EDIC: PhD Program @ IC

Prof. Matthias Grossglauser
EDIC Program Director
Did you know?

EPFL among the world’s most international universities
120 nationalities on campus
Top five ranked by Times of Higher Education
School of Computer and Communication Sciences - IC

25 computer researchers have an h-index >40

Nr. 2 in Computer Science & Informatics Panel (the ranking of ERC grants)

Source: www.topuniversities.com

QS World University Ranking 2019
Computer Science & Information Systems

1. Massachusetts Institute of Technology (MIT)
2. Stanford University
3. Carnegie Mellon University
4. University of California, Berkeley (UCB)
5. University of Cambridge
6. University of Oxford
7. Harvard University
8. EPFL - Ecole Polytechnique Federale de Lausanne
9. ETH Zurich - Swiss Federal Institute of Technology
10. National University of Singapore (NUS)
Switzerland ... at the heart of Europe

- Borders Germany, Austria, Italy and France
- ~8.5 million people
- 25% foreigners
- Languages: German, French, Italian, Romansch (official)
  - Most speak English
- Schengen
Switzerland Tops Many Charts

Global competitiveness
Innovations/capita
Startups/capita
Spender of IT/capita
Standard of living
EDIC: 47 IC labs + 17 affiliated // 13 research areas

- ATCS: Algorithms & CS Theory
- ICT: Information & Comm. Theory
- SC: Security, Privacy & Crypto
- GV: Graphics & Vision
- HCI: Human Computer Interaction
- CB: Comp. Biology
- CAIS: Architecture & Circuits
- NW: Networks
- SY: Systems
- PLFM: Languages & Formal Methods
- AIML: Artificial Intelligence & Machine Learning
- DMIR: Databases & Info. Retrieval
- SIP: Signal & Image Processing

theory, foundations, fundamental limits...

interfacing with humans and nature...

building real systems, all layers...

learning from data, extracting knowledge, transforming data...
EDIC Program
go.epfl.ch/phd-edic

In a nutshell
- 4-6 years duration in English
- Competitive salary (~$51k)
- Award winning faculty and students
- Strong industrial liaison

In numbers
- 230+ PhDs, among campus largest
- 90% international students
- 45-50 join per year
- ~5 PhD students per faculty
Why a PhD?

- PhD is about where the IT revolution is going, and how you can be at the center of it all
- You should consider a PhD if you want
  - Be an academic
  - Take leadership positions in industry R&D
  - Preparation for a startup

Who should do a PhD?

- Fascinated by IT and have an aptitude for science and engineering
- Passionate about understanding how and why things work, the underlying fundamentals
- Want the breadth and depth for a vision to have an impact and make a difference

Profile

- 4- or 5-year Bachelor or Master degree
- Rigorous background in computer science, communication systems, electrical engineering, mathematics, physics and/or related fields
- Highly motivated, exceptional students who are passionate about scientific research
EDIC Admission Cycles

[go.epfl.ch/phd-edic](go.epfl.ch/phd-edic)

- **1st admission cycle**
  - deadline December 15
  - Main admission cycle
  - Synchronized with US/Canada
  - Visit the OpenHouse
  - **Apply NOW!**

- **Smaller 2nd admission cycle**
  - deadline April 15
  - Fewer applications, fewer admissions
  - Synchronized with Europe
  - Will not get a chance to visit the Open House
EDIC Application Timeline

- Application deadline 1st cycle: Dec. 15
- Admission decisions sent out: Mid Jan.
- EDIC Open House: End Mar.
- Acceptance deadline: Mid Apr.
- Application deadline 2nd cycle: Apr. 15
- Admission decisions sent out: End May
- Acceptance deadline: Mid Jun.

