

Documents and forms the IDSC Frazzoli lab

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The latest updated version will be available at <https://idsc-frazzoli.github.io/documents>.

This is the authoritative list of all important documents for the Frazzoli lab.

1 Lab rules, checklists, guides

Download here all the documents below collated in one PDF.

1.1 IDSC Institute rules

- [The IDSC Code of Conduct](#): these are the important rules that are valid throughout IDSC.

1.2 Lab-specific information

- [The Frazzoli experience](#): this describes our rules and procedures that are specific to the Frazzoli lab.
- The [Labs Safety Rules](#) is a separate document that describes the rules around safety.

1.3 Information for specific spaces

- [The Wintilab living-together rules](#): specific rules that apply only to the Wintilab.
- [The Autolab living-together rules](#): specific rules that apply only to the Autolab.

1.4 Students checklists

These are the two students checklists plus a survival doc. They contain things that we should remember to do at the beginning, the middle, and the ending of the projects.

- [Checklist 1 - Onboarding](#)
- [Checklist 2 - Ending](#)
- [Survival Advices](#)

1.5 Thesis template

This a link to a thesis template

- [Bachelor/Semester/Master - Thesis template](#)

1.6 Supervisor guide

- [Project supervision guide](#)

1.7 Other miscellaneous documents

- [Cultural self-evaluation](#)

1.8 Editing the documents above

To edit those documents, edit the files in the [documents](#) Github repository (you need permission to access). Follow the instructions and the documents will be automatically updated on the website. We use the Github repository for ease of collaboration and to take advantage of **version tracking**: we can see exactly who did what change when, and recover previous versions.

2 Rapidly-changing information

The following documents are on Google Drive and accessible only with the right permissions.

There are two main folders:

- [IDSC-Frazzoli](#) where all lab members have access. Contains meeting notes and project files.
- [IDSC-Frazzoli-payroll](#) where only payroll have access. Contains confidential information (people tracking).

2.1 Contents of IDSC-Frazzoli (available to students)

2.1.1 TODO list

- [TODO list for the entire lab \(need permission\)](#)

2.1.2 Meeting notes

- [Meeting notes folder](#)

2.2 Contents of IDSC-Frazzoli-payroll (available to payroll)

2.2.1 Room allocations spreadsheet

The room allocation spreadsheet is continuously updated to reflect who is in our spaces: [link to spreadsheet \(public access, view only\)](#)

2.2.2 People tracking

Only available to payroll, this sheet describes:

- past and present students of the lab:
- current staff in the lab

[Link to people tracking spreadsheet \(permissions only available to lab payroll\)](#)



2.2.3 Order list

Use this list if you want to order something (books, accessories, etc.). Annina will then make sure that things are ordered.

[Link to order list](#)

2.2.4 Inventory spreadsheet

The inventory spreadsheet is continuously updated to reflect who has what.

It is used for those items that are very “mobile” and easily misplaced (e.g. camera, DVS sensors, teleconference system, etc.).

[Link to inventory spreadsheet \(permissions only available to lab payroll\)](#)

The Frazzoli Experience

This document describes organization and procedures for the Frazzoli lab.

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The latest updated version will be available at <https://idsc-frazzoli.github.io/documents>.

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1 Lab's philosophy

TBD

1.1 Why we do what we do

TBD

1.2 How we do what we do

TBD

1.3 What do we do

TBD

1.4 Who does it

1.4.1 Complete roster

The official and updated list of all the people affiliated to the lab is [at this page on the IDSC website](#), where you can also see their contact information.

This documents only lists the people that have specific roles.

1.4.2 People in administrative roles

These are the people who have an administrative role—they deal with student enrollment, supervision, evaluation.

- Emilio Frazzoli is the **director** of the lab.
- Andrea Censi is the **deputy director**.
- Maurilio Di Cicco is **oberassistent**.
- Annina Fattor is the **lab manager**. She makes sure that the people above remember to do what they are supposed to do.

