



Anno 2013

Libera Università di BOLZANO >> Sua-Rd di Struttura: "Facoltà di SCIENZE e TECNOLOGIE INFORMATICHE"

## Parte I: Obiettivi, risorse e gestione del Dipartimento

### Sezione A - Obiettivi di ricerca del Dipartimento

▶ QUADRO A.1	A.1 Dichiarazione degli obiettivi di ricerca del Dipartimento
<p>1 Background</p> <p>The Faculty of Computer Science was founded in 2001 under the guidance of a founding committee (comitato ordinatore). Teaching already started in the same year with the Bachelor program in Applied Computer Science, mostly delivered by external lecturers with yearly teaching contracts. The faculty formally took up its activities as an autonomous academic body in 2003, and teaching at the MSc level started in 2004.</p> <p>Since then, permanent academic staff have been hired at a regular pace, by hiring both Italian academics as well as international ones, due to the fact that most courses have always been taught in English. Professors with a Computer Engineering background, and with a Computer Science background, were both hired (SSD INF-01 and ING-INF-05), so as to reach a number of 14 academics at the beginning of 2013, 4 of which were full professors, 7 associate professors, and 3 researchers. In parallel, a significant number of researchers with fixed-term contract (RTDs) have been recruited, of which 14 were present in January 2013. With income from its research grants, the faculty employs also junior research staff under short-term contracts as ARs (assegnisti di ricerca) or, for special tasks, with Cocopro contracts. A PhD program in computer science has started at the beginning of 2005, for which 6 new candidates have been admitted per year on average. The Faculty teaching offer has since spanned all three levels (Bachelor, Master, PhD), and a significant number of students coming from outside Italy still continues to enrol in all its study programmes.</p> <p>The evolution of the teaching offer in these years has followed two complementary directions, at the BSc level that of better satisfying the needs of local companies; at the MSc level, that of developing specializations by strengthening links with international scientific communities. On the former side, the original Bachelor program in Applied Computer Science was replaced (2009) by a bivalente program in Computer Science and Engineering, which allows students to graduate either with a degree of Bachelor in Computer Science or with an Engineering degree. On the latter side, as of January 2013, the faculty participated in two international Master programmes, the European Master in Computational Logic (EMCL), together with universities from Austria, Germany, and Portugal, the European Master in Software Engineering (EMSE), together with universities in Germany and Finland. Master students are included in ongoing research with practical projects and thesis work, and the international Master programmes also help recruit motivated and skilled students for the PhD program.</p> <p>The development of a bivalente program at the Bachelor level widened the recruitment of academics so to comprise two more disciplines, the scientific sectors ING-INF/01 (Electronics) and ING-INF/04 (Automation). Researchers in those areas have since contributed to existing faculty research activities and have initiated new interdisciplinary ones.</p> <p>Against this background, the faculty has been facing specific challenges for the development of its research, given in particular that it is still a relatively small unit compared to departments of Computer Science at other Italian or international universities.</p> <ol style="list-style-type: none"><li>1.) The faculty had to come up with an approach that allows it to develop its research so that it is internationally competitive, while providing underpinnings for its teaching.</li><li>2.) It had to take up in its research the needs of the territory while maintaining high academic standards.</li><li>3. It had to identify applications of advanced Computer Science research in an environment where most of the industrial workforce is active in small companies oriented towards a local market, while larger companies applying IT technologies are scarce.</li></ol> <p>Finally, the faculty has managed to acquire financial means for its research from external sources, given the scarcity of available public research funding in South Tyrol as well as in the rest of Italy.</p> <p>2. Strategic Objectives and Macro-Areas of Research</p> <p>Since its inception in the early 2000's, the Faculty of Computer Science has followed an approach to research that distinguishes between two layers of activities: (1) basic research and (2) technological development.</p> <p>Basic research is the foundation both for teaching and for the development of technologies. Activities towards technological development have to be informed by the state</p>	

of the art in basic research and often require the combination of results from multiple research fields. To ensure the viability of technologies, application problems have to be identified where new solutions can be introduced and tested. Applications areas are identified with partners in the territory and with national and international partner institutions.

