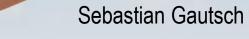


Ecole Polytechnique Fédérale de Lausanne

EPFL – Internships Mechanical Engineering

- General context
- Administrative procedures
- Pep-talk and statistics





Coordinateur des stages STI

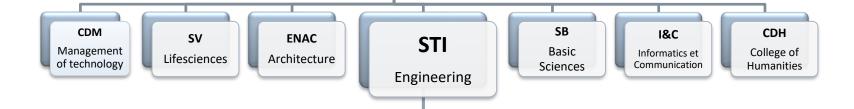
STI Internship Coordination SV Internship School of Engineering Coordination Dean: Ali Sayed Igor Allaman Bioengineering Section Director: John McKinney **Mechanical Engineering** Adjunct: Igor Allaman Section Director: Thomas Gmür/François Gallaire Adjunct: Alain Prenleloup Secretaries **EPFL** internship program Faculty members **STI Internship VP** Education Coordination 600 **Educational Affairs Electrical Engineering** Academic Service Sebastian Gautsch STI Section Director: Jean-Philippe Thiran Career center Adjunct: Philippe Gay-Balmaz Secretaries Master Faculty members students **Legal and IP aspects Materials Science and Engineering VP** Research Section Director: Roland Logé Adjunct: Homeira Sunderland Tech Transfer Office Secretaries Faculty members **Industry** Internship portal Microengineering IS-A Developpement staff Section Director: Olivier Martin Partner companies Adjunct: Guy Delacrétaz HR, CEOs, Engineers, .. Secretaries Faculty members New contacts





STI Internship Coordination





Microengineering + Robotics

131 Ma1 students **116** Ma3 students

Material Sciences

52 Ma1 students **45** Ma3 students

Mechanical Engineering

134 Ma1 students **96** Ma3 students

Electrical Engineering

48 Ma1 students **51** Ma3 students





Internship obligation

- The Internship in industry is a mandatory step of the Master degree
- Possible formats to validate this obligation

STAP: Detached internship but credited with the master's project

PDME: Master project in industry

	Models	Duration	Periods	Contact information	
Electrical and electronics engineering	STAP SCS (30 credits) PDME	Min. 8 weeks 4-6 months 25 weeks	After bachelor, after MA2 or MA3 After MA2 During the master project	Web Site EL	
Mechanical engineering	STAP PDME	Min. 8 weeks 25 weeks	After bachelor, after MA2 or MA3 During the master project	Web Site GM	
Materials science and engineering	STAP PDME	Min. 8 weeks 25 weeks	After bachelor, after MA2 or MA3 During the master project	Web Site MX	Г
Microengineering	STAP PDME	Min. 8 weeks 25 weeks	After bachelor, after MA2 or MA3 During the Master project	Web Site MT	





Mandatory Internship or Master Project in Industry

- Internship
 - Immersion into industry
 - Familiarize with company processes
 - Aquire specific competences
 - Apply transversal skills
 - Minimum duration of 2 month, up to 6 months
 - Evaluated report by student and industrial supervisor







Master project in industry

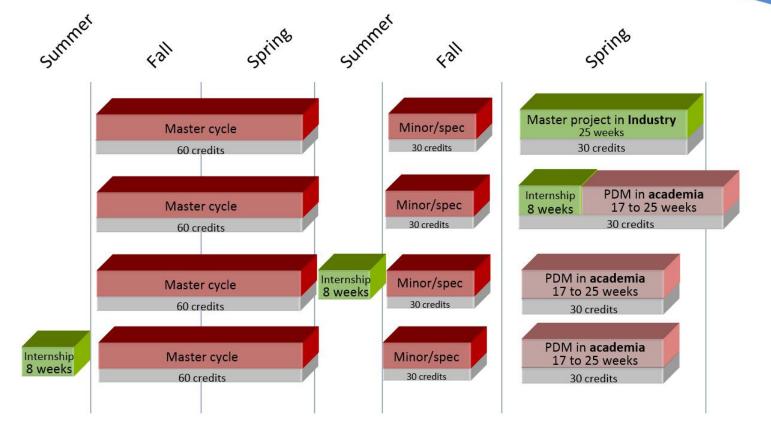
- A research project in the company
- Student applies the competences aquired during his master
- Supervised by a Professor from his section
- Written report and oral defense
- Monthly feedback to Professor
- 25 week duration (+1 week vacation)





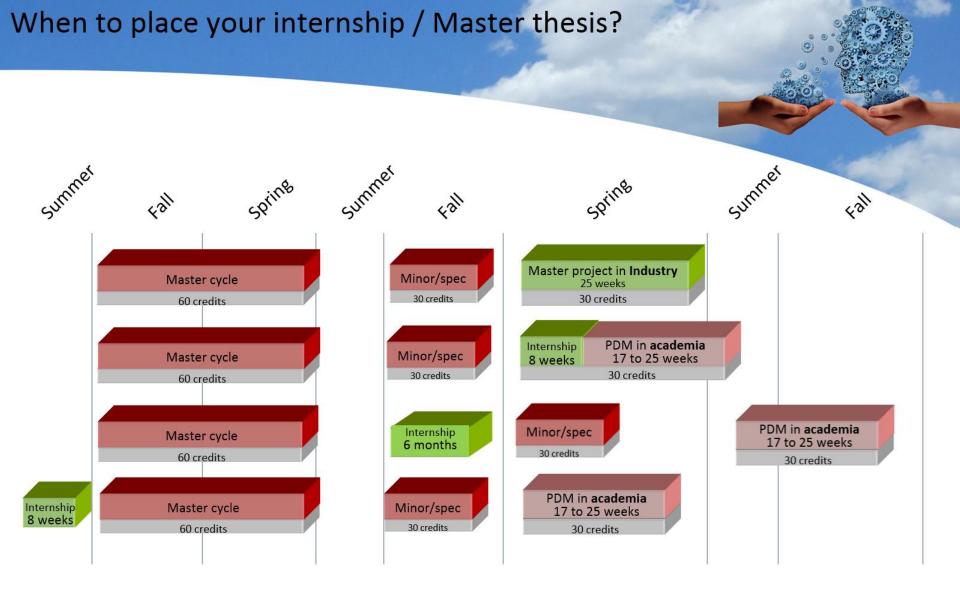


When to place your internship / Master thesis?