1.4.3 People in technical roles

1.4.3.1 Safety officers We work with heavy equipment that is potentially unsafe if not used properly. Moreover, we work on autonomy: not only we have heavy equipment, but that heavy equipment is autonomous! Therefore, we have *two* safety officers:

- Marc-André Corzilius (Mac) is **physical safety officer**. He provides training and guidance regarding the physical environment and tools. Operating our equipment without proper training and without respecting best practices endangers everybody's safety. Conscious transgression of those rules is ground for immediate termination of a student's relation with our lab.

1.4.3.2 IT support Marc Albert is the **IT support person**. If somebody need access to accounts or machines, he is probably the person to ask.

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2 Facilities

2.0.1 Operational offices

All our offices on ETH main campus are in the ML building [directions](#).

In case finding any room is unclear, please refer to the [floor plans](#).

Starting from the entrance from the staircase connecting to the ML hall our rooms are:

ML K 32.1 - Prof. Emilio Frazzoli's office

ML K 32.2 - Annina Fattor's office

ML K 37.1 - IDSC library / meeting room

ML K 37.2 - Dr. Andrea Censi's office

ML K 32.3 - Dr. Jacopo Tani's office

ML K 37.4 - Postdoc room

ML K 37.5 - Coffee room

ML K 43 - Student working room

ML K 39/41 - Rooms belonging to our group but currently unused

2.0.2 Autolab, Autolab control room (Duckielabs)

Number of seats (ML F 44.2): TBD

Map and Direction TBD

2.0.3 General rules about spaces

At the beginning of each semester, the door signs of the student rooms should be updated. One PhD student will be responsible for the student room per semester.

If you are working either on your master's thesis or as a full-time assistant, you are allowed to occupy one workplace full time. You may leave your stuff (like computer, literature, etc.) on your desk.

If you are working only part-time in the room (e.g, semester project, Bachelor's thesis), then you should not occupy a workplace full-time. Please clear your desk every time you finish working. You may leave your stuff inside the room, but please make sure that other students have the possibility to use the desk as long as you are not using it.

Generally, it is the shared responsibility of all students to properly organize the distribution of workspaces. There should be enough workplaces for all of you. Please notify your supervisor only if collisions are unavoidable and unacceptable.

Please always lock the door if you are the last one to leave the room. Other students might have left their stuff (laptop, wallet, etc.) in the rooms.

If you have finished working on your thesis or project, please do not forget to remove your stuff from the rooms prior to returning the key.

3 Research

TODO: discuss main research directions of the lab

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4 Academic integrity

TODO: principles of academic integrity, etc.

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5 Teaching

Every year we offer these three courses:

- [Control Systems I] Autumn semester
- [Control Systems II] Spring semester
- [Autonomous Mobility on Demand] Autumn semester

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6 Administrative procedures

6.1 How to buy/order materials

0. Students cannot order items and cannot get reimbursed if they do order something. For all orders students should contact either Mac or Annina as described below.
1. Orders: For hardware orders (mechanical, electrical, research-related) for the lab - contact Mac.
2. Office ware: Other items (e.g. books, accessories for laptops, other) -> put it onto the order list on google drive (with all the information needed) Annina's spreadsheet TODO: add link

Note: Katharina and Annina are the only ones that can process orders with ETH credit card.

3. Autolab: see autolab rules
4. Conferences: Please book flights and hotels on your own and ask for reimbursement through ETHIS after getting the approval. If your budget is tight, contact Annina and we will find a solution.
5. Reimbursements: Please scan the whole receipt – it has to be clearly visible what you bought and describe it accurately (what occasion, date, people you were with (if it was a lunch etc.)). Reimbursements requests that do not respond to these requirements will be declined.
6. Reimbursements of flights: ETH launched a project for the reduction of CO2 emissions and therefore wants to have specific information about all the flights. Please indicate : class (economy, business, first); flight no.; no. of persons divided by semicolon into the Buchungstext-field.

6.2 Borrowing materials

TBD

6.3 Key request procedure

The scientific supervisor writes an e-mail to Katharina Munz (CC Annina Fattor) with the following information:

- full name of the student;
- the macro project the student is working on (ex. GoKart, Autolab, etc.);
- room the student needs access to (ex. ML K 43);
- the period (starting and end date) for which the access is needed.

