



**Universiteit Leiden**

**Leiden Institute of Advanced Computer Science**

## **Annual Education Report 2007**

Leiden Institute of Advanced Computer Science (LIACS)  
Universiteit Leiden  
Niels Bohrweg 1  
2333 CA Leiden  
The Netherlands



# LIACS

**Universiteit Leiden**  
**Faculteit der Wiskunde en Natuurwetenschappen**  
**Leiden Institute of Advanced Computer Science**

## **Annual Education Report 2007**

The research activities of LIACS in 2007 are described in a separate report.  
For further information concerning this report, please contact the LIACS  
secretary at 071-5277061 or [secr@liacs.nl](mailto:secr@liacs.nl)

Leiden Institute of Advanced Computer Science (LIACS)  
Universiteit Leiden  
Niels Bohrweg 1  
2333 CA Leiden  
The Netherlands  
Tel: +31 71 527 7061  
Fax: +31 71 527 6985  
URL: <http://www.liacs.nl/>

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## INTRODUCTION

It is a pleasure for me to introduce to you the annual education report of the Leiden Institute of Advanced Computer Science (LIACS). When you browse through the report, you will find many activities related to education at LIACS.

It is the intention of this report to make these activities more visible. Many people are involved in these activities and I would like to take this opportunity to thank them for all their efforts.

Results of students are also shown in this report, for example in the list of master theses. In addition, the report lists publications which result from student's research contributions, as well as other activities such as exhibitions and poster presentations. Students study, but also help in the development of the curricula through their feedback, and suggestions in questionnaires, educational committees and participation in meetings of staff about education.

I hope you enjoy reading this report and that it proves to be useful for you.

Thomas Bäck  
Director of Education, LIACS



## **FACILITIES**

### **Accommodation**

LIACS is housed in the Snellius building of Leiden University. LIACS shares this building with the Mathematical Institute and the I-groep. The lectures are given mostly in the Snellius, but sometimes lecture rooms in the Huygens building or the Gorlaeus laboratories are used. For the education provided by LIACS and the Mathematical Institute, 17 rooms are available of which 2 are used for the Masters in ICT in Business and Media Technology. Three rooms can seat a maximum of 48 students; the other rooms are for smaller groups or are in use as computer laboratories for graduating students. Snellius has a library which may be used by students.

### **Computer facilities**

The system management supports the multi faceted tasks which are expected from students by providing system facilities and extra facilities when those are required. For students 20 Apple eMacs are available as well as 100 PC's, all connected to a state of the art WiFi/switched network. Students can choose the operating system they prefer: Linux (SuSE), Windows (XP) and MacOS X. The maintained number of accounts fluctuates between 800 and 1000.

For researchers who work on various aspects of parallel, distributed, grid computing and large-scale multimedia content analysis the DAS-3 system is available. DAS-3 (The Distributed ASCII Supercomputer 3) is a five-cluster wide-area distributed system, which employs a novel internal wide-area interconnect based on light paths.

The LIACS Media Lab (LML) is an infrastructure for multimedia research and education. Currently, the main themes are in Virtual imagination, Content based retrieval of multimedia information, Interactive video (face and body tracking and analysis), Speech interfaces, and Virtual studios (<http://media.liacs.nl>). The goal of the Medialab is to unify education and research in the areas of Multimedia Analysis/Understanding, Artificial Intelligence, Human Computer Interaction and Internet Technologies.



## PROGRAMMES

From the educational year 2007/2008 on, the 'major/minor' constructions (the option to combine two scientific disciplines from the first year onwards) are no longer part of the curriculum at Leiden University. Instead of the limited choices which the major/minor options offered, the student has from 2007/2008 more freedom in the choice of the track that will be followed. In the new system the student has in the third year of the bachelor the possibility to choose elective courses for 30 EC from several programmes from LIACS or from other disciplines or faculties.

What has remained is the possibility to take a double propedeuse (first year) exam in Computer Science and Mathematics, or in Computer Science and Physics, or in Computer Science and Astronomy.

In 2007 the Leiden Institute of Advanced Computer Science offered the following programmes.

### **Bachelor**

– Computer Science (monodisciplinary)

Major Computer Science with a minor from another discipline:

only for students who applied before the educational year 2007/2008:

– Major Computer Science with a minor in Psychology

– Major Computer Science with a minor in Public Administration

– Major Computer Science with a minor in Linguistics

### **Masters**

#### Master in Computer Science

This master covers core Computer Science and replaces the later years of the former doctoraal programme. The programme offers the scientific foundation for innovative research in the fields of Algorithms, Computer Systems, Foundations of Software Technology and Imagery & Media.

#### Master track in Bioinformatics

The Bioinformatics track within the master programme Computer Science is organized in cooperation with the Faculty of Electrical Engineering, Mathematics and Computer Science (EEMCS) of Delft University of Technology in close cooperation with three of the four centers of excellence of the Nationaal Regie Orgaan Genomics: namely the Centre for Medical Systems Biology, Kluiver Centre for Genomics of Industrial Fermentation, and Cancer Genomics Consortium. (<http://bioinformatics.delftleiden.nl>.) The focus of this track is on Data Analysis and Modeling. This is established by a mandatory core program and a selection of specialization courses. Students take courses in both Leiden and Delft.

#### Master in Media Technology

This Master is organized in cooperation with the Faculty of Creative and Performing Arts. The MSc programme aims to be a place where students, artists and scientists do research by creating innovative solutions, inspired by results and principles of science. The graduation project is an actual product which is the result of research, and which always contains a media component: visual, auditive or otherwise.

#### Master in ICT in Business

This international programme provides a flexible framework for Information Management or to participants wishing to pursue an international career involving both ICT and Management. That framework consists of courses which analyze the way in which ICT influences individuals and organizations in their functioning, cooperation and communication, covering the impact of ICT on all business areas including marketing, operations, finance and strategy.

