WELCOME

to the

Master programs in
Computer Science (IN),
Communication Systems (SC)
Data Science (DS)
And Cyber Security (Cyber)

EPFL

TODAY'S SPEAKERS

- **Prof. Serge Vaudenay :** Head of Programs

- **Mrs Guilaine Vittoz:** Head of sector, Education & research services, Scientific Information and Libraries

AGENDA

- CURRICULUM
  - Overview
  - Specializations and Minors
  - Courses outside the study plan
  - Registration to courses and exams
- PROJECTS
- PDM - MASTER PROJECT
- MANDATORY INTERNSHIP
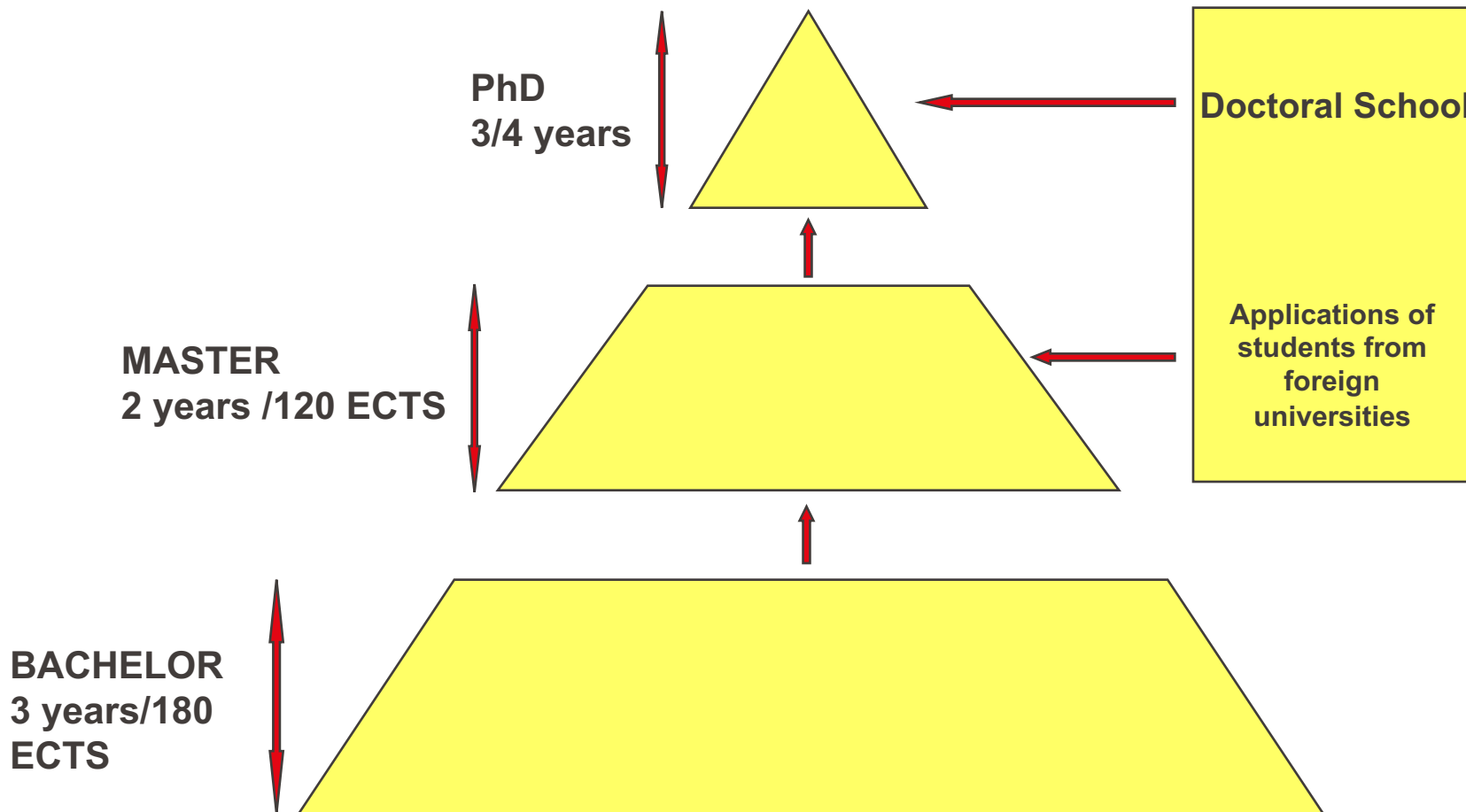- CONTACTS

EPFL

WHO WE ARE

- 45+ Faculty

- International composition

- Core + interdisciplinary science: Collaboration with Life Sciences, Mathematics, Microengineering, Electrical Engineering, etc.

