EPFL Quantum Science & Engineering Internships

November 1st, 2022

Hind Klinke
Section deputy SIQ
Internship coordinator
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 future employees

- **EPFL**
  - 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 Coordination

EPFL internship program
- VP Education
- Educational Affairs
- Academic Services
- Career center

Legal and IP aspects
- VP Research
- Tech Transfer Office

Internship portal
- IS-A Development staff

Internship Coordination
- Hind Klinke
- Emilie Thévoz

SSIQ
Master students

Industry
The Internship in industry is a mandatory step of the Master degree.

Possible format to validate this obligation:
- **SCS**: Stage à Crédits Séparés.
Internship criteria's

- Minimum duration of 2 month, up to 6 months
- Immersion into industry
- Familiarize with company processes
- Acquire specific competences
- Apply transversal skills
- Evaluation form by student and industry supervisor
When to place your internship?

- **Summer**
  - MA1, MA2
  - 60 credits
  - Internship 8 weeks

- **Fall**
  - MA3
  - 30 credits

- **Spring**
  - PDM in academia
  - 17 weeks
  - 30 credits

- **Summer**
  - MA1, MA2
  - 60 credits
  - Internship 8 weeks

- **Fall**
  - MA3
  - 30 credits

- **Spring**
  - PDM in academia
  - 17 weeks
  - 30 credits

- **Summer**
  - PDM in academia in foreign Universities: 25 weeks
When to place your internship?

- Summer: MA1, MA2 (60 credits)
- Fall: MA1, MA2 (60 credits)
- Spring: MA3 (30 credits)
- Summer: MA3 (30 credits)
- Fall: PDM in academia (17 weeks, 30 credits)
- Spring: Internship 6 months
- Summer: PDM in academia in foreign Universities: 25 weeks
- Fall: Master project in Industry (25 weeks)
Important rules

- **Maximum duration of studies**
  - Maximum amount of study semesters allowed: 6
  - Extended by one semester if the internship is done during a semester
  - The maximum duration of course semesters

- **Internship in parallel to taking courses**
  - Performing the industry internship in parallel to taking master courses is generally not encouraged. Exceptions can be granted by the section under the following conditions:
    - The student can physically follow the registered courses and attend the exam session
    - The maximum amount of credits does not exceed 5 ECTS
    - The company accepts that the student takes courses
What is considered «Industry»?

- Every company or start-up offering a workplace outside of an EPFL laboratory

- Every Research Organisation not delivering academic credits

- Affiliation of independent research labs with academic institutions can lead to a specific decision by the section
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 around \(2'000\) SFr. However, there is no obligation of the company to comply with this.
Internships outside Switzerland

Some recommendations for an internship abroad:

The federal council allows foreign students of Swiss academic institution to perform a mandatory internship during their studies: https://www.admin.ch/opc/fr/classifiedcompilation/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 3-6 month internship have to be simply 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.

We recommend 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 would be 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.”
It is the student’s responsibility to find an appropriate internship to validate his Master degree.

No responsibility 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 students can find an alternative to their personal quest for finding an internship.

Access to the EPFL portal is given through the student’s IS-Academia account.

How can you find an internship?

Internships info session

H. Kinko
Sustainable Internships

How to identify them?

Company submissions are listed on the internship portal once validated by each section. Internships with a sustainability label will be identifiable with the following logo:

Evaluation report

The evaluation process of the internship is similar to a regular internship but the student is asked to write a *half-page report* to comment if the sustainability goals have been reached. This report does not influence the validation of the internship for the master curriculum.

<table>
<thead>
<tr>
<th>Internship</th>
<th>Date</th>
<th>Company</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimisation du potentiel énergétique d'une installation de traitement des granulats</td>
<td>03.10.2022</td>
<td>Holcim (Suisse) SA</td>
<td>Aigle</td>
</tr>
<tr>
<td>Multi-Frequency, Multi-Modal transduction of Piezoelectric Micromachined Ultrasonic Transducers (PMUTs)</td>
<td>03.10.2022</td>
<td>XMEC</td>
<td>Lausanne, Belgium</td>
</tr>
<tr>
<td>Aerospace smart sensors - R&amp;D embedded software developer</td>
<td>03.10.2022</td>
<td>Magistrat SA</td>
<td>Fribourg</td>
</tr>
<tr>
<td>Compressing IFAT/IBIS(Sucratex@QuantumEPFL), affreshe Cento+EPFL Mellinor/Avide</td>
<td>02.10.2022</td>
<td>Universität Bern</td>
<td>Bern 3012, Hochschulstrasse 6</td>
</tr>
<tr>
<td>Simulation based Aerodynamic Performance Evaluation</td>
<td>30.09.2022</td>
<td>Staubli Motorsport AG</td>
<td>Hinwil, Switzerland</td>
</tr>
<tr>
<td>L'exploitation optimale des installations techniques dans l'environnement bâti</td>
<td>30.09.2022</td>
<td>emergo</td>
<td>Lausanne</td>
</tr>
</tbody>
</table>
Some opportunities for finding an internship

- Personal contacts, family, friends
- Topic related agencies and organizations
- International platforms
- Company websites

Every Internship found outside the IS-A portal has to be approved by your section. Please send a short but detailed description to the section deputy as soon as you have found an opportunity.
Le Forum EPFL fête ses 40 ans !