## ENROLLMENT

	<u>2007</u>	<u>2006</u>	<u>2005</u>
Bachelor	30	27	21
Master in Computer Science	6	9	1
Bioinformatics	6*	6*	6* * 1 in Leiden, 5 in Delft
Media Technology	16	21	21
ICT in Business	22	31	30

## LECTURES

### Bachelor Computer Science, first year

The courses included in the minor parts (spring 2007) are not taught by LIACS staff and therefore not mentioned here.

<u>Course</u>	<u>Lecturer/Assistant</u>	<u>Discipline*</u>
<i>Spring 2007</i>		
Algoritmiëk	dr J.M. de Graaf	I, WI
Databases	dr M.T.M. Emmerich	I, WI
Lineaire Algebra en Beeldverwerking	dr D.P. Huijsmans	I
Logica	dr F.S. de Boer	I
Seminarium challenges in Computer Science	dr A.H. Deutz	I
Mentoraat	dr A.H. Deutz, dr M. Huiskes, dr D.P. Huijsmans	I
<i>Fall 2007</i>		
Continue Wiskunde (lecturer Mathematical Institute)	dr R.J. Kooman	I, WI
Digitale Technieken	dr A.H. Deutz	I, WI
Programmeermethoden	dr W.A. Kusters	I, WI, W, P, A
Fundamentele Informatica 1	dr H.J. Hoogeboom	I
Studievaardigheden 1 (mentoraat)	dr A.H. Deutz, dr D.P. Huijsmans, dr M.J. Huiskes	I, WI

\* I = Computer Science, WI = Mathematics and Computer Science, P = Physics, A = Astronomy,  
W = Mathematics

### Bachelor Computer Science, second year

<u>Course</u>	<u>Lecturer/Assistant</u>	<u>Discipline</u>
<i>Spring 2007</i>		
Complexiteit	dr J.M. de Graaf	I
Operating Systems	dr A.H. Deutz	I
Programmeren en Correctheid	dr M.M. Bonsangue	I
Software Engineering	dr P. Toussaint	I
Kunstmatige Intelligentie	dr W.A. Kusters	I
<i>Fall 2007</i>		
Datastructuren	dr H.J. Hoogeboom	I
Concepten van Programmeertalen	prof dr F. Arbab	I
Computerarchitectuur	dr A.A. Wolters	I
Fundamentele Informatica 2	dr M.M. Bonsangue	I
Requirements Engineering	dr LP.J. Groenewegen	I

### Bachelor Computer Science, third year

<u>Course</u>	<u>Lecturer/Assistant</u>	
<i>Spring 2007</i>		
Netwerken	prof dr H.A.G. Wijshoff	I
Theorie van concurrency	drs R. van Vliet	I
<i>Fall 2007</i>		
Human Computer Interaction	dr ir F.J. Verbeek	I
Compiler Construction	dr A.C.J. Kienhuis	I
Fundamentele Informatica 3	dr H.C.M. Kleijn	I
Data mining	prof dr J.N. Kok	I

## **MASTER COMPUTER SCIENCE**

### Course

#### *Spring 2007*

Advanced compilers and architectures  
Neurale netwerken  
Embedded Systems  
Multimedia Information Retrieval  
Molecular Computational Biology  
Speech Recognition  
Computer Graphics  
Microscopy, Modeling and Visualisation  
Coordination and Component Composition  
Software Project  
Workshop 'Cases uit het bedrijfsleven'  
Optimization with Applications in bio-informatics

### Lecturer/Assistant

prof dr H.A.G. Wijshoff  
prof dr J.N. Kok  
prof dr E.F.A. Deprettere  
dr M.S. Lew  
dr H.J. Hoogeboom, prof dr S. Gulyaev  
dr E.M. Bakker, MSc F. Yu (assistant)  
dr M.S. Lew  
dr ir F.J. Verbeek, dr D.P. Huijsmans  
prof dr F. Arbab  
dr A.C.J. Kienhuis  
drs F.A.J. Birrer  
prof dr T.W.H. Bäck, dr M.T.M. Emmerich

#### *Fall 2007*

Stereo Vision Techniques  
Evolutionary Algorithms  
Multimedia Systems  
  
Modeling and Analysis of Security Protocols  
Multi-criterion Optimization and Decision Making  
Natural Computing  
Program Analysis and Transformation  
Databases and Datamining  
Workshop 'Cases uit het bedrijfsleven'

dr D.P. Huijsmans  
prof dr T.W.H. Bäck  
dr M.S. Lew, dr E.M. Bakker, MSc B. Thomee  
(assistant), T. Steenbergen (student assistant)  
dr T. Chothia  
dr M.T.M. Emmerich  
prof dr T.W.H. Bäck  
dr S. Verdoolaege  
dr E.M. Bakker, M.D.J. Witsenburg (assistant)  
drs F.A.J. Birrer

## **Master Computer Science, track Bioinformatics: open to other Master Computer Science students**

### Course

#### *Spring 2007*

Microscopy, Modeling & Visualization  
Statistical Modeling for Classification and Prognosis  
Molecular Computational Biology  
Multimedia Information Retrieval  
Optimization

### Lecturer/Assistant

dr ir F.J. Verbeek, dr D.P. Huijsmans  
dr J.J. Goeman (LUMC)  
dr H.J. Hoogeboom, dr A.P. Gulyaev  
dr M.S. Lew  
prof dr Th.H.W. Bäck, dr M.T.M. Emmerich,  
drs R. Breukelaar (assistant)

#### *Fall 2007*

Pattern Recognition  
Databases and Data Mining  
Advanced Image Processing  
Mathematical Biology and Virtual Cell  
Connectionist Density Estimation for  
Structure and Sequences

dr R.P.W. Duin (TUD)  
dr E.M. Bakker, drs M.D.J. Witsenburg (assistant)  
dr E.A. Hendriks (TUD)  
prof dr S.M. Verduyn Lunel, dr S.C. Hille (MI)  
dr E. Trentin (Siena University)