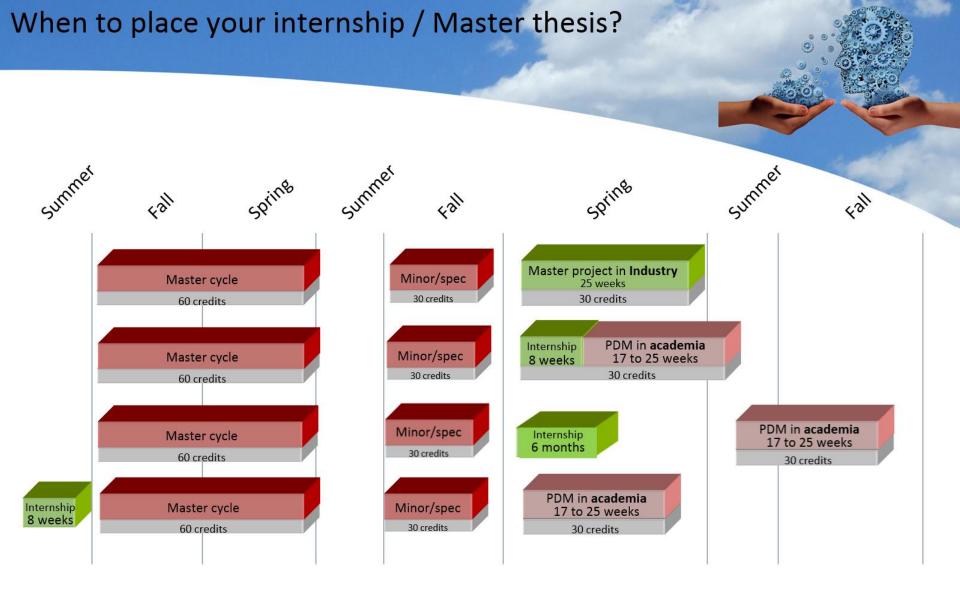






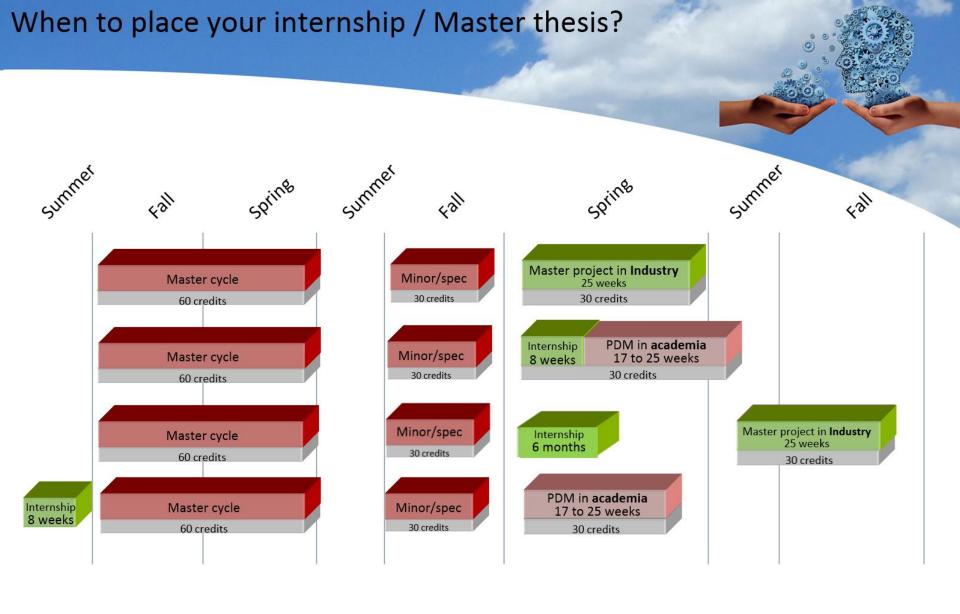










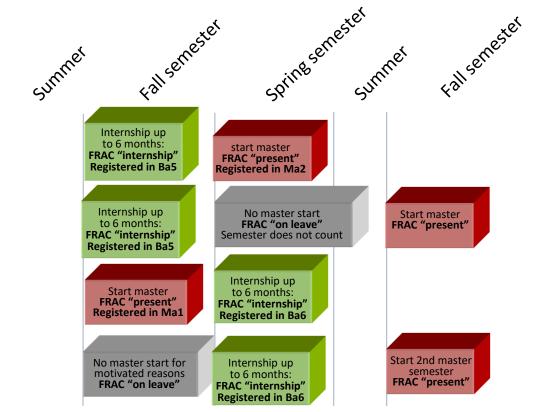






Internships between bachelor and master

☐ If you have finished your bachelor and would like to take an interim year to do your mandatory industry internship for your master, the following academic rules and FRAC status' apply:





In option 4 the fall semester will be accounted to your master studies, except if you are doing your army or civil service



Option 1

Option 2

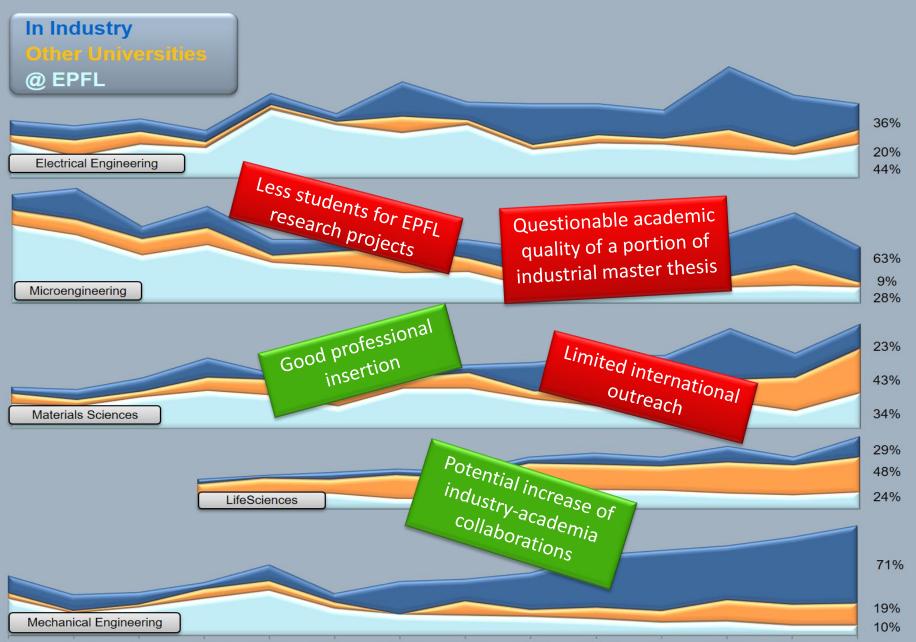
Option 3

Option 4



The master thesis in Industry





Current habits for establishing master thesis in industry



- Companies get in touch with research labs to propose master thesis topics
- Companies can accept students for internship proposals and accept the format change to master thesis projects

Compatibility with academic calendar

Agreement on IP

Confidentiality

Eligibility of candidate for master thesis



- Students contact professors of their section to ask for existing industrial projects
- Students can apply for internships and have it validated as master thesis projects by the supervising professor