3 – 7 Octobre 2022 au SwissTech Convention Center

https://www.forum-epfl.ch/
Dear student, Dear doctoral student,

Garrett is a global leader in turbo technology solutions pioneering the breakthrough of new electric boosting products and automotive software to support passenger cars, commercial vehicles, and off-road equipment.

They partner with all major automotive companies helping to implement key differentiated technology offerings.

Garrett would like to invite you to catch a glimpse of their exciting high-speed activities during a dynamic presentation, featuring:

- Their demanding evolution from mechanical engineering to the electrical and software fields;
- Challenging internship offers in their engineering center in Thaon Les Vosges, located next to Nancy, in France as well as in Brno, in Czech Republic

The presentation will be held in English on Wednesday, 26 October 2022 at 12:15 in room BC 420.

Attendees are invited to stay for a networking reception afterward, with complimentary food and drinks.

Don’t miss this exciting power transfer train heading towards the future of sustainable mobility!

>>> Register here <<

If you encounter problems during the registration process, please send a message to cc@epfl.ch mentioning Garrett’s Presentation.

Best regards,

The Career Center

https://www.epfl.ch/about/recruiting/career-center/
EPFL Alumni network

- EPFL students have access to the Alumni network
  - Website: https://www.epflalumni.ch/students/
  - Pocketcampus app
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.
  - No withdrawal from the accepted position!
  - Kindly notify all other companies you had privileged contact with

- Do not use the portal for personal internship search
- Apply always through the portal for mandatory internship
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
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.
EPFL proposes 5 modules of 1h45:

- Understanding and convincing recruiters
- The CV sections
- The motivation letter
- The Job interview
- Communication and organization at work

Each course will be given in English.
Information and mandatory registration here: [https://epflcareer.ch/en/](https://epflcareer.ch/en/)
In case your internship is done during an academic semester, make sure to update your FRAC according to your status:

- Semester: (choose the right one: MA1; MA2; MA3)
- Status: Internship (authorized by the section)
- Mention in the comments « SCS»

- If you take courses in parallel to your internship, your FRAC status should be «present»
The internship agreement 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 some cases, but the students must carefully read and comply with the content (IP issues, confidentiality, insurances and especially non-competition clauses).

The company must accept to fill out the EPFL evaluation report at the end.
Mandatory: Register internships on ISA

- Submit a short but detailed description of your internship to SNX
- 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.
Anticipate!

- A change of residence or relocation might be necessary
- 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 responsibility to settle these formalities prior to the Internship beginning
During and after the internship

- In case of problems (accident or illness, personal problems, conflict with supervisors, ...), contact urgently SNX.

- No written report of the student is requested by EPFL, 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).
The evaluation is more focused on the soft skills than technical knowledge.
Mandatory Steps for a 2-6 month internship

- Find an internship position and in case you have found it by yourself, without using the IS-A portal, have the subject validated by your section deputy.
- Cancel all ongoing applications by gently notifying the companies. This step is extremely important to keep a good relationship with future employers.
- Transmit internship agreement to the employer and have it filled out and signed by the employer, you and SIQ.
- If you are a non-swiss/EU citizen, ask the company to request a work authorization for the duration of the internship.
- 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.
- If your internship takes place during an academic semester, make sure to update your FRAC.
- At the end of the internship, fill out the evaluation report 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 report.
Best practice to set up a master thesis in industry

- Companies get in touch with research labs to propose master thesis topics
- Companies can hire students for internship proposals and accept the format change to master thesis projects without involving a Professor
- Students contact professors of their section to ask for existing industrial projects
- Students apply for internships on the IS-A portal and have it validated as master thesis projects by the company without involving 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 student proposals without interacting with the host company
Ideal Scenario for Master Projects in industry

Company has an idea for a master thesis project

Company discusses the project with a Professor

Company submits the proposal on the EPFL portal

Student applies for the project through the portal and gets accepted by the company

Project starts under co-supervision by company and professor
Master thesis in industry – offers on the internship portal