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IC RESEARCH AREAS

- Algorithms & Theoretical Computer Science
- Artificial Intelligence & Machine Learning
- Computational Biology
- Computer Architecture & Integrated Systems
- Data Management & Information Retrieval
- Graphics & Vision
- Human-Computer Interaction
- Information & Communication Theory
- Networking
- Programming Languages & Formal Methods
- Security & Cryptography
- Signal & Image Processing
- Systems

CURRICULUM

Bachelor / Master/ PHD

PhD
3/4 years

MASTER
2 years /120 ECTS

BACHELOR
3 years/180 ECTS

Doctoral School

Applications of students from foreign universities

Courses, Projects and Internship for IN-SC-DS

Semester project 12 credits + **SHS project 6 credits** = 18 credits

Core courses 30 credits + **Optional courses 42 credits** = 72 credits

Internship in industry * + **Master project 30 credits** = 30 credits

TOTAL 120 credits

* Can be part of a Master project in the industry

➢ IN-SC : specialization or minor possible => 30 credits included in the 72 credits of courses
➢ DS : minor possible (no specialization) => 30 credits included in the 72 credits of courses

Courses, Projects and Internship for Cyber

Semester project 12 credits + **SHS project 6 credits**	=	18 credits
Breadth courses 30 credits + **Depth & options courses 42 credits**	=	72 credits °
Internship in industry * + **Master project 30 credits**	=	30 credits
		TOTAL 120 credits

* can be part of a Master project in the industry

° 30 credits of courses must be taken from the category «depth requirement»

➢ All projects must be in the field of cyber security
➢ No specialization or minor possible

Courses, Projects and Internship for Cyber – additional information

EPFL	1st semester mandatory in Lausanne
ETHZ	one semester in Zürich 20 credits minimum 35 credits maximum

➢ Both study plans (EPFL-ETHZ) are accessible on
https://www.epfl.ch/schools/ic/education/master/cyber-security/
➢ Students cannot take equivalent courses in EPFL and ETHZ
➢ Students will receive an allowance of CHF 2500.- for their semester in Zürich

Choice and length of the Master program

- **Enrollment to the Master program**

➢ You have been admitted to a specific Master program, and you have enrolled in it. Therefore you cannot decide to change for another program at the beginning of the Master or after one semester (i.e. IN -> DS or SC -> Cyber).

- **Maximum length of the Master program (120 credits)**

➢ Maximum duration for the Master cycle (before the Master project):
6 semesters to get 90 credits

➢ Maximum duration for the Master program (including the Master project):
8 semesters

➢ The internship is not counted in the duration.

IN & SC Specializations

A.   COMPUTER ENGINEERING - Prof. P. Ienne

B.   DATA ANALYTICS - Prof. M. Grossglauser & Prof. P. Thiran

C.   FOUNDATIONS OF SOFTWARE - Prof. M. Odersky

D.   CYBER SECURITY - Prof. C. Troncoso

E.   NETWORKING AND MOBILITY - Prof. J.-Y. Le Boudec

F.   SIGNALS, IMAGES AND INTERFACES - Prof. M. Pauly

G.   SOFTWARE SYSTEMS - Prof. G. Candea

H.   WIRELESS COMMUNICATIONS - Prof. E. Telatar

I.   COMPUTER SCIENCE THEORY - Prof. O. Svensson

J.   INTERNET INFORMATION SYSTEMS - Prof. B. Faltings & Prof. K. Aberer

Minors for IN, SC and DS students

Recommended minors :

- **Biocomputing** (offered by the Computer Science Program)
- **Biomedical Technologies** (offered by the Microengineering Program)
- **Computational Science & Engineering** (offered by the Mathematics Program)
- **Spacial Technologies** (offered by the Electrical Engineering Program)
- **Technology Management and Entrepreneurship** (offered by the Management of Technology Program)

Minors

- It is possible to prepare other minor degrees, see :
  https://www.epfl.ch/education/studies/en/rules-and-procedures/
  (under «Minors with specific courses»).