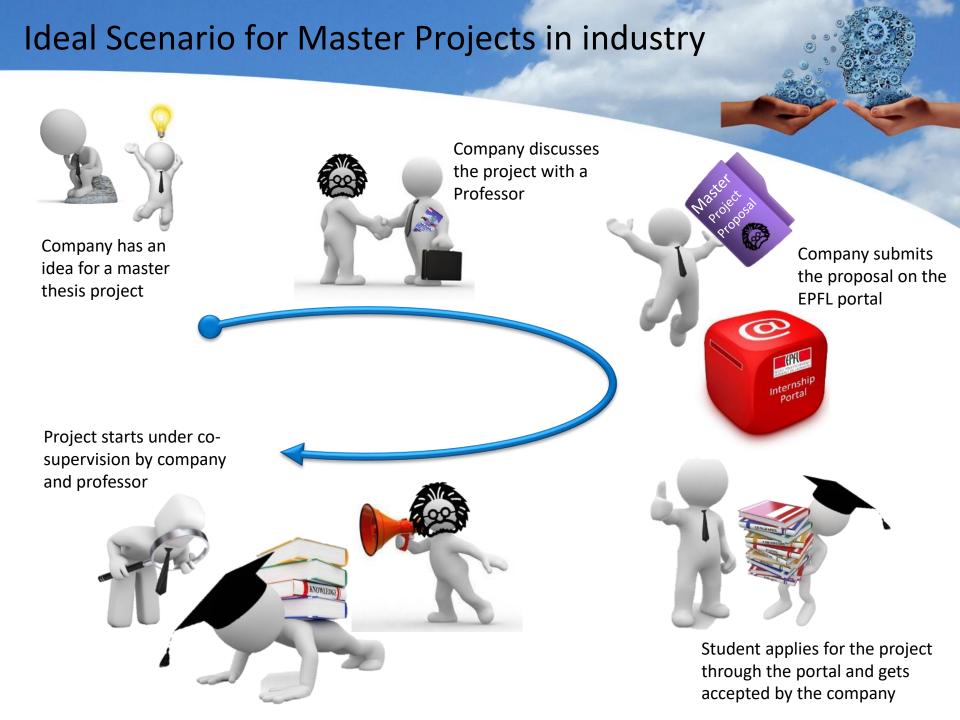
Professors and teachers propose master thesis projects with known partner companies

Professors and teachers evaluate the academic content of proposals from companies before accepting it as master thesis projects

Professors and teachers evaluate the academic content of proposals from students before accepting it as master thesis projects







Master thesis in industry on the internship portal

Action	Stage	Entreprise mère	Localisation du stage	Févr- Sept (P1)	Juil- Févr (P2)	Juil- Sept (P3)	N° du stage	Format	Inscrits	Places	Prof	ate de réation du tage
					=	▼	[tous]	*				
② 🔊	Amélioration qualité image satellite par contrôle fin de la ligne de visée	Thales Alenia Space	Cannes, France	•			18976	Stage	0	1		4.09.2017
③ 🔊	Experimental Physics Internship	Distran GmbH	Zurich	4			18973	PDM ou Stage	0	1	à trouver (si PDM)	4.09.2017
③ 🔊	Transfer learning for field and crop adaptation in agriculture applications	ecoRobotix	Yverdon-les-Bains	4			18972	PDM ou Stage	0	1	à trouver (si PDM)	4.09.2017
③	Product Engineer	Infineon Technologies France	Aix en Provence	•			18967	Stage	0	1		4.09.2017
③	déploiment d'un système de sureté pour un site sensible	Etavis tsa	Carouge	•			18962	Stage	0	1		3.09.2017
②	Thermal effect and Compensation in high precision states	Etel S.A.	Bienne	•		•	18953	Stage	0	1		3.09.2017
③	Intern Manufacturing	Stryker Trauma AG	Selzach (SO)	•			18934	Stage	0	1		2.09.2017
③	Modélisation d'un processus de laminage	Constellium Valais SA	Sierre	•			18933	Stage	0	1		2.09.2017
(4)	Hybrid PET/MR imaging guided radiation therapy treatment planning	Hôpitaux Universitaires de Genève	HUG Genève	•	>		18930	PDM coordonné	0	2	Prof. Thiran Jean- Philippe	2.09.2017
③ 🔊	Various internship positions in Motion analysis Startup for applications in Sports, Health and Gaming	Gait Up	Renens	y			18922	Stage	1	2		2.09.2017
(9)	Various internship positions in Motion analysis Startup for applications in Sports, Health and Gaming	Gait Up	Renens	•	>		18920	PDM coordonné	o	2	Prof. Aminian Kamiar	2.09.2017
③	Printed freeform optics for light control	CSEM SA Muttenz	Basel	•			18915	PDM ou Stage	0	1	à trouver (si PDM)	1.09.2017





Master thesis in industry, some advice for students &

Give priority to Master thesis proposals from laboratories of your section and proposals posted on the IS-A portal with confirmed academic supervisor

If you can't find a suitable topic this way, consider doing an internship to validate your industry immersion. If this is not an option, then proceed like this:

- Contact potential academic supervisors to inform them on your intentions
- Apply for positions and inform companies on your objective to do a master thesis (in motivation letter, during e-mails exchanges and interviews, ...)
- Organize a meeting between the teacher and the company to discuss the content and workplan of the project and settle administrative issues. Suggest the signature of the EPFL master thesis agreement (to settle IP and confidentiality).
- Insure a coordinated supervision and regular meetings between the company and the teacher during the project





Master thesis in industry, instructions to Profs

Best Practice Regarding Master Projects in Industry

1. Introduction

This document sets out the rules to be observed in the field of supervision of master projects

academic circles within a host company. Indeed, they imply a tripartite relationship (EPFL professor, student, company) making academic and legal issues more complex due to the

ustry remains first and foremost a master project. It must therefore include an academic dimension defined and controlled by the professor. Although it is performed in a company, the master project must imperatively include a research and innovation angle, thus contributing to the advancement of science in its field. In addition, the collaboration induced by the master project in industry must benefit the addition, the comandiation induced by the master project in must y must benefit the appropriately's research he and not therefore offered to companies in the framework of master projects.

A professor may not under any circumstances supervise a student master project withou first making contact with the company prior to any commitment by the parties. Professors are entitled to refuse to supervise a student's master project should the terms discussed with the company not suit them or contravene EPFL requirements in this field.

Access to best practices document here (for teachers only)



Students may not use EPFL installations, resources, information, software or other intangible

assets without their professor's written approval.



What is considered «Industry»?

- Every company or start-up offering a workplace
 outside of an EPFL laboratory (EPFL's Innovation Parc included)
- Every Research Organisation not delivering academic credits
- Affiliation of independent research labs with academic institutions can lead to a specific decision by the section







How much salary?

- There is no official regulation in Switzerland to pay a monthly salary for an internship.
- Salaries are mostly ruled by offer and demand
- Often the salary is dependent of the company's size and status
 - Typical salary in large companies: ~3'000 SFr
 - Typical salary in start-ups and SMEs: 1'500 SFr
 - Typical salary in the European Union: 600 900 Euros
- EPFL recommends a typical monthly salary between 1'500-2'500 SFr. However, there is no obligation of the company to comply with this.
- In Case of a Master Project in Industry, remuneration can be handled more freely (no monthly salary, compensations, bonus at the end, ...)





