

Computer Science Department

Federal University of Minas Gerais

Center of Excellence in Information Technology



UFMG - ICEx
DEPARTAMENTO DE CIÊNCIA DA
COMPUTAÇÃO

U F M G

Outline

- Overview
 - UFMG
 - The Computer Science Department
- Research and Graduate Studies in Computer Science
 - Major Research Areas
 - Faculty
- Cooperation with Other Research Institutions
- Extension Activities
- Liaison with Industry/Public Sector
- Computing Facilities

U F M G

- Established in 1927
- Students: ~ 20,000
- Faculty Members: ~ 2,500
- Departments: 93
- Schools: 19
- Academic Programs:
 - Undergraduate: 53
 - Graduate: 60

The Computer Science Department Overview

- Established in 1976
- Top Six in Brazil (CAPES ranking)
- Faculty: 37
 - 30 PhD
 - 7 MSc
- Administrative Staff: ~ 25
- Technical Staff: ~ 15

The Computer Science Department

Programs Offered

- Undergraduate program (BSc in Computer Science)
 - ~ 350 students enrolled
 - over 750 degrees awarded since 1980
- Graduate program (MSc and PhD in Computer Science)
 - ~ 140 students enrolled (90 MSc + 50 PhD)
 - 415 MSc degrees awarded since 1975
 - 25 PhD degrees awarded since 1991

Research and Graduate Studies: Main Areas

- Artificial Intelligence
- Computer Networks & Distributed Systems
- Databases
- Hardware/Software Integrated Systems
- Image Processing
- Information Retrieval
- Mobile Computation
- Optimization and Numerical Analysis
- Parallel and Distributed Computing
- Programming Languages
- Robotics and Active Perception
- Software Engineering
- Web Information Systems

Research and Graduate Studies: Faculty

- Arnaldo de A. Albuquerque (Doctor, UFPb, Brazil)
Image Processing
- Virgílio A.F. Almeida (PhD, Vanderbilt University, USA)
Distributed Computing, Performance Evaluation
- José N.C. Árabe (PhD, UCLA, USA)
Computer Architecture, Parallel and Distributed Computing
- Berthier R. Araújo Neto (PhD, UCLA, USA)
Information Retrieval, Web Information Systems
- Mariza A.S. Bigonha (Doctor, PUC-Rio, Brazil)
Programming Languages
- Roberto S. Bigonha (PhD, UCLA, USA)
Programming Languages

Research and Graduate Studies: Faculty

- Regina H.B. Cabral (Doctor, PUC-Rio, Brazil)
Software Engineering
- Sérgio V.A. Campos (PhD, Carnegie Mellon, USA)
Distributed and real Time Systems, Operating Systems
- Frederico F. Campos, filho (DPhil, Univ. of Oxford, England)
Numerical Analysis, Computational Linear Algebra
- Mário F.M. Campos (PhD, University of Pennsylvania, USA)
Robotics, Computer Vision and Perception
- Osvaldo S.F. Carvalho (Docteur D'État, Univ. Paris VI, France)
Distributed Algorithms, Parallel Programming, Operating Systems
- Claudionor J.N. Coelho Jr. (PhD, Stanford University, USA)
Computer Architecture, Hardware/Software Integrated Systems, Formal Verification

Research and Graduate Studies: Faculty

- Antônio Otávio Fernandes (Docteur, INPG, France)
Hardware/Software Integrated Systems, Fault Tolerant Systems
- Carlos C. de Figueiredo (PhD, Univ. of Manchester, England)
Programming Languages
- Dorgival Olavo Guedes Neto (Phd, University of Arizona, USA)
Computer Networks, Distributed Systems
- Alberto H.F. Laender (PhD, University of East Anglia, England)
Databases, Web Information Systems
- Antônio Alfredo F. Loureiro (PhD, UBC, Canada)
Computer Networks, Distributed Systems

Research and Graduate Studies: Faculty

- José M. Mata (PhD, Princeton University, USA)
Hardware/Software Integrated Systems, Real Time Systems
- Geraldo R. Mateus (Doctor, UFRJ, Brazil)
Mathematical Programming, Network Optimization
- Wagner Meira Jr. (PhD, University of Rochester, USA)
Parallel and Distributed Computing, Performance Analysis and Modeling, e-Commerce
- José M.S. Nogueira (Doctor, UNICAMP, Brazil)
Computer Networks, Distributed Systems, Telecommunications Management
- Clarindo I.P.S. Pádua (PhD, Univ. of Southampton, England)
Hardware/Software Integrated Systems, Software Engineering

Research and Graduate Studies: Faculty

- Wilson de Pádua Paula Filho (Doctor, USP, Brazil)
Software Engineering, Multimedia Systems
- Rodolfo S.F. Resende (PhD, UCSB, USA)
Databases, Software Engineering
- Marcos A. dos Santos (Doctor, UFRJ, Brazil)
Mathematical Programming, Numerical Analysis
- José L. de Siqueira Neto (Docteur, Univ. Paris Sud, France)
Artificial Intelligence, Automated Theorem Proving
- Newton J. Vieira (Doctor, PUC-Rio, Brazil)
Artificial Intelligence
- Nivio Ziviani (PhD, University of Waterloo, Canada)
Design of Algorithms, Information Retrieval

Cooperation with Other Research Institutions

- Brigham Young University, USA
- Boston University, USA
- Carnegie Mellon University, USA
- George Mason University, USA
- INRIA & INPG, France
- PUC-Rio, Brazil
- Stanford University, USA
- UCLA, USA
- UFRGS, Brazil
- UFRJ, Brazil
- University of British Columbia, Canada
- University of Chile
- University of Pennsylvania, USA
- University of Oxford, UK
- Virginia Tech, USA

Extension Activities

- Professional courses open to the community
 - Main courses: Computer Programming, System Analysis, Internet
 - Over 4,200 professionals trained since 1989
- Courses specially tailored to companies
 - Main courses: Database Design, Object-Oriented Programming, Programming in C/C++, UNIX, Windows-NT, Operating Systems, System Analysis, Teleinformatics
 - Major clients include telecommunication companies (TELEMAR, TELEBRAS), water and electricity supply companies (Copasa, Cemig), steel and mining companies (Vale do Rio Doce, Usiminas)
- Graduate programs for professionals (MSc level)
 - Over 500 professionals trained

Liaison with Industry/Public Sector

- ABC Bull Telematic
- ACESITA
- Akwan IT
- Audiolab
- Cemig
- COPASA
- CPqD/TELEBRÁS
- Engetron
- FIAT
- HP Brasil (HP Labs)
- IBM
- Lucent/Batik Technologies
- MALC
- Marconi/Bosch Telecom
- MBR
- Military Police
- Nokia (INdT)
- Prodabel
- Prodemge
- SID Informática
- TELEMAR
- USIMINAS
- Vale do Rio Doce
- Vist@area

Recent Products Transferred to the Market

- SIS (System for Integrated Supervision)
 - TELEMAR
- www.miner.com.br
 - UOL (Universo On Line)
- www.todobr.com.br
 - Akwan Information Technologies
- SIACE (System for External Control of Municipal Accounts)
 - TCEMG
- SPREAD (System for Designing Radio Links)
 - TELEMAR

Computing Facilities

- Local Area Network supported by 4 main servers
- Internet connection through 10 Mbps links
- >100 workstations (Sun, DEC, SGI, IBM)
- > 40 X Terminals
- > 300 PCs
- High Performance Computer Center (CENAPAD):
 - Sun Enterprise 10000 with 32 processors
 - IBM RS-6000/SP-2 with 48 processors
- Internet Connection Provider: POP-MG



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