roswitha Bardohl for scientific aspects

### Documents

**Seminar Schedule** ([Upload here](#))

(Use seminar number and access code to log in)

### Book exhibition

🔗 **Books from the participants of the current Seminar**

Book exhibition in the **library**, 1st floor, during the seminar week.

### Documentation

In the series **Dagstuhl Reports** each Dagstuhl Seminar and Dagstuhl Perspectives Workshop is documented. The **seminar organizers**, in cooperation with the **collector**, prepare a report that includes contributions from the **participants' talks** together with a summary of the seminar.

Download 📄 **overview leaflet** (PDF).

### Publications

Seminar participants may publish preprints within the scope of the **seminar documentation** as part of the **Dagstuhl Preprint Archive**.

Dagstuhl Seminars  
Dagstuhl Perspectives  
GI-Dagstuhl Seminars  
Events  
Research Guests  
**Calendar**  
Seminars  
Events

# See You Next Year



- <http://cs.ulb.ac.be/conferences/ebiss2014/>
- Organized by