Validation of previous internships and industrial experiences

Internships done during

the bachelor degree are not accepted for validation.

Exceptions can be granted in the following cases:

- Internships done <u>after</u> your bachelor degree
 - The internship must be accepted by the section deputy
 - The internship duration must be at least 8 weeks
 - The ending should not be further than 1 year apart from your master beginning date.
 - An evaluation report or a work certificate has to be presented to the section deputy
- Industrial experiences of at least 1 year related to the field of the future master studies can be accepted for validation
 - A valid work certificate has to presented to the section deputy.







Work authorization

(not required for Master Projects with no monthly remuneration)

- The federal council allows foreign students of
 Swiss academic institution to perform a mandatory internship
 during their studies: https://www.admin.ch/opc/fr/classified-compilation/20070993/index.html#a39
- Students with Non-EU/EFTA passports require a valid **work authorization** to do their internship or Master project with monthly salary in Switzerland or EU countries.
- EU students performing a 2-6 month internship have to be announced at the cantonal office
- It is the company's responsibility to request this authorization at the proper working office of their canton/country.
- ☐ It requires up to 8 weeks to obtain this authorization from the cantonal offices.
- It is recommended that students from non-EU/EFTA countries inform the companies in their motivation letter of these regulations.

Example: "As I'm a non-EU/EFTA resident, your company is required to ask for a temporary work authorization. Please be advised that The federal council allows foreign students of Swiss academic institution to perform a mandatory internship during their studies:

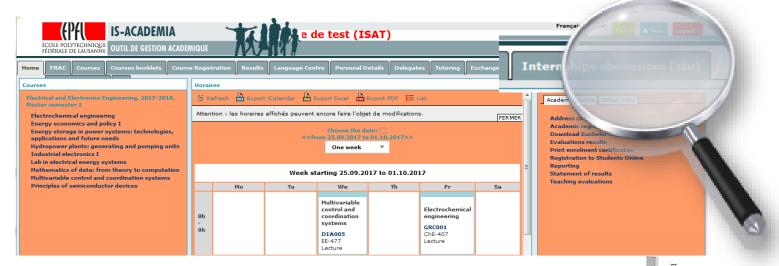
https://www.admin.ch/opc/fr/classified-compilation/20070993/index.html#a39. As I will stay registered at EPFL during this internship, and since this internship is a mandatory part of my Master education, the delivery of this document does not fall into the quota limitation of each canton and is therefore straightforward".





How can you find an internship?

- It is the student's responsibility to find an appropriate internship to validate his Master degree.
- No responsibilty can be taken from EPFL side if no internship has been found by the student
- The student can find an internship position by himself, but the subject needs to be approved by the section deputy
- EPFL offers an internship portal on which the student can find an alternative to his personal quest for finding an internship.
- Access to the EPFL portal is given through the student's IS-Academia account







Other opportunities for finding an internship

- Personal contacts, family, friends
- Topic related agencies and organizations



International platforms

Company websites





☐ EPFL Professors, especially for master projects in Industry



Every Internship found by these alternative ways needs to be approved by your section. Please contact the section deputy as soon as you have found an opportunity





Qui sommes-nous?

Ingénieurs en devenir, nous nous intéressons aux problématiques liées à la coopération scientifique Nord-Sud et au développement.

Nous contacter

Ecrivez-nous à stage.idm@listes.epfl.ch

On vous offre une bourse...

- Qui couvre fr<mark>ais de</mark> vo<mark>ya</mark>ge et de visa
- Pour un stage
 - Dans un pays en développement
 - Pour un projet durable
 - De minimum 8 semaines

Allez regarder les offres disponibles sur notre plateforme!

http://idm.epfl.ch/stages/





Your start-up as substitute to a master thesis in industry?



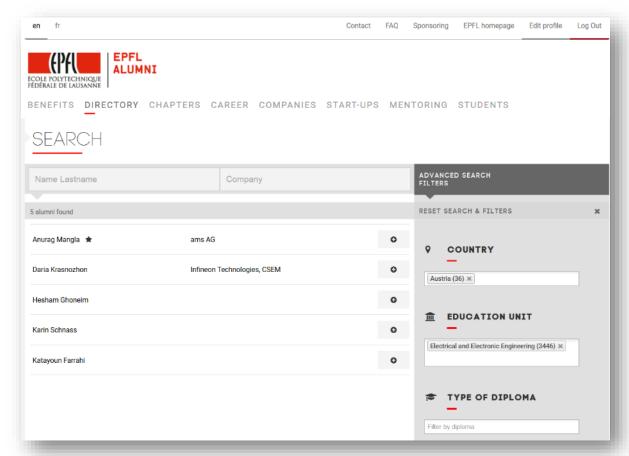
- A few students will be able to undertake their master projects in industry, at the EPFL Innovation Park to work for their own startup.
- This opportunity will be offered to 3-4 projects per year and starts as of September. 2018 Students will have to go through a selection process, starting by contacting xgrant@epfl.ch.
- ☐ Further communication will be undertaken throughout the year by the faculties internship coordinators.





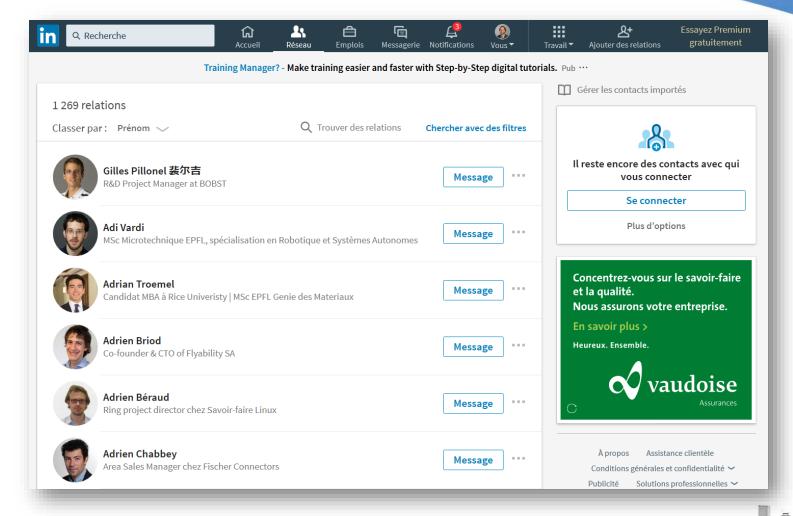
EPFL Alumni network

- EPFL students have access to the Alumni network
 - Website: alumni.epfl.ch
 - Pocketcampus app





Start working with Linked'In





Find an Internship during EPFL's Forum





How does the internship portal work?