Within this framework, the faculty aims to meet the challenges identified above by pursuing the following strategic goals:

- 1.) to conduct research that is internationally competitive and can be presented at venues of the highest level;
- 2.) to create collaborations with national and international partners, to widen the research portfolio and strengthen the ability to acquire funding;
- 3.) to create collaborations with partners in the territory to satisfy local needs and obtain inputs for further research.

A success in the above three strategic goals will establish a research portfolio that corresponds to the expertise of the academic staff present. Naturally, the research portfolio of the faculty is developed from bottom to top, by first identifying focal points for basic research, and building upon those with activities on the subsequent levels.

Since its beginning, the faculty has focused its research on selected macro areas. Until now, the macro areas have been limited to three. A low number was necessary to quickly acquire a critical mass of researchers, forming research groups that become visible in their respective scientific communities. This was seen as a prerequisite to acquire funds for research, to attract good students, and thus to provide qualified services to the territory.

The three areas at the beginning of the faculty were (1) Software Engineering, (2) Database Systems, and (3) Knowledge and Data Management. While retaining their essential orientation, each area evolved over time, not least due to changes among the staff, by dropping certain topics and taking up new ones, while on the whole widening their scope.

The macro-areas were first organized as informal working groups and later formalized as competence centers according to the university statute, with a coordinator for each center and a scientific advisory board. As of January 2013 the three macro-areas were represented by the following three research centers:

- 1.) Center for Applied Software Engineering (CASE)
- 2.) Center for Information and Database Systems Engineering (IDSE)
- 3.) KRDB Research Center for Knowledge and Data.

Details about the organisation of the macro-areas as research centers are to be found in part B.

The role of the research centers is:

- 1.) to define focal themes of research, initiating and maintaining international research collaborations;
- 2.) to foster collaboration between members of the macro area, monitoring the progress of researchers and supporting their career development;
- 3.) to coordinate acquisition and management of funds.

Each academic staff member belongs to one research center. However, collaborations among centers are encouraged.

The centers are autonomous in the way they organize themselves and they organize the work. Each center has a speaker that represents the center at faculty level and in interactions with the university management.

Within each center, the main vehicle to coordinate the work are regular meetings of the senior members of each area, which can be extended to the full center. At such meetings, questions of the funding opportunities to pursue and the specific lines of work to promote are discussed. Each center organizes a seminar series that is open to the entire faculty with presentations by both internal and external speakers. The seminars are a major forum to present ongoing work, to inform about ongoing activities and to foster collaboration within and between centers.

### 3. Short Term Objectives

In December 2012, in the course of the preparation of the university's three year plan, the research centers defined their research objectives for each of the years 2013-2015. In addition, each center defined for the activity program the research topics to be investigated in 2013 and planned dissemination activities, and

Below, we list the objectives for 2013 as formulated by each center.

#### 3.1 Center for Applied Software Engineering (CASE)

The CASE center defined for 2013 the following research objectives:

- Design and development of energy-aware mobile systems within the INTERREG project EN-ACT (ENergy-Aware CompuTing)
- Investigate how software measures can be used to take management decisions
- Improve the software development environment of producers of embedded systems
- Investigate the quality aspects of open source systems and agile approaches
- Define and apply standardization processes in software testing.

The center also planned the following dissemination activities:

- Alpine Software Engineering Workshop (ASEW 2013);
- Meeting Manager 2013;
- PhD School in Software Engineering;
- CASE seminars;
- Open Source Software Seminars.

### 3.2 Center for Information and Database Systems Engineering (IDSE)

The IDSE center defined for 2013 the following research objectives:

- Exploitation plan and activities for the hospital system developed within the MOBAS project (Day Hospital Information System)
- Development and deployment of a prototype context-aware POI recommender system for South Tyrol
- Design and development of efficient algorithms for itinerary planning for South Tyrol and Carinthia
- Research focus on active learning and preference elicitation
- Data collection and analysis of extreme apprenticeship based online activities
- Requirements analysis and proof of concept for a temporal-spatial data analysis.

The center also planned the following dissemination activities:

- Entrepreneurship Evening,
- Contributions to the Junior Uni
- Partnerships with local companies and institutions.