The student will get an e-mail as soon as the key is ready for pick up.

Usually, the student will be able to pick up his/her key within one or two days at the ISC Loge in LEE F314, Leonhardstrasse 21, Open Monday to Friday, 7.30 - 12.00 and 13.00 - 17.00. He/She will get an e-mail as soon as the key is ready for pick up.

7 Accounts

7.1 IDSC infrastructure

7.2 Github

7.3 Slack

This is our [group-Slack](#).

7.4 Calendar

To get access to the group calendar, please contact Marc Albert via Slack. This step is handled during the onboarding procedure.

7.5 Mendeley

To get access to the group's Mendeley, please contact Marc Albert via Slack. This step is handled during the onboarding procedure.

7.6 Overleaf

To get access to the group's Overleaf-pro team, please contact Marc Albert via Slack. This step is handled during the onboarding procedure.

7.7 Rudolf

To get access to the Rudolf, please contact Marc Albert via Slack. This step is handled during the onboarding procedure.

7.8 Zoom accounts and other teleconference software

We use [zoom](#) as videoconferencing service. Every official meeting is recorded on the group's calendar and has a constant zoom link associate with it, to allow remote attendance.

7.9 Policies

7.9.1 No email policy, no personal messages

We do not like emails, because we receive plenty and it is easy to miss important ones.

Keep the work related conversations on Slack. Our Slack is organized it with #general, #research-directions, and #project-specific channels. There will be an appropriate channel for each topic.

When in doubt on which channel to use, go for the #general one. Do not send personal messages, but use the dedicated #research or #project-specific channels. We like sharing.

7.9.2 No attachments

We like email attachments even less than emails. If you have an attachment to share, use other means.

- Videos, working files and spreadsheets go in the dedicated Google drive project folder, which was created during the onboarding.
- Machine readable files go in the appropriate Github repository.

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8 Life of a Ph.D. student in the lab

8.1 The defense

8.1.1 The snake-fight portion of the thesis defense

During the thesis defense you will have to fight a snake. Please see these [FAQs about the “snake fight” portion of your thesis defense.](#)

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9 Grading

We have predetermined grading criteria. We weight the different criteria depending on the project level.

9.1 What are you graded on?

- Rigor: mathematics, data collection, experimental procedures.
- Placing the work in context: assessment of the state of the art, technical preliminaries.
- Quality of the reports: structure, flow, attention to detail.
- Quality of the code: see “code quality” section.
- Quality of the presentation.
- Imagination and creativity.
- Being a good citizen of the lab: demo participation, proactivity.
- Technical contributions beyond the particular project.

9.2 Who is evaluating you?

- Rigor: your scientific supervisor(s).
- Placing the work in context: your scientific supervisor(s) and mentors.
- Quality of reports: your scientific supervisor(s) and mentors.
- Quality of the code: Jan, our master of software.
- Quality of presentation: by group members attending the presentation.
- Imagination and creativity: evaluated by your supervisor(s).
- Being a good citizen of the lab: evaluated by averaging the whole group’s feedback, including your peers.
- Technical contributions beyond the particular project: feedback from the whole group, including your peers.

9.3 What is the weight of each grading criteria?

It depends on the level of your project. We weight differently: (a) master theses, (b) semester projects, (c) bachelor theses and (d) studies on mechatronics.

10 Master Theses

10.1 Application

Students apply through Sirop

10.2 Supervision

We distinguish between:

1. The **scientific supervisor(s)** for your project. This is also called Co-Betreuer on MyStudies. This is a person with a Ph.D. who supervises the project in addition to prof. Frazzoli.
2. The **mentor(s)** for your project - this is the person that follows you day-to-day. It might be a postdoc, Ph.D.student, a research staff person. In some case, the mentor and the scientific supervisor are the same person.

10.3 Timeline for a master thesis project

A Master thesis is assumed to be a full time commitment.