1st Admission Cycle
- Over 800 applications
- Enroll roughly 50-55
- Accept the top ~45 ranked as fellowship

2nd Admission Cycle

Enrollment in Sept.
EDIC Application Process
go.epfl.ch/phd-edic

- See the EDIC webpage for specific requirements
- Go through IC faculty webpages to identify the research areas and the professors that are of most interest to you. You will need to include this information in the application form …
- Write a *Statement of Purpose* (SoP). Document clearly your reasons for wishing to do a doctoral thesis with EDIC, whom you would like to work with and explain longer-term professional goals
- Find 3 referees. Ask someone who can comment on your academic performance and your potential to do solid research with specific examples. Make sure that the letters are submitted by the application deadline
EDIC Application: Writing your SoP ...

- First paragraph
  - Describe the general areas of research that interest you and why

- Second to fourth paragraph
  - Describe some research projects that you worked on. What was the problem you were trying to solve? Why was it important? What approaches did you try? What did you learn? It’s fine to say that you were unable to fully solve your problem

- Fifth and sixth paragraph
  - Tell us a little bit about yourself and your life experiences. Why do you feel you need a PhD? Why is EDIC the right place for you? Whom would you like to work with?
Your path to a PhD with EDIC

During your PhD with EDIC

- You have an advisor(s)
  - With you until defense
  - Courses, research, career planning
  - Annual feedback (evaluations)

- You have a mentor
  - Program committee contact person + a “buddy” (older PhD) for first year
  - Faculty member beyond (from outside area)
  - Someone to talk to in general
Your first year with EDIC ...

<table>
<thead>
<tr>
<th>PhD Orientation (2 weeks)</th>
<th>First Year (Fellowship &amp; Direct Hires)</th>
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<tr>
<td><strong>September</strong></td>
<td>Fall Semester</td>
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<tr>
<td>French classes</td>
<td>First project</td>
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<tr>
<td>Administrative tasks</td>
<td>Depth course</td>
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<tr>
<td>Research seminars</td>
<td>Potential matching *</td>
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<tr>
<td>Social events</td>
<td><strong>Spring Semester</strong></td>
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<tr>
<td>Matching process *</td>
<td>Second project</td>
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<td>Mid-September</td>
<td>Candidacy exam</td>
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<tr>
<td>Semester start</td>
<td>**Definitive matching ***</td>
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</tbody>
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* fellowship students

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EDIC PhD students intern ~40 internships on average per year

### Industry
- Adobe
- Amazon
- Apple
- DeepMind
- Disney Research
- Facebook
- Google
- HP
- Huawei
- IBM
- Intel
- Microsoft
- Mozilla
- Natunix
- NEC

### Industry (cont.)
- Neovision
- Nokia
- Nutanix
- Oracle
- OrbiWise
- Qualcomm
- SAP
- Synopsis
- Swisscom
- Technicolor
- Twitter
- Vmware
- Walt Disney
- Xilinx
- Yandex

### Universities
- CMU
- Cornell
- ETHZ
- Harvard
- HKUST
- INRIA
- MIT
- NYU
- Stanford
- UC Berkeley
- UIUC
- U. Haifa
- U. Queensland
- U. Washington
- U. Vienna
EDIC PhD & Fellowships Laureates Since 2016...

- EPFL Doctorate Award
  - M. Mondelli
  - EPFL Doctorate Award
  - M. Mondelli
- Google Fellowship A. Mousavifar
- Google Fellowship B. Kasikci
- Google Fellowship L. Maystre
- EPFL Doctorate Award
  - B. Kasikci
- Qualcomm Innovation Fellowship B. Tekin
- Qualcomm Innovation Fellowship L. Maystre
- IBM PhD Fellowship M. Kogias
- IBM PhD Fellowship L. Kokoris-Kogias
- EPFL Doctorate Award
  - L. Josipovic

- EPFL Doctorate Award
  - A. Mousavifar
- EuroSys V. Trigonakis
- EuroSys B. Kasikci
- EuroSys L. Maystre
- EuroSys L. Kokoris-Kogias
- EuroSys M. Kogias