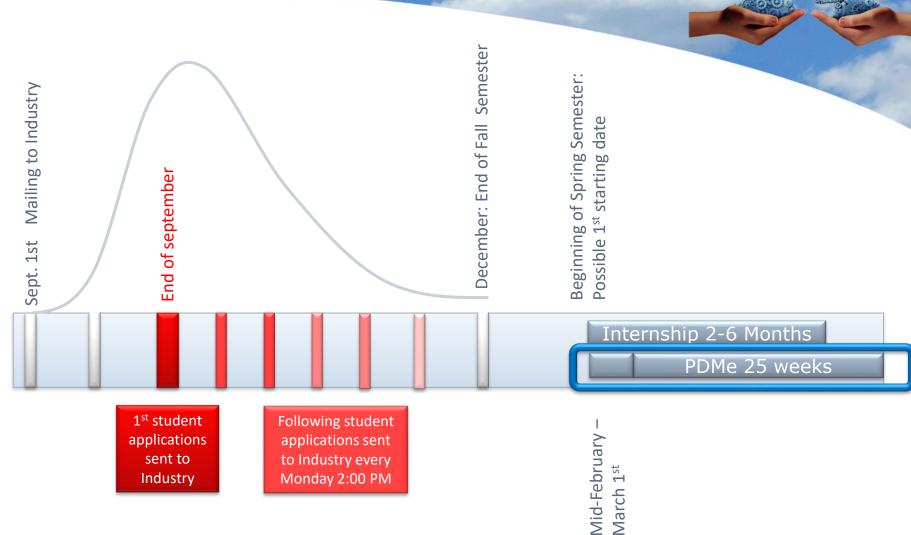
- Browse through the internship offers of your Master program
- Apply for a position by uploading 2 mandatory documents:
 - CV
 - motivation letter
- Applications are sent on a weekly basis to the companies (every Monday 14h00)
- Wait for the company to make its selection process (up to several weeks)
- If no response after 2 months, contact your internship coordinator
- You will be contacted by the company if your application was successful (Most selection processes involve an interview and several e-mail exchanges)
- You MUST accept only one offer and reject all the others within the next 3 working days.
- Once you have accepted the offer
 - No withdrawal from the accepted position!
 - Kindly notify all other companies you had priviledged contact with





Attribution process in the spring semester August 1st : Possible 1st starting date End of January: Mailing to Industry Semester June: End of Springl Mid-Febraury Internship 2-6 Months PDMe 25 weeks Following student 1st student applications sent applications September 30th to Industry every sent to Monday 2:00 PM Industry August 1st 31

Attribution process in the fall semester





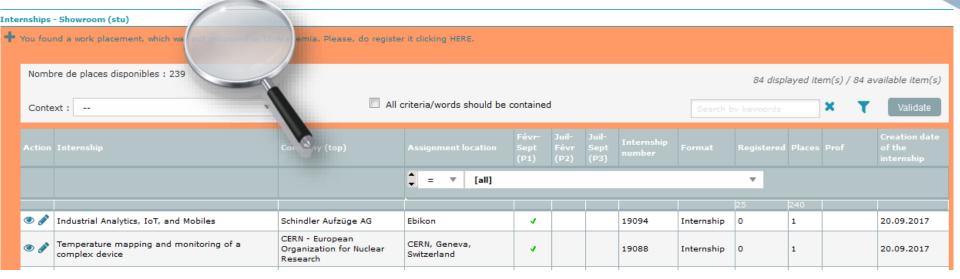


Internship attribution, possible scenarii 3rd application Internship Refused Internship progress progress progress progress Internship Within 3 days Refused Internship Refuse progress Internship progress **Master thesis:** Don't accept without academic supervisor



Register internships found by your own

- Submit a description of your internship to your section's deputy
- Once you have signed the tripartite internship agreement, enter your project details on the internship portal by creating a new internship proposal, and upload a pdf copy of the agreement.







Some advice to prepare your application documents

- 2 important documents
 - Motivation letter
 - Curriculum vitae (CV)

The criteria for interview selection by the company is mostly based in these documents. Reference letters can be added as well. Your motivation letter should specifically address the company and the proposed subject

- Language: you should use the language of the offer
- To be avoided:
 - No motivation letter
 - copy-paste errors
 - Wrong addressing





Interview

Most companies would like to meet the students for an interview prior to making their final choice

- Be prepared for the interview and demonstrate a professional attitude
- Non EU/EFTA students: Inform the company about the required work authorization
- If the living allowance is mentioned in the description, do not bargain. If not mentioned, inquire for it.
- Follow up: After the interview, write a short e-mail as feedback of your interview to the company and Cc the internship coordinator.
- For Master projects: Do not accept a position without having confirmed the eligibility of the project and settled the details with the academic supervisor.





Prepare your internship campaign!



EPFL proposes 5 modules of 1h30:

This fall semester

- Understanding recruiters (November '16)
- Reviewing the CV
- 3. The motivation letter

Next spring semester

- 4. The Job interview
- 5. Communication and organization at work

Each course will be given 2x in English and 5x in French Information and mandatory registration here: https://bookwhen.com/stages





Anticipate

- A change of residence or relocation might be necessary
- ☐ Setting up a Master thesis in industry takes several weeks/Months
- ☐ Time consuming formalities might be required:
 - Confirm an internship
 - Visa, Work authorization and Residence permit (typically 4-8 weeks)
 - Collection of the signatures of the internship agreement
 - New validation of your passport
- It is your responsibilty to settle these formalities prior to the Internship beginning





Update your FRAC

In case your internship is done during an academic semester, make sure to update your FRAC according to your status:

- In case of a credited internship (only EE students):
 - Semester (choose the right one: MA1; MA2; MA3)
 - Status : Internship (authorized by the section)
 - Mention in the comments « Credited internship during master course (SCS) »
- In case of a long internship without credits
 - Semester: (choose the right one: MA1; MA2; MA3)
 - Status : Internship (authorized by the section)
 - Mention in the comments « Detached internship but credited with master Project (STAP) »





Announce your stay abroad to EPFL Safety domain

http://securite.epfl.ch/voyages

NEWS SAFETY, HEALTH & PREVENTION

Create an account Help





Assistance program when travelling abroad



02.06.14 - You are travelling abroad for business or studies?

As a collaborator, doctoral-assistant or student of EPFL, the Safety, Prevention and Health Domain (DSPS) provides you an assistance program when travelling abroad. Since the 1st of June, a partnership with International SOS has been set up to help you to prepare your journeys and to assist you during

your business travels abroad (conferences, seminars, training, etc.,). Security and medical informations on your country of destination are available, as well as the access to a call centre to assist you 24/7. For any additional information, please consult the website: securite.epfl.ch/travel.

NB. Private travels are not covered by this program!