### 3.3 KRDB-Research Centre for Knowledge and Data

The KRDB center defined for 2013 the following research objectives:

- Consolidation of scientific results related both to intelligent data and information management and to processes and data, also in the context of the FP7 STREP Projects ACSI and TERENCE.
- Dissemination of the achieved results in the academic sector, industrial community, schools, as well as among the larger public.
- Engineering of technologies for intelligent access to big data and establishment of contacts with stakeholders interested in deploying such technologies in the industrial and educational settings.

The center also planned the following dissemination activities:

- KRDB Spring School.

## Sezione B - Sistema di gestione



### QUADRO B.1

#### B.1 Struttura organizzativa del Dipartimento

The research of the faculty is organized in three research centers.

#### 1. Center for Applied Software Engineering (CASE)

The CASE center focuses on research in applied software engineering, bridging the world of academia and industry and supplying a unique learning environment for undergraduate, graduate, and doctoral students.

The key research areas of CASE are:

- Agile Methods and Lean Management;
- Open Source Development;
- Empirical Software Engineering and Software Engineering Knowledge Bases;
- Distance Learning in Software Engineering;
- Software Quality;
- Software Product Lines;
- Software Reuse and Component Based Development;
- Software Metrics;
- Development of Service Oriented Systems;
- Mobile and embedded systems;
- Energy-aware systems.

The research is targeted to researchers and professionals who are interested in the application of engineering principles to the software production and maintenance in real

environments. The operational strategy of CASE consists in forming partnerships with local, national and international research and development institutions in the area of applied software engineering; creating a cooperative environment to transfer the know-how and advanced technologies to the local industry through consulting; participating in national, European, and international research projects; educating future Software Engineering researchers and professionals.

At the beginning of 2013, to the center belonged 1 full professor, 2 associate professors, 1 researcher (ricercatore) and 3 ricercatori a tempo determinate (RTD).

## 2. Center for Information and Database Systems Engineering (IDSE)

The research centre IDSE focuses on data and information management methodologies and techniques that are at the core of innovative business-critical applications and are leveraging large real-world data sets. The research methods include fundamental research, system development, and empirical evaluation.

The key research areas of IDSE are:

- High-performance and scalable database and decision support systems;
- Temporal database systems;
- Itinerary and route planning;
- Recommender systems;
- E-learning, extreme apprenticeships, and gamification;
- Innovation, start-ups, and entrepreneurship in the IT sector.

The application areas include Health, eGovernment, Learning, Tourism, and Agriculture. Applicative solutions in these areas are transferred and deployed also in the regional scenario in collaboration with the local industry.

At the beginning of 2013, to the center belonged 2 full professors, 3 associate professors, and 4 ricercatori a tempo determinate (RTD).

## 3. KRDB Research Center for Knowledge and Data

The KRDB center does research in two main subject areas:

- 1.) Intelligent data and information management, with emphasis on the challenges related to dealing with big data. Specific areas are: ontology-based data access, information integration, data quality, web data retrieval, Semantic Web.
- 2.) Business processes and data, with the aim of studying the entire process lifecycle, from the modeling phase, to the execution, and analysis.

Areas of application of the research results and developed technologies to various contexts include: data and process management in SMEs, large companies, and public administration; processes in the healthcare sector; technology-enhanced learning. On these application areas, KRDB has already established contacts to local players, in particular in the public administration and healthcare sectors.

At the beginning of 2013, to the center belonged 1 full professor, 2 associate professors, and 2 researchers (ricercatori), and 7 ricercatori a tempo determinate (RTD)

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Schede inserite da questa Struttura

N.	Nome gruppo	Responsabile scientifico/Coordinatore	Num.Componenti (compreso il Responsabile)	Altro Personale
1.	CASE - Center for Applied Software Engineering	SUCCI Giancarlo		13
2.	IDSE - Information and Database System Engineering	RICCI Francesco		20
3.	KRDB - Research Centre for Knowledge and Data	FRANCONI Enrico		31

Schede inserite da altra Struttura (tra i componenti risultano persone afferenti a questa Struttura).