Given t as the start time, the schedule is expected to be:

- $t + 2$ weeks: lab orientation; get to know the system.
- at $t + 2$ weeks: choose the mini-project from the pool of mini-projects.
- at $t + 6$ weeks: end of mini-project. mini-presentation. mini-evaluation. This is a formal moment in the lab and the outcome will influence your master thesis project.
- at $t + 4$ months: **mid-way evaluation** according to factors below. Excludes “quality of reports”, as the report is probably still to be written. This is a formal moment in the lab.
- at $t + 6$ months: presentation and end of thesis.

10.4 Mid-way evaluation

Refer to the [Checklist-2 middle](#) for details.

10.4.1 Deliverables timeline

You are expected to provide a final version of the thesis on the day of your defense presentation.

A draft of the thesis will be sent to your supervisor(s) and mentors at least two weeks prior to your defense presentation.

A draft of your presentation will be sent to your supervisor(s) and mentors at least one week before the defense presentation.

Extra time can be awarded exclusively in extraordinary cases.

10.5 Grading

These are the factors that are taken into account when evaluating your master thesis:

- 20%: Rigor.
- 20%: Quality of reports.
- 20%: Code quality.
- 10%: Quality of presentation.
- 10%: Placing the work in context.
- 10%: Being a good citizen of the lab.
- 5%: Imagination and creativity.
- 5%: Technical contribution beyond the particular project.

Results of particular quality are awarded up to a bonus 10% points upon recommendation of the supervisor(s).

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11 Semester projects

11.1 Application

Students apply through Sirop

11.2 Grading

These factors will influence the evaluation of a semester project:

- 15%: Rigor (mathematics, data collection, experiments).
- 15%: Quality of reports.
- 15%: Code quality (see “code quality” section).
- 10%: Quality of the presentation.
- 15%: Placing the work in context (assessment of the state of art, technical preliminaries, etc.).
- 15%: Being a good citizen of the lab (includes demo participation).
- 10%: Imagination and creativity.
- 5%: Technical contribution beyond the particular project.

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12 Bachelor theses

12.1 Application

Students apply through Sirop

12.2 Grading

During a bachelor thesis we look for potential:

- 15%: Rigor.
- 15%: Quality of reports.
- 15%: Code quality.
- 10%: Quality of presentation.
- 10%: Placing the work in context.
- 15%: Being a good citizen of the lab.
- 10%: Imagination and creativity.
- 10%: Technical contribution beyond the particular project.

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13 Studies on Mechatronics project

13.1 Application

Students apply through Sirop

13.2 Grading

- 15%: Rigor.
- 10%: Quality of reports.
- 10%: Code quality.
- 15%: Quality of presentation.
- 20%: Placing the work in context.
- 10%: Being a good citizen of the lab.
- 10%: Imagination and creativity.
- 10%: Technical contribution beyond the particular project.

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14 Software development

14.1 Policies

14.2 Code quality measures

- Following conventions
- Unit tests
- No bad habits that make the code unmaintainable

The following characteristics are desirable: Many short source files (as opposed to few large files), functions with few lines of code, modularity, minimal redundancy, use of immutable objects, tests and test coverage, comments, uniform code format.

Typically, these objectives are not achieved in the first version of the implementation. The staff will give you suggestions on how to modify your code in order to come closer to the above standards. Please give the suggestions of the reviewers a high priority in your schedule.

Make your work visible: push your code modifications to Github no later than at the end of the day. That way, reviewers can give feedback immediately and coordinate the work better. Only commit your own source code. If you adapt a code snippet from another source, state the origin and give credit, for instance via a URL.

14.3 Good references to read

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15 Paper writing

15.1 Process

15.2 Authorship policy

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16 Internal procedures

16.1 The student tracking spreadsheet

Goal: make sure we don't forget any procedure connected to student supervision

Access: Andrea, Maurilio, Postdocs, Ph. D. students, Annina, research engineers.