## **Master Computer Science, track Bioinformatics: solely Bioinformatics Track Students**

#### *Spring 2007*

Advanced Bioinformatics  
Functional Genomics and Systems Biology

dr ir D. de Ridder, dr ir L. Wessels (TUD)  
prof dr ir J.J. Heijnen, prof dr ir M.J.T. Reinders (TUD)

#### *Fall 2007*

Molecular Genetics Tutor  
Molecular Genetics 1  
Molecular Genetics 2  
Molecular Cell Biology  
Cell Biology

dr H.J.M. Linthorst (IBL)  
dr N. Goosen (LIC)  
prof dr M.H.M. Noteborn (LIC)  
prof dr J. Brouwer (LIC)  
prof dr H.P. Spaink (IBL)

## EXAMS

### Propedeeuse

### Number of first year exams in 2007

The following 18 students passed their propedeeuse exams:

		<u>Year of arrival</u>	<u>number</u>	<u>male</u>	<u>female</u>
T.R. Bertz	O.G.J. van der Spek	1999	2	2	-
X. Cheng	E.R.M. Veger	2002	1	1	-
T.L.A. Dorsman	J.K. Vis	2003	1	1	-
S.D. Hilteman	S. Wink	2004	1	1	-
J.P. IJsveld	F.Y. Wong	2005	3	2	1
B. Kwint	J.H. Wortel	2006	10	10	-
G.A. van der Lubbe	S.R. Zaaier				
A. de Mooij	H.G.C. van der Zwet				
H.H. Schoonewille	W. de Zwijger				

### Exams Bachelors Computer Science

### Number of bachelor exams in 2007

The following 9 students passed their Bachelor exams:

		<u>Year of arrival</u>	<u>number</u>	<u>male</u>	<u>female</u>
D.T.A. van Beelen	J.I. Huizer	2002	3	3	-
J. Guzman Carmona	T.L. Li	2003	5	5	-
S. van Haastregt	T. de Vries	2004	1	1	-
M. Helvensteijn	R. van der Zwan				
S.J. Henstra					

### Final (doctoraal) exams Computer Science

### Number of final exams in 2007

In 2007 a total of 20 students took their final (doctoraal) or masters exam in Computer Science

		<u>Year of arrival</u>	<u>number</u>	<u>male</u>	<u>female</u>
J.H. Hogewoning	K. van Vuurden	1995	1	1	-
M. Hoogeboom	J.W. Klinkenberg	1997	1	1	-
M.G. van der Zon	A.R. Khoesial	1998	3	2	1
L.M. Strijbosch	S.E. van der Maar	1999	5	5	-
B. Samwel	M.I. Braak	2000	2	1	1
D.A. Snuijf	A.E. Nezhinsky	2001	4	3	1
B.M. Groenendijk	M. Altorf	2002	1	1	-
E.J. Ridders	A. de Mooij				
J.T. Walters					

### Masters exams Computer Science

### Number of masters in 2007

		<u>Year of arrival</u>	<u>number</u>	<u>male</u>	<u>female</u>
Y. Tao		2003	1	-	1
Z. Li		2004	1	-	1
Y. Bao (track Bio Informatics)		2005	1	1	-

### Masters and final theses

- Maarten Altorf, *Data mining on grids*, prof dr J.N. Kok, 30.11.2007
- Marjolein Braak, *Optimizing visualization techniques of triangulated three dimensional models derived from plan parallel microscopic images*, dr ir F. Verbeek, 28.09.2007
- Bas Groenendijk, *Uncovering the classification characteristics of olfactory G protein-coupled receptors*, prof dr T.W.H. Bäck, 20.04.2007
- Michiel Hoogeboom, *Architecture and implementation compliance: reaching compliance by means of automation*, dr L.P.J. Groenewegen, 26.01.2007
- Eric Hogewoning, *Strategies for affect-controlled action-selection in Soar-RI*, drs J. Broekens, 26.01.2007; **published as:** Eric Hogewoning, Joost Broekens, Jeroen Eggermont, Ernst G.P. Bovenkamp, Proceedings of the 2<sup>nd</sup> International Work-Conference on the Interplay between Natural and Artificial Computation (IWINAC 2007, Murcia, Spain), LNCS 4528 (pp. 501-510), Springer, Berlin, 2007.

- Aarti Khoesial, *The use of archimate and archetypes in a national clinical environment: Case study: the data capture of the clinical core dataset (i.e. the LMR) for patients who have consulted or are treated by a specialist*, dr L.P.J. Groenewegen, 31.08.2007
- JanWillem Klinkenberg, *SMS-Algorithm for parallel multiobjective optimization with costly evaluations*, dr M.T.M. Emmerich, 31.08.2007
- Zan Li, *Microrray image analysis with focus on background correction*, dr ir F.J. Verbeek, 29.06.2007
- Sander van der Maar, *Tomography and the cell*, dr A.C.J.. Kienhuis, 28.09.2007
- Arjen de Mooij, *Graphview: A Kahn process network visualization tool*, dr A.C.J. Kienhuis, 30.11.2007
- Alexander Nezhinsky, *Analysis of water height prediction. How rules determine the operator*, dr W.A. Kusters, 30.11.2007
- Edwin Rikkers, *Robocop components trust and simulation*, dr M.M. Bonsangue, 29.06.2007
- Bart Samwel, *Pebble scope and the power of pebble tree transducers*, dr J. Engelfriet, 20.04.2007;  
**published as:** J. Engelfriet, H.J. Hoogeboom, B. Samwel: XML-Transformation by Tree-Walking Transducers with Invisible Pebbles, L. Libkin, ed.: Proceedings of the twenty-sixth ACM Symposium on Principles of Database Systems (PODS 2007), pp. 63-72, ACM Press, 2007.  
Best Newcomer Award.
- Luc Strijbosch, *Speeding up ozone profile retrieval using machine learning techniques*, prof dr J.N. Kok, 20.04.2007
- David Snuijf en Johan Walters, *Mapping streambases application to an Intel IXP network processor using Compaan*, dr A.C.J.. Kienhuis, 20.04.2007, 29.06.2007
- Ying Tao, *Heterogeneous multiprocessor system design with ESPAM: Integration of hardware IP cores*, dr T.P. Stefanov, 26.01.2007
- Klaske van Vuurden, *Searching for unique strings of variable length in DNA using pruned and truncated suffix trees*, dr H.J. Hoogeboom, 31.08.2007
- Matthijs van der Zon, *Adding robustness and scalability to existing data mining algorithms for successful handling of large data sets*, prof dr J.N. Kok, 26.01.2007