Author: Sylvia Fabris Source: Sécurité, Prévention et Santé

Return to previous page

LINKS

safety

- 🔼 All Safety, health & prevention news
- All EPFL news

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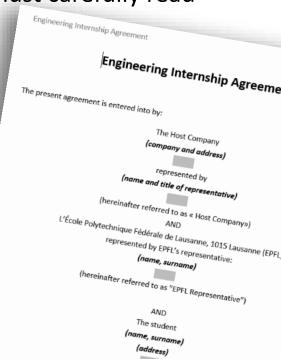




Internship agreement

- The <u>internship agreement</u> specifies the commitments and responsibilities of EPFL, the company and the internship student. This agreement **must be signed** for all engineering internships.
- No other tripartite agreement involving EPFL will be signed by the section.
- Alternative contract proposed by the company and signed only by the student are acceptable in rare cases, but the students must carefully read and comply with the content (IP issues, confidentiality,

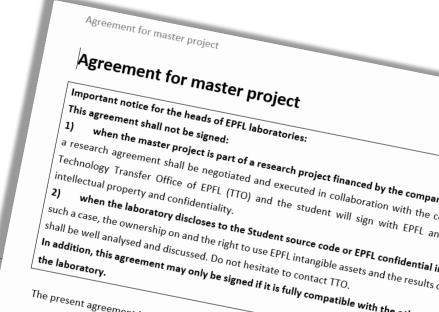
insurances and especially non-competition clauses)





Master project agreement

- □ The <u>master thesis agreement (access for teachers only)</u> specifies the commitments and responsibilities of the supervising teacher, the company and the student.
 - This agreement can be signed upon request of the teacher or the company
- ☐ It defines IP and confidentiality aspects for any master thesis in industry without existing collaborations.
- ☐ It allows the academic supervisor to have access to the results of your work
 - without having to sign an NDA.
- □ As it is not mandatory, amendments and changes requested by companies won't be accepted by the internship coordination or the legal department of EPFL





During and after the internship

- In case of problems (accident or illness, personal problems, conflict with supervisors, ...), contact urgently the Section deputy and the STI Internships coordinator.
- ☐ No written report of the student is requested by EPFL (except for credited internships in EE), but can be requested by the company.
- To validate your internship, an evaluation form has to be filled out by the student and the supervisor in the company (sent out 2 weeks prior to ending).



Mandatory Steps for a 2-6 month internship



- 1. Find an internship position and in case you have found it without using the IS-A portal, have the subject validated by your <u>section deputy.</u>
- 2. Inform the <u>STI coordinator</u> that you have found your internship.
- 3. Cancel all ongoing applications by gently notifying the companies. This step is extremely important to keep a good relationship with potential future employers.
- 4. Transmit <u>the EPFL internship agreement</u> to the employer and have it filled out and signed by the employer and the section deputy. The signing of the agreement is mandatory.
- 5. If you are a non-swiss/EU citizen, ask the company to request a work authorization for the duration of the internship. More information here.
- 6. Once all the details of your internship have been settled, enter or edit the details of your internship on the IS-A internship portal. Upload a copy of the signed internship agreement.
- 8. At the end of the internship, fill out the evaluation formt that will be sent to you by e-mail. The evaluation procedure starts 2 weeks prior to the official ending of the internship. Both the student and the supervisor will fill out an evaluation form.



Mandatory Steps for a Master project in Industry

- 1. Find a master project in industry by contacting the professors of your section.
- 2. A master subject can also be found through the IS-A Internship portal. In this case, it is mandatory to find a professor willing to supervise you before you accept the offer from the company. The STI Initiative on Coordinated Master Projects is promoting offers through the portal.
- 3. Official starting dates for master projects in industry are as follows:
 - Beginning of spring semester registration deadline for spring semester courses (2 weeks after)
 - August 1st registration deadline for fall semester courses (end of September) Other starting dates can be obtained on special request to your section.
- All administrative details of your master project in industry have to be settled between the employer and the professor supervising your work. On request from the professor or the company, the EPFL master project agreement can be signed.
- 5. Once all the details of your Master project in Industry have been settled, enter the details of your PDMe in your study plan
- 6. Make sure to update your FRAC according to the following table



EPFL internships on the web

Section webpage:

http://sti.epfl.ch/page-74480-en.html



EPFL webpage:

http://internships.epfl.ch



Students enrolled in a Master program in a domain leading to an engineer title have to complete an industry internship or master project before graduation. The goal is to give the students the opportunity to acquire industry practice in complement of the academic knowledge.

We invite companies to offer internships proposals to EPFL students.

Accommodating an intern allows companies:

- identifying future potential collaborators
- · receiving help on a specific project

EPFL INTERNSHIPS

- bringing into play new ideas
- . becoming a strategic partner of EPFL for the quality of education of the students
- · keeping contact with generations

Depending on the master program, students are available from 2 to 6 months, during summer vacation or during the academic semesters (from July to February or from February to August).

The EPFL internships portal is convenient to promote internship ads and manage students applications.

Thank you for your collaboration!





Important remarks

- As an EPFL student doing an internship in industry, you act as an EPFL Ambassador. Thanks to your work and positive attitude, you will leave an important impression to the company.
- This aspect is not only important for your future professional career, but also for the EPFL internship program which will benefit from this lasting impression.









The internship: Excellent Opportunity !!!





Students

- A Great incentive to ask oneself the right questions!
- Familiarize with working life
- Immerse into Industry practice
- Future Hiring opportunity



Companies

- Benefit from highly qualified students
- A new insight on current issues, innovate!
- Evaluate futur employees





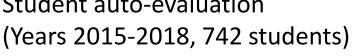
- A direct link to industry
- A new platform to start collaborations on the research level
- Feedback from industry to improve the education of our students

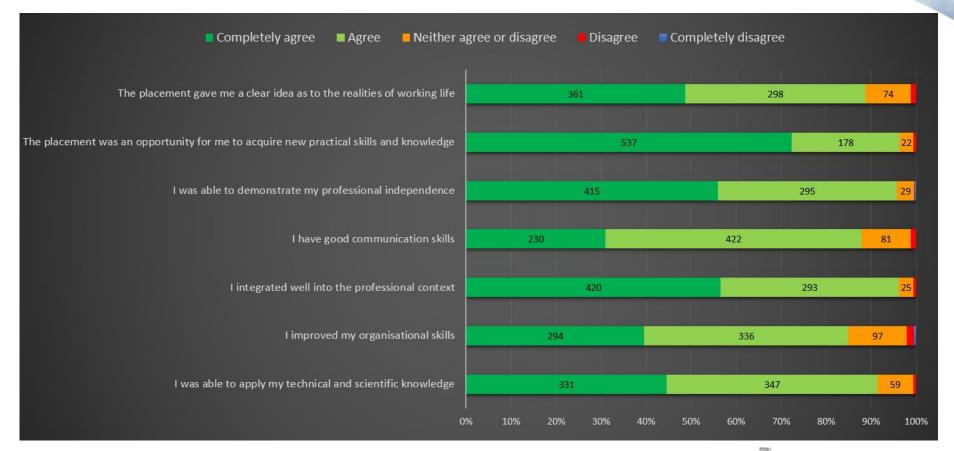




Internship evaluations

Student auto-evaluation









Internship evaluations

Feedback on the host company by student (Years 2015-2018, 742 students)