- For a minor not listed, you need to contact Ms Sylviane Dal Mas, Deputy Head, and also ask for the approval of the Minor program's Director.

- Some minors, like *Technology Management and Entrepreneurship,* have courses with limited attendance to their own Master students => take this element into account when deciding to register for a minor:

  ➢ In this case, once you have enrolled to it, you will be authorized to register for courses of the minor only 2 weeks before the beginning of the semester, provided that there are still enough places available for those courses.

Rules and Registration procedure for Specializations and Minors

Rules:

➢ Minors: https://www.epfl.ch/schools/ic/education/master/minors/

➢ Specializations:
https://www.epfl.ch/schools/ic/education/master/specializations/

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Please do not register to a specialization or a minor now!

Registration deadline:

➢ For Minors: end of the 1st semester of Master studies

➢ For Specializations: beginning of the 3rd semester of Master studies (details about procedure will be communicated later by email)

Courses outside the Study Plan

- 15 credits maximum are allowed for the whole Master program. Out of these 15 credits, 12 credits maximum of "non-technical" courses (HEC, MTE) are allowed.

- However, please note that you cannot register for courses <u>with limited attendance</u>, as they are not available for students who do not have these courses in their study plan (i.e. many MTE courses).

- Authorization must be requested to take these courses <u>BEFORE</u> registering for the courses in IS-Academia.

<u>Request</u> to be sent by e-mail to:

IN students => **Antonella Veltro**
SC & DS students => **Carole Dauphin**
Cyber students => **Khadidja Zrelli**

Bachelor Courses

- Bachelor courses **<u>cannot</u>** be taken during the Master program.

Exceptions

- Can be taken if they are a missing prerequisite for a Master course but **no** credits towards the Master will be given.

- For IN students, the course **Signal Processing for Communications** can also be taken, but the credits will be counted for the Master only if the student registers for the Signals, Images and Interfaces specialization.

Bachelor courses as admission conditions

In case you have Bachelor courses to catch up as admission conditions, and in order to take into account the **prerequisites** for the successful completion of the courses, please meet Ms Sylviane Dal Mas, in room BC133, during the following Office hours:

➢ Tuesday 15th September 2020, 15:00-18:00
➢ Tuesday 22nd September 2020, 15:00-18:00
➢ Thursday 24th September 2020, 10:00-13:00

For students with admission conditions, please note that **priority must be given to the Bachelor courses to catch up**, as your admission to the Master program is conditional on the acquisition of these Bachelor credits.

Doctoral School Courses

- Courses from the IC Doctoral School (EDIC) can be taken during the Master program.

- The list of the Doctoral School courses and their prerequisites can be found on: **https://www.epfl.ch/education/phd/programs/edic-computer-and-communication-sciences/**

- Make sure that you have the prerequisites for the courses you plan to attend.

Registration to courses and exams

- **Deadline for registration for courses and exams in ISA:**

  Friday 25 September 2020

- Registration for courses and projects is **MANDATORY** in order to be able to take the exams.

- **Latest withdrawal from exams** (for all forms of examination – oral, written and continuous control): **Friday 20 November 2020**, except for:

  - ➢ EE-593   Social Media (for IN-Cyber-SC students)
  - ➢ ENG-466 Distributed intelligent systems (for IN-Cyber-SC-DS students)
  - ➢ EE-490h Lab in Data science (for DS students)

  which have «unauthorized withdrawal» after Friday 25 September 2020

Academic Calendar

Important deadlines and information are available on :

https://memento.epfl.ch/academic-calendar/

Exps

- Exams sessions: January/February and June/July (period subject to change depending on the situation with COVID-19)

- In case of failure of an exam, **you have to take the course again** the <u>following</u> year **or replace it by another course** the <u>following</u> semester.