#### Track Bioinformatics

- Yini Bao, *Content based web sampling*, dr E.M. Bakker, 07.09.2007



## MASTER MEDIA TECHNOLOGY

Programme manager: prof dr S. Haring

Programme staff: prof dr S. Haring, E. van der Heide, dr M.H. Lamers

### Lectures

#### Course

#### Lecturer(s)

#### *Spring 2007*

Research seminar

dr M.H. Lamers

Sound, Space & Interaction

E.F. van der Heide

Image & Vision

J. Rekveld

Meta Media

T.A.W. Stolk (Faculty of Creative and Performing Arts)

Web Technology

drs T. Cocx

Language & Text

dr C. Cremers (Faculty of Arts)

Hardware

P. Jansen Klomp (freelance)

Science Practice

prof dr S. Haring

Doing philosophy

prof dr S. Haring

Workshop 'Tools for inspiration'

dr J. Keller

Workshop 'Publication group BNAIC 2007'

dr M.H. Lamers

#### *Fall 2007*

Introduction to Programming

dr M.H. Lamers

Multi Media Systems

dr M.S. Lew, dr E.M. Bakker

Human Computer Interaction

dr ir F.J. Verbeek

Creative Research

prof dr S. Haring, dr M.H. Lamers

Cool Science

prof dr S. Haring

Sense Interference

R. Deirkauf (Faculty of Creative and Performing Arts)

Perceptualization

dr M.H. Lamers, E.F. van der Heide

Workshop 'Warping Time and Space...'

dr M.H. Lamers, drs B. Thomée (assistant)

### Projects and Ars Electronica

Technical support and supervision of Media Technology project teams (February-September 2007): drs J. Broekens, MSc A. Kallergi, dr S. Haring, dr H.C.M. Kleijn, MSc B. Thomee, dr M. Huiskes, dr M.H. Lamers, E.F. van der Heide, dr ir F.J. Verbeek.

Nearly all students from class 2007-2008 have visited the Ars Electronica Conference in Linz, Austria, 05-09-2007 to 10-09-2007. dr M.H. Lamers and E.F. van der Heide also participated. Organization: B. Hopmann in cooperation with the ArtScience programme, Royal Academy of Arts and the Royal Conservatoire, The Hague.

### Master Theses Mediatechnology

- R. Bijster, *Computed obedience: can a computer be a legitimate and malevolent authority*, dr ir F.J. Verbeek, 31.08.2007
- R.P.M. Crujlsberg, *Tagged identities*, dr ir. F.J. Verbeek, 19.06.2007
- J.M. Eerens, *Sound illusion cube*, E.F. van der Heide, 19.06.2007
- T.P. Roosen, *The influence of reality on virtual behavior in Second Life - An explorative study on virtual behavior*, prof dr S. Haring, 31.08.2007
- A.S. Witteveen, *Computed Obedience: can a computer be a legitimate and malevolent authority*, dr ir F.J. Verbeek, 31.08.2007
- E. Vreeswijk, *AnaMOVIEsis*, dr. E.M. Bakker (Bio-Informatics), 31.08.2007
- J. Van Dijk, *A framework for reducing redundancy in personal customized news*, dr C. Cremers, 16.02.2007
- M. Waaijer, *The dice man – Breaking the rules of self and society*, prof dr S. Haring, 28.02.2007
- R. Waal, *Affective gaming to create awareness on communication during aggressive situations in hospitals*, dr ir F.J. Verbeek, 16.02.2007
- Y. Jiang, *Ancient Chinese Characters Generator*, dr ir F.J. Verbeek, 23.-03.2007
- Yuan Lee and Alexander Geilenkirchen\*, *Detecting BDD Patients via Behavioural Symptoms*, dr M.H. Lamers, 24.10.2007.

\* A. Geilenkirchen graduated in 2008, Y. Lee had on date of publication not officially graduated.

## Number of final exams in 2007

In 2007 12 students acquired their master degree in Media Technology

### Exams Master degree

		Number of exams in 2007			
		<u>Year of arrival</u>	<u>Number</u>	<u>Male</u>	<u>Female</u>
R. Bijster	E. Vreeswijk				
R.P.M. Cruisberg	M. Waaijer	2002	2	2	-
J.M. Eerens	R. Waal	2004	7	6	1
T. P. Roosen	J. van Dijk	2005	3	3	-
A. S. Witteveen	Y. Jiang				