N.	Nome gruppo	Responsabile scientifico/Coordinatore	Num.Componenti (compreso il Responsabile)	Altro Personale
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Nessuna

QUADRO B.2	B.2 Politica per l'assicurazione di qualità del Dipartimento
Informazioni non pubbliche	
QUADRO B.3	B.3 Riesame della Ricerca Dipartimentale
Informazioni non pubbliche	

Sezione C - Risorse umane e infrastrutture

Quadro C.1 - Infrastrutture

▶ QUADRO C.1.a		C.1.a Laboratori di ricerca						
In 2013, there were no dedicated research laboratories in use by the Faculty of Computer Science. Researchers worked in regular office space.								
▶ QUADRO C.1.b		C.1.b Grandi attrezzature di ricerca						
Ad uso esclusivo della struttura (inserite dalla Struttura)								
N.	Nome o Tipologia	Responsabile scientifico	Classificazione	Fondi su cui è stato effettuato l'acquisto	Anno di attivazione della grande attrezzatura	Utenza	Applicazioni derivanti dall'utilizzo dell'attrezzatura	Area
1.	Virtual servers network	ARTALE Alessandro	e-Infrastructures	Interni	2006	Interna all'ateneo	Progetti di ricerca	01
2.	Physical server network	CALVANESE Diego	e-Infrastructures	Interni	2009	Interna all'ateneo	Progetti di ricerca	09
In condivisione con altre strutture (inserite dall'Ateneo)								
N.	Nome o Tipologia	Responsabile scientifico	Classificazione	Fondi su cui è stato effettuato l'acquisto	Anno di attivazione della grande attrezzatura	Utenza	Applicazioni derivanti dall'utilizzo dell'attrezzatura	Area
▶ QUADRO C.1.c		C.1.c Biblioteche e patrimonio bibliografico						
Ad uso esclusivo della struttura (inserite dalla Struttura)								
N.	Nome	Numero di monografie cartacee		Numero di annate di riviste cartacee		Numero di testate di riviste cartacee		
In condivisione con altre strutture (inserite dall'Ateneo)								
N.	Nome			Numero di monografie cartacee		Numero di annate di riviste cartacee		Numero di testate di riviste cartacee
1.	Biblioteca della Libera Università di Bolzano			239.562		854		803

Quadro C.2 - Risorse umane

QUADRO C.2.a

C.2.a Personale

Professori Ordinari

Situazione al 31/12/2013 ricavata dagli archivi Miur-Cineca (docenti/loginmiur certificati dall'Ateneo) aggiornati al 16/03/2015 15:56.

N.	Cognome	Nome	Qualifica	Area Cun	Area Vqr	SSD
1.	ABRAHAMSSON	Pekka	Professore Ordinario	09	09	ING-INF/04
2.	DODERO	Gabriella Maria	Professore Ordinario	01	01	INF/01
3.	MINCHEFF	Martin	Professore Ordinario	09	09	ING-INF/05
4.	NUTT	Werner	Professore Ordinario	01	01	INF/01
5.	SUCCI	Giancarlo	Professore Ordinario	01	01	INF/01

**Professori Associati**

Situazione al 31/12/2013 ricavata dagli archivi Miur-Cineca (docenti/loginmiur certificati dall'Ateneo) aggiornati al 16/03/2015 15:56.

N.	Cognome	Nome	Qualifica	Area Cun	Area Vqr	SSD
1.	CALVANESE	Diego	Professore Associato confermato	09	09	ING-INF/05
2.	FRANCONI	Enrico	Professore Associato confermato	01	01	INF/01
3.	GAMPER	Johann	Professore Associato confermato	01	01	INF/01
4.	HELMER	Sven	Professore Associato confermato	09	09	ING-INF/05
5.	RICCI	Francesco	Professore Associato confermato	01	01	INF/01
6.	RUSSO	Barbara	Professore Associato confermato	01	01	INF/01
7.	SILLITTI	Alberto	Professore Associato confermato	01	01	INF/01

**Ricercatori**

Situazione al 31/12/2013 ricavata dagli archivi Miur-Cineca (docenti/loginmiur certificati dall'Ateneo) aggiornati al 16/03/2015 15:56.