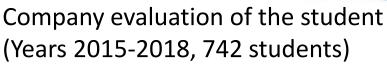


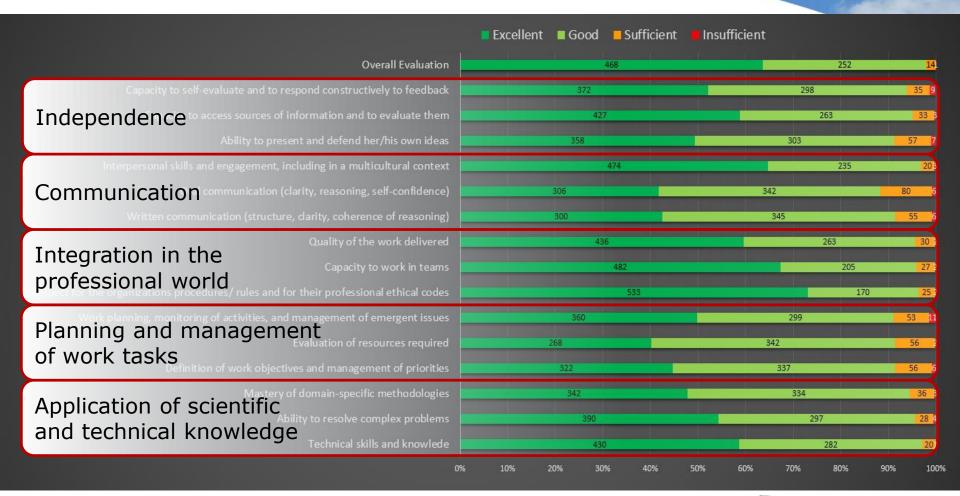






Internship evaluations









EPFL links to Industry





Vice Presidency for Innovation:

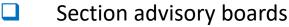
- Tech transfer
- Innovation Park
- Sponsored chairs
- Special programs
 - Alliance



- Alumni survey
- · Jobs for Brains Recruitment platform
- Recrutement days
- Round tables
- Sponsorships
- EPFL Forum