### Exhibitions of graduate projects

- Rick Companje, Nico van Dijk, Hanco Hogenbirk, and Danica Mast, *Globe4D*. Presented at:
    - Echangeur Gallery, December 3, 2007 (Paris)
    - NEMO Science Center Amsterdam, part of Museumnacht (Museum Night), Nov. 3, 2007*Globe4D*, by Rick Companje, Nico van Dijk, Hanco Hogenbirk and Danica Mast.
  - Todaysart Festival, September 21-22, 2007 (Den Haag)
  - Cinekid: International Film, Television and New Media Festival for Children, October 14-21, 2007, (Amsterdam)
  - WIRED NextFest, September 13-16, 2007 (Los Angeles)
  - SIGGRAPH 34th Int Conference on Computer Graphics and Interactive Techniques, August 5-9, 2007, (San Diego)
  - Laval Virtual ReVolution, April 18-22, 2007 (Laval, France)
  - Lecture at Hogeschool van Amsterdam
- Bob Cruisberg, *Tagged Identities*, poster presented at the HCI-methods: Way To Go? Conference, June 2007, Eindhoven.
  - Roy Bijster and Xander Witteveen, *Computed Obedience*, poster presented at the HCI-methods: Way To Go? Conference, June 2007, Eindhoven.
  - Ralph Kok, Nicolette Lelieveld, and Jeroen Oliemans, *ShameStation: Transposing Freedom from Shame and Guilt from Computer Games to the Real World*, Proceedings of the Fourth Int Symposium on Pervasive Gaming Applications (PerGames 2007), June 2007, Salzburg, 189-191.
  - Bart Thomée and Michael Lew, *Cultural Preservation and Sharing using Multiplayer Virtual Worlds*, 9th Int Conference on Virtual Reality, April 2007, Laval, France.
  - NPOX Festival for Public Broadcasting, November 19-20 2007 (Hilversum, Netherlands), *The Big Mean Steam Machine*, by Maarten Bennis, Wim van Eck, and Willem van Vliet.
  - Festival De Wereld van Witte de With, September 7-9 2007 (Rotterdam), *Park to Play*, by Thijs Eerens, Joey van Dijk, and Michiel Waaijer.
  - STRP Festival, 22-25 november 2007 (Eindhoven), *ShameStation*, by Ralph Kok, Nicolette Lelieveld, and Jeroen Oliemans.
  - PICNIC'07 Festival, September 26-29 2007 (Amsterdam), *The Big Mean Steam Machine*, by Maarten Bennis, Wim van Eck, and Willem van Vliet.
  - Discovery 07 Festival, September 28 2007 (Amsterdam), *OutRandom*, by Tiago Borges Coelho, Christina Papakonstantinou, and Maarten Wesselius.
  - Innovatum Science Center, June 2007 (Trollhättan, Sweden), a modified version of the *PingPongPixel* installation was entered into the permanent collection, by Jonathan den Breejen and Marenka Deenstra.

### Semester project exhibition, September 15-23, 2007, Leiden

- *The Anemone*, by Eelke Feenstra, Sander Hutman, Karen Sam
- *Wheel of Fortune – Why Spin?*, by Karel van den Aarsen, Marian Maas, David van Paeschen
- *Phishies, relating the simulated movement of aquarium fish to the real deal*, by Menno van Elk, Chris Heydra, Sjoerd Kranendonk
- *Ignorance is Bliss, reading gravestones does not mean you know the dead*, by Elena Gravriolidou, Kees Koffeman, Kirsten Korevaar
- *Outrandom, addressing your most underrated skill* by Christina Papkonstantinou, Tiago Borges Coelho, Maarten Wesselius
- *Ceci n'est pas une installation*, by Alex Reuneker, Simon Windt
- *City Tour of Choices*, by Ella Keizer, Giannis Panagiotou, Job de Reus

## MASTER ICT IN BUSINESS

Programme Manager: prof dr H.P. Borgman (LUSM)

### Lectures

#### Course

*Spring 2007 (class 2006-2007)*  
Systems Development & Project Management  
Financial Accounting  
ICT Strategy and Planning  
Corporate Finance  
Research Seminar

#### Lecturer/Assistant

prof dr T.W.H. Bäck  
dr D. van Offeren  
drs B. Kruiswijk en D. Erasmus B.Eng/MBA  
drs R. Ory & drs M. Lycklama a Nijeholt  
prof H.P. Borgman, dr B. Sari en drs W. Mensink

#### *Autumn 2007 (class 2006-2007)*

ICT infrastructure  
Capstone Cases  
MSc Thesis project

dr H. Le Fever  
prof dr H.P. Borgman & drs A.W. Stam  
prof dr H.P. Borgman

#### *Autumn 2007 (class 2007-2008)*

CIO Simulation  
Software Engineering  
Marketing  
Corporate Communications  
Strategy Formation & Implementation  
ICT-enabled Process Innovation  
Corporate Finance  
Behavioural Decision Making

dr H. Heier & O. Bittner  
dr L.P.J. Groenewegen  
prof dr J. Faustino  
prof dr J. Faustino  
prof dr J. de Smit  
dr M.I Dissel  
drs B. Mouton  
dr R. Verburg

#### *Elective courses, spring 2007*

Cross-cultural Organisations  
IT Governance -  
Marketing & Customer Value Maximization  
Operations Management  
Strategic Management  
Technopreneurship

dr ir P. Prud'homme van Reine  
dr H. Heier  
prof dr Ch. Buss  
dr J. Pope  
prof dr J. de Smit  
prof dr B. Katzy

#### Guest lecture

*Embedded System Design*, 14 March 2007, dr ir A.C.J. Kienhuis

### Numbers of the Master ICT in Business

In 2007 21 students acquired their master degree in ICT in Business.