<table>
<thead>
<tr>
<th>Action</th>
<th>Stage</th>
<th>Entreprise mère</th>
<th>Localisation du stage</th>
<th>Fевр-Маи (P1)</th>
<th>Juil-Sept (P2)</th>
<th>№ du stage</th>
<th>Format</th>
<th>Insites</th>
<th>Places</th>
<th>Prél</th>
<th>Date de création du stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amélioration qualité image satellite par contrôle fin de la ligne de visée</td>
<td>Thales Alenia Space</td>
<td>Cannes, France</td>
<td>✓</td>
<td>18976</td>
<td>Stage</td>
<td>0</td>
<td>1</td>
<td>14.09.2017</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental Physics Internship</td>
<td>Distran GmbH</td>
<td>Zurich</td>
<td>✓</td>
<td>18972</td>
<td>PDM au Stage</td>
<td>0</td>
<td>1</td>
<td>à trouver (si PDM)</td>
<td>14.09.2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transfer learning for field and crop adaptation in agriculture applications</td>
<td>ecolabotix</td>
<td>Yverdon-les-Bains</td>
<td>✓</td>
<td>18972</td>
<td>PDM au Stage</td>
<td>0</td>
<td>1</td>
<td>à trouver (si PDM)</td>
<td>14.09.2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Engineer</td>
<td>Infracon Technologies France</td>
<td>Aix en Provence</td>
<td>✓</td>
<td>18967</td>
<td>Stage</td>
<td>0</td>
<td>1</td>
<td>14.09.2017</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>déploiement d’un système de sécurité pour un site sensible</td>
<td>Elavia SA</td>
<td>Cerque</td>
<td>✓</td>
<td>18962</td>
<td>Stage</td>
<td>0</td>
<td>1</td>
<td>13.09.2017</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermal effect and Compensation in high precision states</td>
<td>Elia S.A.</td>
<td>Bienna</td>
<td>✓</td>
<td>18953</td>
<td>Stage</td>
<td>0</td>
<td>1</td>
<td>13.09.2017</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intern Manufacturing</td>
<td>Stylor Trauma AG</td>
<td>Salbach (SO)</td>
<td>✓</td>
<td>18934</td>
<td>Stage</td>
<td>0</td>
<td>1</td>
<td>12.09.2017</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modélisation d’un processus de laminage</td>
<td>Constellation Valois SA</td>
<td>Sierre</td>
<td>✓</td>
<td>18933</td>
<td>Stage</td>
<td>0</td>
<td>1</td>
<td>12.09.2017</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hybrid PET/MR imaging guided radiation therapy treatment planning</td>
<td>Hôpitaux Universitaires de Genève</td>
<td>HUG Genève</td>
<td>✓</td>
<td>18930</td>
<td>PDM coordonné</td>
<td>0</td>
<td>2</td>
<td>Prof. Thierry Naef-Philippe</td>
<td>12.09.2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Various internship positions in Motion analysis Startup for applications in Sports, Health and Gaming</td>
<td>Gelt Up</td>
<td>Renens</td>
<td>✓</td>
<td>18922</td>
<td>Stage</td>
<td>1</td>
<td>2</td>
<td>12.09.2017</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Various internship positions in Motion analysis Startup for applications in Sports, Health and Gaming</td>
<td>Gelt Up</td>
<td>Renens</td>
<td>✓</td>
<td>18920</td>
<td>PDM coordonné</td>
<td>0</td>
<td>2</td>
<td>Prof. Arminien Kaimer</td>
<td>12.09.2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Printed freeform optics for light control</td>
<td>CSEM SA Muttenz</td>
<td>Basel</td>
<td>✓</td>
<td>18912</td>
<td>PDM au Stage</td>
<td>0</td>
<td>1</td>
<td>à trouver (si PDM)</td>
<td>11.09.2017</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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.

- Projects will be co-supervised by a mentor from the Vice Presidency for Innovation and a professor from the section.

- This opportunity will be offered to 3-4 projects per year. Students will have to go through a selection process, start by contacting pdm-eip@epfl.ch.

- More information about the program could be found here:
  - [https://www.epfl.ch/innovation/startup/students/master-project-in-your-startup/](https://www.epfl.ch/innovation/startup/students/master-project-in-your-startup/)
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, 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 academic supervisor 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.
The master thesis agreement (access for teachers only) 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.

⚠️ Making a master project in the industry does not exempt you from the mandatory internship.
Mandatory Steps for a Master project in Industry

- Find a master project in industry by contacting the professors of your section.
- 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.
- All administrative details of your master project in industry have to be settled between the employer and the professor supervising your work. A special Master project agreement can be signed on request by the supervising professor or the partner company.
- Once all the details of your Master project have been settled, register your project in your study plan.
- Update your FRAC
- [General information](#) about Master’s Projects
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 in 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.
Information and contacts

- For additional information, please visit the internship pages of SNX:
  - [https://www.epfl.ch/schools/sections/quantum-science-and-engineering/industry-internship/](https://www.epfl.ch/schools/sections/quantum-science-and-engineering/industry-internship/)
- EPFL webpage:
- Depending on your inquiry, you can contact the following persons:

  Hind Klinke
  Section deputy SIQ
  Internship Coordinator

  Emilie Thévoz
  Administration SIQ
Questions?

Thank you for your attention
And best of success for your internship campaign!