- Network
- Events
- Magazine



Meeting ~every 2 years



Jobs<>Brains

FORUMEPFI

Innovation Park



Research labs; industrial projects

Master Thesis in Industry

Internships in Master curriculum

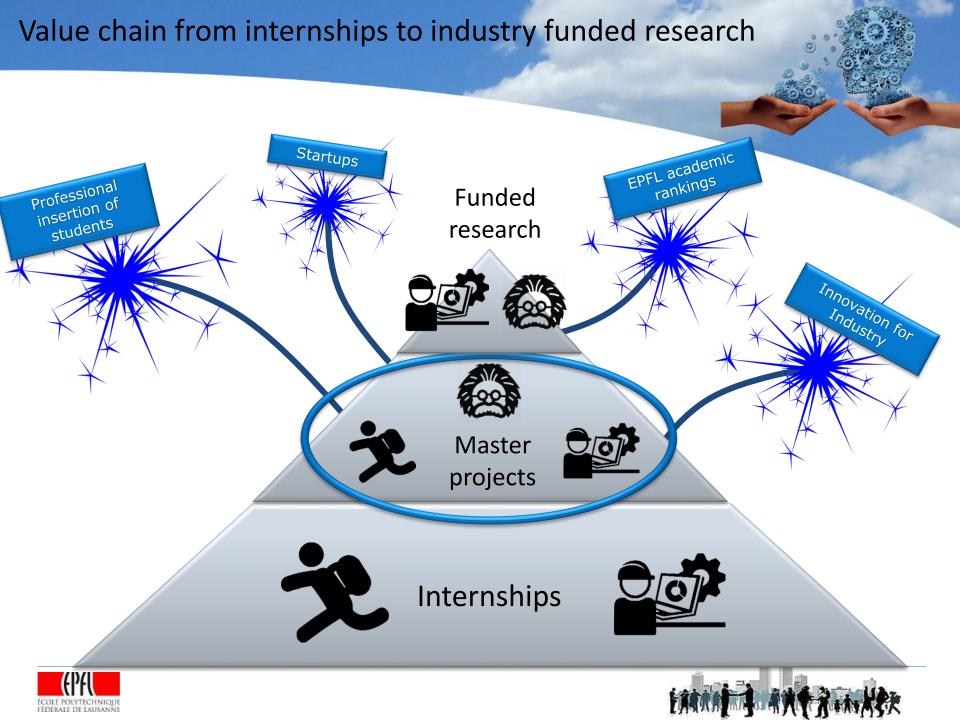




1'200 EPFL students each year

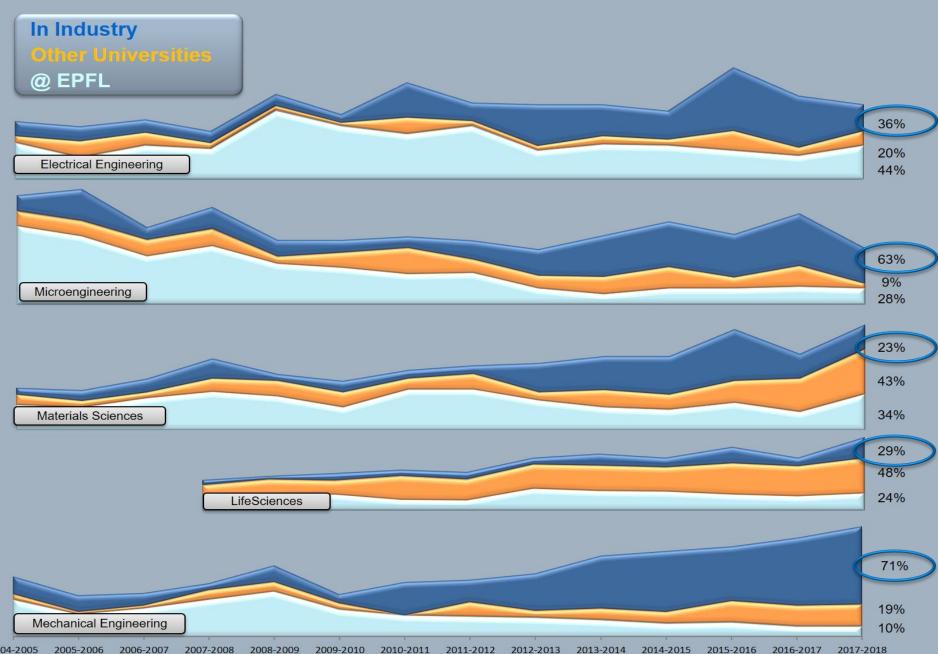






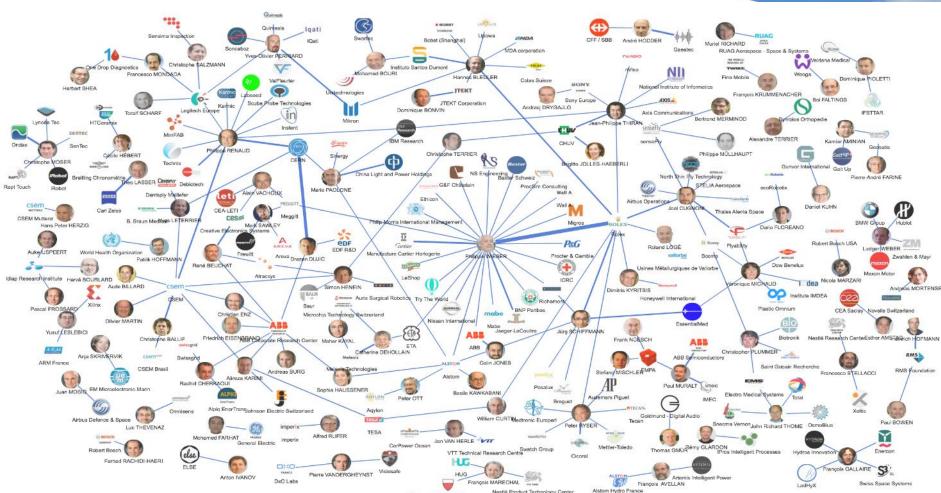
Location of Master Project since 2004





Master Thesis Interaction Map (Year 2015)











STI-SV Industry Day: Thursday March 20th 2019





Session1: Engineering for life science and health

Stephanie Lacour - Lab for soft bioelectronic interfaces

Diego Ghezzi - Medtronic chair in neuroengineering

Sebastian Maerkl - Lab. of biological network characterization

Hatice Altug - Bionanophotonic systems lab.

Auke Ijspeert - Biorobotics lab.

Session 2: Robotics and Manufacturing

Vivek Subramanian - Subramanian group

Yves Bellouard - Galatea lab.

Selman Sakar - Microbiorobotic systems lab.

Jamie Paik - Reconfigurable robotics lab.

Guillermo Villanueva - Advanced nanomechanical systems lab.

Pause café et expo industrielle

Présentations académiques

Session 3: Data enabled Engineering

Volkan Cevher - Lab. for information and interference systems

Aude Billard - Learning algorithms and systems lab.

Pascal Frossard - Signal processing lab. 4

Van de Ville - Medical image processing lab.

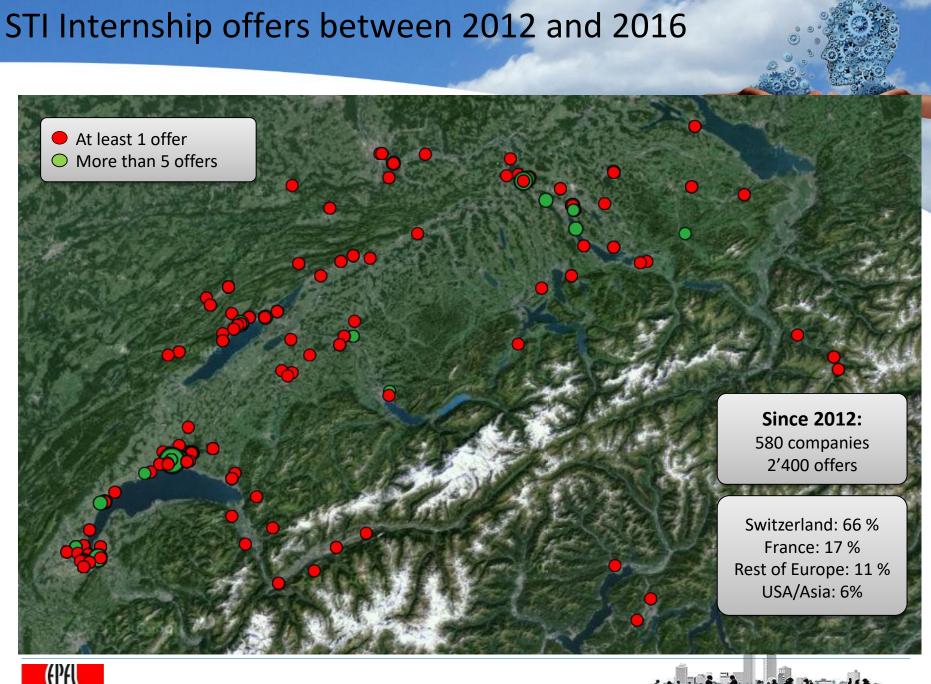
David Asiana Carbadal da asama lab

David Atienza – Embedded systems lab.

Session 4: Materials and Processes

Fabien Sorin – Lab. of photonic materials and fibre devices Yves Leterrier – Lab. of processing and advanced composites John Kolinski– Engineering Mechanics of Soft Interfaces Esther Amstad – Soft materials lab. Pedro Reis – Flexible structures lab.

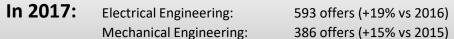




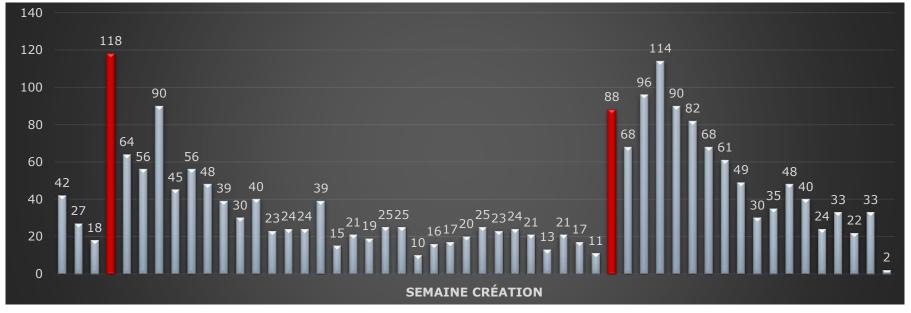




Internship Postings on EPFL Portal: Over 2000 Offers in 2016



Microengineering: 527 offers (+26% vs 2015) Materials Sciences: 356 offers (+10% vs 2015)











Internship countries of STI students

	STI				
	EL	GM	MT	MX	Somme :
Suisse	107	178	156	104	545
France	11	28	5	6	50
Allemagne	11	7	5	4	27
Etats-Unis	4	2	10		16
Belgique	3		4	3	10
Chine	3	1	4	2	10
Pays-Bas	3	2		4	9
Japon	1	2	3	1	7
Suède	1	4			5
Brésil		1	3		4
Cameroun	1	1	2		4
Espagne		2	1	1	4





Information and contacts

For additional information,please visit the internship pages of SGM:

http://sti.epfl.ch/page-59842-en.html

Depending on your inquiry, you can contact the following persons:



Sebastian Gautsch STI Internship Coordinator



Alain Prenleloup
SGM
Adjunct to section director



Anne Mireille Legrand
SGM
Administration