#### Exams Master degree

#### Number of exams in 2006

		<u>Year of arrival</u>	<u>number</u>	<u>male</u>	<u>female</u>
Sander van den Belt	Richard Siebeling	2000	1	-	1
Sven Blom	Ron Sneijers	2002	1	1	-
Shahid Butt	Ashwina Soekhoe	2003	1	1	-
Amarantha Clairmont	Robert Sparnaay	2004	2	2	-
Harro van Doorn	Matt Stolwijk	2005	16	11	5
Arjan Hannink	Giovany Vasquez				
Jim Harders	Ning Xu				
Werner Heystek	Whikai Xu				
Klaas-Jan Molendijk	Min Yin Yap				
Zhen Ni	Yue Zang				
Cahitu Satbhai					

### Master Theses of ICT in Business

- Giovany Vasquez *The role of datamining in the provision of relative value of growth*, prof dr T.H.W. Bäck, drs P. van der Putten, 26.04.2007
- Zhikai Xu, *Secure employee knowledge exchange in multinational cooperation – A theoretical model* -, dr R. van Reekum, prof dr J. de Smit, 28.06.2007
- Sven Blom, *Corporate social responsibility and online shopping*, drs R. Orij, drs J.P. van der Rest, 28-06-2007
- Robert Sparnaaij, *Bridging the gap between intra-organizational mobile collaboration scenarios and tools*, prof dr B.R. Katzy, dr B. Sari, 29.08.2007, **under review** for the International Conference on Concurrent Enterprising, ICE 2008.
- Jim Harders, *Planning in disruptive environments*, prof dr B.r. Katzy, prof dr H.P. Borgman, 29.08.2007
- Chaitu Satbhai, *Mainframe capacity planning*, prof dr T.H.W. Bäck, prof dr H.P. Borgman, 29.08.2007
- Zhen Ni, *Recommendations for an improved transactional forecasting tool*, 29.08.2007, drs P.W.H. van der Putten, prof dr T.H.W. Bäck, drs M.P. Lycklar, 29.08.2007
- Ning Xu, *Explanation interfaces in recommender systems, model in ABN AMRO*, drs P.W.H. van der Putten, dr W.A. Kusters, 29.08.2007
- Yue Zhang, *An empirical study on abnormal returns from M&A activities in ICT industry*, drs M.P. Lycklama à Nijeholt, prof dr H.P. Borgman, 29.08.2007
- Ron Sneijers, *Strategic alignment from an enterprise architecture perspective: An investigation in the Dutch casualty insurance industry*, dr R. van Reekum, prof dr H.P. Borgman, dr H. LeFever, 29.08.2007
- Matt Stolwijk, *Organizational and automation modelling aspects of the ANSI RBAC standard*, prof dr H.P. Borgman, drs R.P. Orij, dr H. LeFever, 29.08.2007
- Arjan Hannink, *Service innovation management in MVNOs*, prof dr B.R. Katzy, prof dr H.P. Borgman, 30.08.2007
- Klaas-Jan Molendijk, *Matching project situation and software development methods*, dr L.P.J. Groenewegen, prof dr H.P. Borgman, 30.08.2007
- Shahid Butt, *Business software integration maturity model*, dr L.P.J. Groenewegen, prof dr H.P. Borgman, 30.08.2007
- Richard Siebeling, *Organizational knowledge creation and transfer through distributed systems*, prof dr H.P. Borgman, dr Hauke Heier, 05.09.2007
- Amarantha Clairmont, *A process oriented approach for identifying the expected business value of an IT investment: The POVI method*, prof dr H.P. Borgman, dr H. LeFever, 25.10.2007
- Sander van den Belt, *Analysing IT risk management tools*, prof dr H.P. Borgman, dr H. leFever, 25.10.2007
- Werner Heijstek, *Empirical investigations into rational unified process effort distribution in industrial software engineering projects*, dr M. Chaudron, dr L. Groenewegen, 25.10.2007  
**published as:** W. Heijstek, M.R.V. Chaudron: Effort distribution in model-based development, 2<sup>nd</sup> Workshop on Model Size Metrics, Nashville, TN, 2007.
- Ashwina Soekhoe, *Client-oriented innovation in the Dutch home care – Archimate contributes to the design of an ECT care platform*, dr L. Groenewegen, dr M.M. Bonsangue, 25.10.2007
- Min Yin (Casey) Yap, *An exploratory study: virtual worlds and political participation*, dr R. van Reekum, prof dr B.R. Katzy, 25.10.2007
- Harro van Doorn, *Relevant factors for developing and implementing a policy for corporate social responsibility, The role of the ICT department*, drs R.P. Orij, prof dr H.P. Borgman, 25.10.2007

## COMMITTEES

### **Education Committee (Opleidingscommissie)**

dr L.P.J. Groenewegen, chairman

M. Derogee, secretary

dr ir A.C.J. Kienhuis

dr W.A. Kusters (from 01.07.2007)

T.L. Li, R. van der Zwan, Joris Slob (from 01.01.2007 until 01.07.2007), Alex Reuneker (from 01.07.2007 until 31.12.2007), Anton den Hoed, Frank Takes, Johan Groenen

The role of the Education Committee is to discuss all educational matters with lecturers as well as with students. The committee plays an indispensable role guarding quality assurance and improvement of education. One of the tools for quality control is to hold surveys among students who have attended the obligatory lectures of the Computer Science curriculum. This survey is organized in cooperation with the Faculty and ICLON (the interfaculty centre for educational support).

Each year the so-called Facultaire Onderwijsprijs (Faculty Educational Award) is awarded following the recommendation of the student members of the committees of the faculty. For this award prof. dr. Thomas Bäck was recommended to the faculty in 2007 as the most appreciated lecturer within LIACS.

In 2007 the committee met five times and the following items were discussed.