PROJECTS

Semester Project

- The semester project (12 credits) can be done during the autumn or the spring semester, whenever you want during the Master, but before the Master project.

- If you want to do it during the autumn 2020 semester, please contact a laboratory immediately and register to the project in IS-Academia **now** !

- Details can be found on the following webpage: https://www.epfl.ch/schools/ic/education/master/semester-project-msc/

Optional Project

- You have the opportunity to do an optional project (8 credits).

- The optional project and the semester project **cannot be done during the same semester**.

- If you decide to carry out the optional project, we recommend you to do it once you have completed the semester project (mandatory project).

SHS Project

The SHS project ("humanities") **must be done**:

- Over two semesters, starting only in autumn
- Individually or in groups

You are strongly encouraged to start now!

In case some students have difficulty in finding a project, especially one in English, they can contact the SHS administrative team: scienceshumaines@epfl.ch, who will help and solve the problem.

However, if the student plans to do an internship during the spring semester, the section will find an arrangement with the Registrar's Office and SHS.

PDM
MASTER PROJECT

PDM – Master Project

IN, Cyber, SC, and DS	
EPFL (or ETHZ for Cyber only)	4 months
Industry / Other University (or ETHZ for IN-SC-DS)	6 months

PDM – Master Project

- 4 possibilities:

  ➢ At EPFL, proposals from labs.
  ➢ At EPFL, your own proposal to a Professor.
  ➢ In industry
  ➢ In other Universities

  For Cyber, the master project must be in the field of cyber security.

PDM – Master Project

According to the rules, you may be authorized to do your master project and acquire up to 8 missing credits of courses in parallel to the project. However, this is possible only if you fulfill the following conditions:

- you should not be at the end of the maximal duration of your studies (max. 6 semester of courses)
- project done at EPFL or in Lausanne's area
- not possible if you have not completed the semester project

MANDATORY INTERNSHIP

Mandatory Internship

You can do your mandatory internship in one of the following forms:

- Short internship (min. 8 weeks during summer, July 15th – Sept 15th)
- Long internship (6 months) – "internship leave"
- Integrated in the Master project in industry (6 months)

Be careful : no course can be attended in parallel with the long internship.

Mandatory Internship

- Some companies, in the USA exclusively, offer 12-16 weeks' internships during the summer: **Facebook, Google, LinkedIn, Yahoo, Twitter,** only.

- You will be **exceptionally** allowed to be absent during the autumn semester, so that you can complete this 12-16 weeks internship.

- You will have to start the internship by 15th July.

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Mandatory Internship

➢ International students are required to complete a full year before being allowed to do an internship. Therefore, internship is possible in summer / autumn 2021 at earliest for them.

Intend to do a PHD after the Master

➢ If you intend to pursue Phd after your Master studies, we recommend you to do the internship in industry and then the master project in a lab at EPFL.

Papers and attendance to Conferences

- A project done in a lab may give you the opportunity to write a paper related to it.

- If you have the opportunity to attend a scientific conference to present your work, the registration, travel and accomodation expenses can be paid by the section <u>and</u> the lab (50%-50%).

- Your paper will then be mentioned on the Students achievements webpage <u>https://actu.epfl.ch/search/ic-students-successes/</u>

CONTACTS

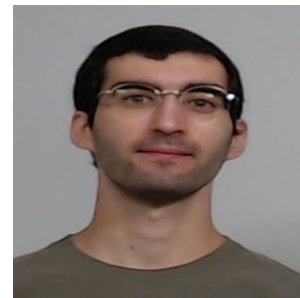# INITIAL STUDY ADVISORS FOR INTERNATIONAL STUDENTS

International Students

- To ensure consistency between your Bachelor and Master studies, curriculum counselling is available during the transition period.

- So that you can discuss about your choice of courses, you have received an email from Ms Sylviane Dal Mas informing you about your initial study advisor.