N.	Cognome	Nome	Qualifica	Area Cun	Area Vqr	SSD
1.	ARTALE	Alessandro	Ricercatore confermato	01	01	INF/01
2.	PETRINJA	Etiel	Ricercatore non confermato	01	01	INF/01
3.	TESSARIS	Sergio	Ricercatore confermato	01	01	INF/01

**Assistente Ruolo Esaurimento**

Situazione al 31/12/2013 ricavata dagli archivi Miur-Cineca (docenti/loginmiur certificati dall'Ateneo) aggiornati al 16/03/2015 15:56.

No data found

**Professore Ordinario Ruolo Esaurimento**

Situazione al 31/12/2013 ricavata dagli archivi Miur-Cineca (docenti/loginmiur certificati dall'Ateneo) aggiornati al 16/03/2015 15:56.

No data found

**Straordinari a tempo determinato**

Situazione al 31/12/2013 ricavata dagli archivi Miur-Cineca (docenti/loginmiur certificati dall'Ateneo) aggiornati al 16/03/2015 15:56.

No data found

**Ricercatori a tempo determinato**

Situazione al 31/12/2013 ricavata dagli archivi Miur-Cineca (docenti/loginmiur certificati dall'Ateneo) aggiornati al 16/03/2015 15:56.

N.	Cognome	Nome	Qualifica	Area Cun	Area Vqr	SSD
1.	DEL FATTO	Vincenzo	Ricercatore a t.d. - t.pieno (art. 24 c.3-a L. 240/10)	01	01	INF/01
2.	EL IOINI	Nabil	Ricercatore a t.d. - t.pieno (art. 24 c.3-a L. 240/10)	09	09	ING-INF/05
3.	FRONZA	Ilenia	Ricercatore a t.d. (art.1 comma 14 L. 230/05)	09	09	ING-INF/05
4.	GE	Mouzhi	Ricercatore a t.d. - t.pieno (art. 24 c.3-a L. 240/10)	01	01	INF/01
5.	GENCEL	Cigdem	Ricercatore a t.d. (art.1 comma 14 L. 230/05)	09	09	ING-INF/04
6.	JANES	Andrea Alexander	Ricercatore a t.d. (art.1 comma 14 L. 230/05)	09	09	ING-INF/01
7.	KACIMI EL HASSANI	Mouna	Ricercatore a t.d. - t.pieno (art. 24 c.3-a L. 240/10)	09	09	ING-INF/05
8.	MARENGO	Elisa	Ricercatore a t.d. - t.pieno (art. 24 c.3-a L. 240/10)	01	01	INF/01
9.	MONTALI	Marco	Ricercatore a t.d. (art.1 comma 14 L. 230/05)	01	01	INF/01
10.	PIRRÒ	Giuseppe	Ricercatore a t.d. (art.1 comma 14 L. 230/05)	01	01	INF/01
11.	REMENCIUS	Tadas	Ricercatore a t.d. (art.1 comma 14 L. 230/05)	01	01	INF/01
12.	RIKKILAE	Juha Martti Kalevi	Ricercatore a t.d. (art.1 comma 14 L. 230/05)	09	09	ING-INF/04
13.	RYZHIKOV	Vladislav	Ricercatore a t.d. (art.1 comma 14 L. 230/05)	01	01	INF/01
14.	WANG	Xiaofeng	Ricercatore a t.d. (art.1 comma 14 L. 230/05)	09	09	ING-INF/05

**Assegnisti**

Situazione al 31/12/2013 ricavata dagli archivi Miur-Cineca (docenti/loginmiur certificati dall'Ateneo) aggiornati al 16/03/2015 15:56.