08.03.2007	Bachelor-project, Plan Master thesis
09.05.2007	Survey-results from autumn 2006, Plan Master thesis
02.07.2007	Ba-Ma, Bachelor-project
04.10.2007	Survey-results spring 2007, Education-award
06.12.2007	Bachelor-project, Conversations with lecturers about survey results, meeting with vice-dean about a few subjects

### **Admission committee Master Computer Science tracks**

dr D.P. Huijsmans, chairman

Number of applications in 2007: 102

MSc Computer Science: 25 (60% positive advice), 8 registered students in September

MSc Mediatechnology: 36 (66% positive advice), 16 registered students in September

MSc ICT in Business: 41 (66% positive advice), 20 registered students in September

### **Examination Board (Examencommissie)**

Prof dr H.A.G. Wijshoff (chairman)

Dr M.S. Lew (secre)

Coordination: M. Derogee

Sub committees:

Bachelor Informatics

dr F.S. de Boer (contact)

dr ir F.J. Verbeek

Coordination: M. Derogee

Master Computer Science and track Bio-informatics

prof dr H.A.G. Wijshoff (contact)

dr M.S. Lew

Coordination: Computer Science M. Derogee, Bio-informatics J. Blaazer

Master ICT in Business

prof dr H.P. Borgman (contact)

dr M.R.V. Chaudron

Coordination: P. van der Heijden

Master Media Technology

dr M.H. Lamers (contact)

dr M.S. Lew

Coordination: B. Hopmann

The duties of this committee are described in the Onderwijs- en Examenregeling.

## STUDENT AFFAIRS –COUNSELING AND TUTELAGE–

### Student advisors

dr J.M. de Graaf, student advisor (for part-time students)

dr A.H. Deutz, student advisor (for full-time students)

M. Derogee, study coordinator bachelor and master Computer Science; tutelage and coaching

### Tutelage

Apart from the standard counseling and coordination, mentor groups are used to support the freshly arrived first year students. All kinds of subjects can be discussed in the mentor group, also questions can be answered, problems can be dealt with, and difficult matters can be solved. A lecturer and a senior student are involved as mentors (supervisors). After each semester students answer a special questionnaire on all lectures of that semester. In the first semester the mentor groups are accommodated by the course Studievaardigheden (study skills) and in the second semester by the seminar Challenges in Computer Science. The main aim of Studievaardigheden is to give students some extra skills to be able to study successfully and to help them to acquire academic skills. All sorts of subjects are dealt with and students get a number of assignments in the area of written and oral presentations. External experts and professionals were invited to give a talk. For the students it is mandatory to attend Challenges in Computer Science with a kaleidoscopic program informing them on recent developments in Computer Science and Computer Science research.

### Student-assistants

The support of students with LIACS activities is of importance for two reasons. Their support creates for LIACS itself the possibility to develop more activities for students, for students it is a means to develop more skills and insight in the organization of activities. The following students participated in LIACS related activities.

<i>Spring 2007</i>		<i>Fall 2007</i>	
<u>Computer Science</u>	<u>Number of hours</u>	<u>Computer Science</u>	<u>Number of hours</u>
Sven van Haastregt	80	Johan Groenen	160
Sjoerd Henstra	80	Sven van Haastregt	160
Thomas Steenbergen	80	Eyal Halm	80
Frank Takes	40	Michiel Helvensteijn	80
Kwie Min Wong	40	Sjoerd Henstra	226
Robin van der Zwan	120	Joris Huizer	80
		Johannes Kruisselbrink	80
		Gerben van der Lubbe	146
		Thijs van Ommen	80
		Thomas Steenbergen	80
		Frank Takes	160
		Barry van Veen	80
		Timo de Vries	80
		Kwie Min Wong	80
		Simon Zaaijer	146

## **EU SOCRATES/ERASMUS PROGRAMME**

Coordination for LIACS: dr D.P. Huijsmans

The Socrates/Erasmus programme is an exchange programme between several European Universities. The obtained results with the visiting university can be counted as part of the total of results in the 'home' university.

Outgoing students 2007: 0

Incoming students 2007: 5

### Spring 2007

Mr. Mario Bardini from Padua, Italy.

Mr. Stefano Dei Rossi from Venice, Italy.

### Autumn 2007

Mr. Filippo Catuzzo from Padua, autumn semester 2007 and spring 2008

Mr. Alessandro Eccher from Padua, autumn semester 2007 and spring 2008

Mr. Carlo Santamaria from Padua, autumn semester, autumn 2007 and spring 2008

## PUBLIC RELATIONS

Activities in 2007, coordination and organization by M. Derogee (Computer Science), B. Hopmann (Mediatechnology), and dr E. van Eijk (ICT in Business)

- 20/27.01.2007 LAPP-Top lectures: *Puzzles and Games: Backtracking, Surreal Numbers and Tomography*, dr W.A. Kusters
- 25.01.2007 Chr. Gymnasium Sorghvliet, Den Haag, presentation about the study Computer Science, M. Derogee/studentenvoorlichtingsteam
- 25-01-2007 'PR on request', CSG De Lage Waard, Papendrecht, presentation about the study Computer Science, M. Derogee/studentenvoorlichtingsteam
- 25/27.01.2007 Parents-evening: - *Affective computing*, ir D.J. Broekens
- 03/10.02.2007 LAPP-Top lectures: *Computational Biology*, dr H.J. Hoogeboom
- 15.02.2007 Proefstudenren, lecture Speech Recognition, dr E.M. Bakker
- 16.02.2007 Participation in 'Masterbeurs' Utrecht, Mediatechnology and ICT in Business
- 20.02.2007 Hageveld College, Heemstede, presentation about the study Computer Science M. Derogee/Studentenvoorlichtingsteam
- 22-02-2007 'Proefstudenren', M. Derogee  
– *Speech Recognition*, dr. E.M. Bakker  
– *Spelen met lucifers*, dr J.M. de Graaf  
– *The study Computer Science*, M. Derogee
- 03-03-2007 Nederlandse Informatica Olympiade (Dutch Computer Science Olympiad), in cooperation with the NIO, drs R. van Vliet, M. Derogee  
– "*High spies, ofwel: hoe win je een programmeerwedstrijd*": drs R.v. Vliet:  
– Student ambassadors R. van der Zwan and F. Takes speak about the Computer Science study
- 03/10.03.2007 LAPP-Top lectures: *Multimedia Technology*, dr M. Huiskes
- 06-03-2007 Chr. SG Willem van Oranje, Oud-Beijerland, presentation about the study Computer Science, M. Derogee/Studentenvoorlichtingsteam
- 07-03-2007 Driestar College, Gouda, presentation about the study Computer Science M. Derogee/Studentenvoorlichtingsteam
- 08-03-2007 *PR on request*, Stedelijk Dalton, Dordrecht, presentation about the study Computer Science, M. Derogee/studentenvoorlichtingsteam
- 10-03-2007 Studiefestival Pieterskerk, M. Derogee/studentenvoorlichtingsteam  
– "*Praatje Informatica: meer dan computers*", M. Derogee
- 15-03-2007 Guest lesson Artificial Intelligence, Ibn Ghaldoun, Rotterdam, dr W.A. Kusters
- 17/24.03.2007 LAPP-Top lectures: *Modern Software Engineering*, prof dr F. Arbab
- 05-04-2007 RSG Brokdele, Breukelen, presentation about the study Computer Science M. Derogee/Studentenvoorlichtingsteam
- 10-04-2007 Rijnlands Lyceum, Wassenaar, presentation about the study Computer Science M. Derogee/Studentenvoorlichtingsteam
- 05-04-2007 Guest lesson Artificial Intelligence, Jac. P. Thijsseschool, Castricum, dr W.A. Kusters