- Discussions by Zoom (individual or small group of 2-3 students) or by email

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Initial Study Advisors for International students

- for SC & DS:
  Aymeric Genet, PhD student ===>

- for Cyber & IN:
  Sepand Kashani, PhD student ============>

- for IN :
  Pierre Quinton, PhD student ===>

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International Students - meetings

- For **Zoom discussions** or by **email,**
  Please prepare :

  - ➢ your preliminary plan for the first semester
  - ➢ a list of questions

- You will discuss course content rather than rules

ADMINISTRATIVE CONTACTS

IN & Cyber

- Head of Programs:
  Prof. Anne-Marie Kermarrec

- Master Program assistants:
  IN : Ms Antonella Veltro
  Cyber : Ms Khadidja Zrelli

SC & DS

- Head of Programs:
  Prof. Serge Vaudenay

- Master Program assistant:
  Ms Carole Dauphin

For all programs

- Deputy Head, BS/MS Programs: Ms Sylviane Dal Mas

- Internship Program assistant: Ms Patricia Genet

- Initial study advisors: Mr Aymeric Genet (SC & DS), Mr Sepand Kashani (Cyber & IN) and Mr Pierre Quinton (IN)

Registrar's Office - SAC

Please read carefully the e-mails sent by the Registar's office - SAC, especially from:
Mr L. Ramelet and Mr A. Bianchi.

They will be sending you relevant information regarding your studies at EPFL as well as important deadlines.

Do not forget …

- Our websites

IN: https://www.epfl.ch/schools/ic/education/master/computer-science/

SC: https://www.epfl.ch/schools/ic/communication-systems-msc/
DS: https://www.epfl.ch/schools/ic/education/master/data-science/

Cyber: https://www.epfl.ch/schools/ic/education/master/cyber-security/

You will find plenty of relevant information regarding our programs and rules.

- **Your e-mail. This is the only way we can contact you !**

Be careful …

- It is your responsibility to read and understand the rules and regulations pertaining to your studies at EPFL.

- It is also your responsibility to read your emails

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Please read…..

- **Updated Information regarding COVID-19**

https://www.epfl.ch/campus/security-safety/en/health/coronavirus-covid19/

- **Q&A: Coronavirus, classes and exams**

https://www.epfl.ch/campus/security-safety/en/health/coronavirus-covid19/students/questions-answers-coronavirus-classes-and-exams/

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ANY QUESTION?

The Student Affairs

11 Septembre 2020

Service des Affaires Estudiantines

What is the Student Affairs (SAE)?

The SAE welcome, counsel, offer specific advice for students' well-being and personal development during their studies at EPFL

3 organizational units with different tasks but the same aim: provide guidance to our students: Student Services desk, Housing Information service, Social Consultation

Social Consultation

- Offers free counselling, guidance and coaching to all students
- Social workers are available by appointement for individual and confidential counselling
- This service is free of charge. To schedule an appointment please contact the Student Services desk

SAE

Speaker

Course on Stress Management

Only in French

- Understanding and managing stress
- Learn simple techniques to manage it
- Get better focus (relaxation, focus, etc)

5 sessions workshop

Web https://www.epfl.ch/education/studies/en/stress-management/gestion-stress-en/

SAE-2020

SAE

EPFL

For students and PhD students

Financial concerns

Stress and time management

Distress (anxiety, sadness, isolation, addictions, pressure...)

Family and relational issues (integration,

harassment...) Doubts about your studies (motivation,

orientation...)

Study arrangements (chronic disease, disability, learning
disability...)

go.epfl.ch/individual-support

Student desk
student.services@epfl.ch
+41 21 693 43 45

Social consultation:

Student Services desk
MON-FRI 9:00-18:00
student.services@epfl.ch
+41 21 693 43 45
BP 1229 (building BP)

Psychotherapeutic Consultation:

Student Services desk
Web page «Individual support»
consult.psy-epfl@chuv.ch

Focal point harassment:

Nathalie Ritter, Head, SAE
nathalie.ritter@epfl.ch

Where to find support?

And last but not least …

- **Presentation of the EPFL Library**

Thank you for your attention

Author:

School of Computer and Communication Sciences IC
Computer Science and Communication Systems