N.	Cognome	Nome	Qualifica	Area Cun	Area Vqr	SSD
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1.	BAGHERI HARIRI	Babak	Assegnista	09	09	ING-INF/05
2.	BAGOSI	Timea	Assegnista	09	09	ING-INF/05
3.	BOTOEVA	Elena	Assegnista	01	01	INF/01
4.	GUAGLIARDO	Paolo	Assegnista	01	01	INF/01
5.	IBANEZ GARCIA	Yazmin Angelica	Assegnista	01	01	INF/01
6.	KERHET	Volha	Assegnista	01	01	INF/01
7.	MOSCA	Alessandro	Assegnista	01	01	INF/01
8.	PEREZ-BELTRACHINI	Laura Haide	Assegnista	01	01	INF/01
9.	REZK	Martin Ignacio	Assegnista	09	09	ING-INF/05
10.	SLUSNYS	Mindaugas	Assegnista	09	09	ING-INF/05
11.	THORNE FREUNDT	Camilo John	Assegnista	09	09	ING-INF/05
12.	TOMASI	Alex	Assegnista	01	01	INF/01
13.	URRUTIA ZAMBRANA	Adolfo Javier	Assegnista	01	01	INF/01
14.	XIAO	Guohui	Assegnista	09	09	ING-INF/05

#### Dottorandi

Situazione al 31/12/2013 ricavata dagli archivi Miur-Cineca (docenti/loginmiur certificati dall'Ateneo) aggiornati al 16/03/2015 15:56.

N.	Cognome	Nome	Qualifica	Area Cun	Area Vqr	SSD
1.	ASTROMSKIS	Saulius	Dottorando	01	01	INF/01
2.	BOLZONI	Paolo	Dottorando	01	01	INF/01
3.	BRAUNHOFER	Matthias	Dottorando	01	01	INF/01
4.	CHONDROGIANNIS	Theodoros	Dottorando	01	01	INF/01
5.	EL IOINI	Nabil	Dottorando	01	01	INF/01
6.	GEORGIEV	Anton	Dottorando	01	01	INF/01
7.	GRAZIOTIN	Daniel	Dottorando	01	01	INF/01
8.	KERHET	Volha	Dottorando	01	01	INF/01
9.	KOSCHWITZ	Julian Paul Jakob	Dottorando	01	01	INF/01
10.	KOVTUNOVA	Alisa	Dottorando	01	01	INF/01
11.	LUTTERI	Emiliano	Dottorando	01	01	INF/01
12.	MARCIUSKA	Sarunas	Dottorando	01	01	INF/01
13.	MELONIO	Alessandra	Dottorando	01	01	INF/01
14.	NGO	Thi Phuong Nhung	Dottorando	01	01	INF/01
15.	PHAPHOOM	Nattakarn	Dottorando	01	01	INF/01
16.	PIATOV	Danila	Dottorando	01	01	INF/01
17.	RAZNIEWSKI	Simon	Dottorando	01	01	INF/01
18.	ROMANO	Luigi	Dottorando	01	01	INF/01
19.	ROUBICKOVA	Anna	Dottorando	01	01	INF/01
20.	SANTOSO	Ario	Dottorando	01	01	INF/01
21.	SAVKOVIC	Ognjen	Dottorando	01	01	INF/01
22.	SOLOMAKHIN	Dmitry	Dottorando	01	01	INF/01
23.	TALIUN	Daniel	Dottorando	01	01	INF/01

Attività didattica e di ricerca - Pers. EPR (art.6 c.11 L.240/10)

Situazione al 31/12/2013 ricavata dagli archivi Miur-Cineca (docenti/loginmiur certificati dall'Ateneo) aggiornati al 16/03/2015 15:56.

No data found

#### Specializzandi

Situazione al 31/12/2013 ricavata dagli archivi Miur-Cineca (docenti/loginmiur certificati dall'Ateneo) aggiornati al 16/03/2015 15:56.

No data found



#### QUADRO C.2.b

#### C.2.b Personale tecnico-amministrativo

##### Personale di ruolo

Area Amministrativa	7
Area Servizi Generali e Tecnici	0
Area Socio - Sanitaria	0
Area Tecnica, Tecnico - Scientifica ed Elaborazione dati	3
Area Biblioteche	0
Area Amministrativa - Gestionale	1
Area Medico - Odontoiatrica e Socio - Sanitaria	0
Area non definita	0

##### Personale con contratto a tempo determinato

Area Amministrativa	1
Area Servizi Generali e Tecnici	0
Area Socio - Sanitaria	0
Area Tecnica, Tecnico - Scientifica ed Elaborazione dati	0
Area Biblioteche	0
Area Amministrativa - Gestionale	0
Area Medico - Odontoiatrica e Socio - Sanitaria	0
Area non definita	0