- Google Fellowship A. Mousavifar
- Google Fellowship B. Kasikci
- Google Fellowship L. Maystre
- Google Fellowship L. Maystre
- Google Fellowship L. Josipovic
- Google Fellowship L. Josipovic
- Google Fellowship L. Josipovic

- ABB Award M. Bastani Parizi
- ABB Award K. Yu
- ABB Award D. Vizar

- Qualcomm Innovation Fellowship K. Yu
- Qualcomm Innovation Fellowship M. Bastani Parizi
- Qualcomm Innovation Fellowship M. Bastani Parizi

- EPFL Doctorate Award
  - B. Kasikci
- EPFL Doctorate Award
  - M. Mondelli

- EPFL Doctorate Award
  - M. Mondelli
- EPFL Doctorate Award
  - B. Kasikci

- ISSS Excellence Award D. Vizar
- ISSS Excellence Award D. Vizar
- ISSS Excellence Award D. Vizar

- ACM SIGGRAPH S. Bouaziz
- ACM SIGGRAPH S. Bouaziz
- ACM SIGGRAPH S. Bouaziz

- Qualcomm Innovation Fellowship M. Drumond
- ACM SIGGRAPH S. Bouaziz
- ACM SIGGRAPH S. Bouaziz

- Jim Gray PhD Award P. Tözün
- Jim Gray PhD Award P. Tözün
- Jim Gray PhD Award P. Tözün

- Jim Gray PhD Award I. Dokmanic
- Jim Gray PhD Award I. Dokmanic
- Jim Gray PhD Award I. Dokmanic

- Women Techmakers L. Josipovic
- Women Techmakers L. Josipovic
- Women Techmakers L. Josipovic

- Google Fellowship A. Mousavifar
- Google Fellowship A. Mousavifar
- Google Fellowship A. Mousavifar

- Schmidt Science Fellowship M. Konakovic
- Schmidt Science Fellowship M. Konakovic
- Schmidt Science Fellowship M. Konakovic

- EPFL Doctorate Award
  - S. Bogos
- EPFL Doctorate Award
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- EPFL Doctorate Award
  - S. Bogos

- Qualcomm Innovation Fellowship M. Drumond
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- Qualcomm Innovation Fellowship M. Mondelli
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- Qualcomm Innovation Fellowship M. Mondelli

- Chorafas Award A. Shaikhha
- Chorafas Award A. Shaikhha
- Chorafas Award A. Shaikhha

- EPFL Doctorate Award B. Kasikci
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Sample of EDIC Alumni

Nada Amin
Assistant Professor, Harvard

Alexandros Daglis
Assistant Professor, Georgia Tech

Ivan Dokmanic
Assistant Professor, UIUC

Hamed Hassani
Assistant Professor, UPenn

Amin Karbasi
Assistant Professor, Yale

Baris Kasikci
Assistant Professor, Michigan

Heather Miller
Assistant Professor, Carnegie Mellon

Ayfer Ozgur
Assistant Professor, Stanford

Ruzica Piskac
Assistant Professor, Yale

Tiark Rompf
Assistant Professor, Purdue

Immanuel Trummer
Assistant Professor, Cornell

Manos Athanassoulis
Assistant Professor, Boston
EDIC Graduates: From where to where? 550 graduates since 2006

Where do our students come from:
- Americas: 4%
- Africa: 1%
- Asia: 32%
- Europe: 43%
- Switzerland: 20%

Where our PhD alumni Go:
- Switzerland: 52%
- Europe: 17%
- Asia: 10%
- United States: 21%

Careers of our PhD alumni:
- Industry: 74%
- Academia: 26%
In conclusion …

- Rich intellectual environment w/ international focus
- Graduate students collaborate w/ world-renowned faculty
- Benefit from generous resources & rich network of academic and industrial partners
- Value close interaction between students & faculty within a flat organization structure
- EDIC alumni pursue stellar international careers as academics, scientists, and entrepreneurs
Need more information …
go.epfl.ch/phd-edic
edic@epfl.ch