- 19.04-2007 Advertisement NRC Next, Newspaper, B. Hopmann
- 20.04.2007 Advertisement Volkskrant, Newspaper, B. Hopmann
- 20-04-2007 Open dag (Introductory day) Computer Science, M. Derogee  
 – *De studie Informatica*, dr F.S. de Boer  
 – *Affective Computing*, dr. ir F.J. Verbeek  
 – *Kunstmatige intelligentie*, dr. W.A. Kusters  
 – Practicum Kunstmatige intelligentie, dr. W.A. Kusters
- 23-04-2007 Citycollege St. Franciscus, Breukelen, presentation about the study Computer Science, M. Derogee/Studentenvoorlichtingsteam
- 25-04-2007 CSG Penta, Hellevoetsluis, presentation about the study Computer Science M. Derogee/Studentenvoorlichtingsteam
- 25-04-2007 Guest lesson Artificial Intelligence, Coornhert Lyceum, Haarlem, dr W.A. Kusters
- 26.04.2007 Information evening Media Technology, dr M.H. Lamers, B. Hopmann
- 09.05.2007 Mastervoorlichting, Bioinformatics, dr E.M. Bakker
- 18.05.2007 “Mastervoorlichting aan bachelorstudenten”, M. Derogee.  
 Representatives of all the clusters hold a presentation (prof dr T.H.W. Bäck, prof dr H. Borgman, dr M.H. Lamers, dr M.S. Lew, prof dr E.F.A. Deprettere, dr H.C.M. Kleijn, dr E.M. Bakker)
- June 2007 Article *Media Technology: creatief onderzoek*, in Eureka!, magazine #17, dr M.H. Lamers
- 05.06.2007 Guest lesson Embedded Systems, Mendel College, Haarlem, dr ir A.C.J. Kienhuis
- 12.06.2007 Information evening Media Technology, dr M.H. Lamers, B. Hopmann
- 13.06.2007 Final Push, Plexus, Leiden, M. Derogee/Studentenvoorlichtingsteam  
 Activity for 6VWO, “ Programmeren: Je eigen robot creëren” en “Unreal Tournament”.
- 22.06.2007 Last Minute Leiden, M. Derogee/Studentenvoorlichtingsteam.
- August 2007 Launch website Media Technology [www.mediatechnology.leiden.edu](http://www.mediatechnology.leiden.edu), dr M.H. Lamers
- 20.08.2007 Presentation of the quinquennium publication *5 years Media Technology*, edited by prof dr S. Haring, dr M.H. Lamers
- 12.10.2007 Information session about Media Technology, Royal Academy of Arts, Den Haag, E.F. van der Heide, dr M.H. Lamers
- 17-10-2007 Guest lesson Artificial Intelligence, De Goudse Waarden, Gouda., dr W.A. Kusters
- 21.10.2007 Science Day, M. Derogee  
 – *Weather-forecast*, dr. A.A. Wolters en G. Cats  
 – *Robot*: studentenvoorlichtingsteam  
 – presentation: Peter Siegmund (KNMI)- “*Het klimaat in de afgelopen en komende honderd jaar*”  
 – presentation: Rick Compagne (student Media Technology), “*Globe4d*”.
- 27-10-2007 *Studiefestival Pieterskerk*, M. Derogee/studentenvoorlichtingsteam,  
 – *Praatje “Informatica: meer dan computers”*, M. Derogee
- 21-11-2007 Visser 't Hooft Lyceum, Leiden, presentation about the study Computer Science

M. Derogee/Studentenvoorlichtingsteam

- 23-11-2007 *Open dag Informatica (Introductory day) Computer Science*, M. Derogee  
– Praatje” De studie Informatica”, dr A.C.J. Kienhuis  
– *Graven in criminele carrières*, drs T.K. Cocx  
– *Studenten aan het woord*, Studentenvoorlichtingsteam  
– *The search for Digital Information and Knowledge*, dr M.S. Lew  
– *3d Graphics Workshop*, dr E.M. Bakker
- 10-12-2007 Chr. SG Willem van Oranje, Oud-Beijerland, presentation about the study Computer Science, M. Derogee/Studentenvoorlichtingsteam
- 17-12-2007 Bonaventura Leiden, presentation about the study Computer Science  
M. Derogee/Studentenvoorlichtingsteam
- 2007 – *Lectures for one day (meeloopdagen)* - M. Derogee/studentenvoorlichtingsteam  
During the year prospective students have attended lectures for one day (meeloopdagen), accompanied by senior students who took them to lunch and told them everything they wanted to know about studying Computer Science in Leiden.