[Link to student tracking spreadsheet](#)

16.2 Meeting notes

Goal: document our meetings

Access: all lab people

[Link to meeting notes](#)

16.3 The big TODO list

Goal: not forget what we need to do

Access: all lab people

[Link to big TODO list](#)

16.4 Definition and advertising of projects

16.5 Emilio's cockpit list

Goal: prioritize Emilio's actions so that nothing falls through the cracks

Access: Andrea and Annina

Autolab living-together rules

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The latest updated version will be available at <https://idsc-frazzoli.github.io/documents>.

The current Autolab Mayor is: TBD ## Introduction

Here you will find all the information required to use the Autolab.

Autolab jurisdiction

What / where is the Autolab?

The “Autolab” is defined as the set of three rooms:

- ML F 44.1: The *Robotarium*. This is the room that will host the 24/7 autonomous Duckietown.
- ML F 44.2: The Robotarium *main control room*.
- ML J 44.4: The Robotarium *secondary control room*.

Safety

Safety is paramount in lab operations. Carefully read and understand the [Frazzoli lab safety rules](#) before proceeding further.

Fire Safety

The Autolab and main control rooms are situated in an area of the building that, for safety reasons, cannot be occupied by more than 20 people at the same time.

The Autolab world

Being part of the Autolab means you are working on some aspects of the Duckietown platform, i.e., you are a citizen of Duckietown.

Duckietown is a place of joy and relaxed introspection, hence, all its citizens care for each other and for the place they live in. They understand that they’re part of something bigger than any individual project.

The Duckietown platform is a complex system of interconnected parts. Parts include hardware and software, both related to the workings of the Duckietown platform itself (i.e., Duckiebots + Duckietown) and to the workings of the Robotarium (e.g., networks, computers, cameras, etc.).

Every time a single part of a complex system is modified, repercussions ripple throughout the system.

Interfering with each other’s work is a natural dynamic of working on Duckietown. To make the interference constructive, we set some rules.

The Autolab Mayor

There are many things going on in the Autolab at all times. E.g.:

- group projects (and thesis),
- Robotarium improvements,
- Robotarium remote operations,
- room improvements,
- fleet management,
- inventory management.

We institute the figure of the *Autolab Mayor* as overseer and responsible of all operations in the Autolab, and principal point of contact for all matters (with the exception of safety). The *Autolab Mayor* has the last word on all activities happening in the Autolab, and holds the keys to the inventory cabinets.

- The Autolab Mayor position is elective.
- All citizens of the Autolab have the right and obligation to vote.
- Elections are held at the beginning of each academic semester.

Autolab Mayors are granted the privilege of having their names recorded in the annals of Duckietown, and their portraits exposed in the Robotarium.

Using the Autolab

- You are allowed to work in the Autolab only after having *completed* the [onboarding](#).
- You are allowed to work in the Autolab only after having reviewed, understood, and accepted the [IDSC code of conduct](#).
- Every machine connecting to the autolab network requires the MAC address of specific network card to be white-listed. To white-list a machine, contact the Autolab Mayor. The process can take up to 4 days, so planning ahead will save some headaches.

Rules of conduct

- Use Slack for communications. No emails allowed.
- Use project folders for files exchange / storage. No attachments to emails allowed.
- Clean after yourself. Leave the place better than you found it.
- Be considerate of those around you. Listen to music with headphones. Silence your phones. Do not shout (there are other rooms nearby where people work).
- Always close windows if nobody is in the room.
- Always lock doors if you are the last to leave.
- Do not alter the functionality of things you are not responsible for. Ask if in doubt. Meddling with other people's projects / research is despicable and may have serious repercussions (see academic integrity guidelines).
- Do not walk with shoes on any tile / part of Duckietown. If you do so by mistake, clean up.
- Report any not-known face to the Autolab Mayor. Only authorized personnel is allowed in the premises.
- No more than 20 people are allowed at any time in the whole F-wing. The place is difficult to evacuate in case of emergency.

Autolab living-together rules

- No students are allowed in the Robotarium at any time, for any reason, unless accompanied by an Autolab member. Only Frazzoli Lab members may enter the room.
- If you are about to make noise (e.g., moving equipment / furniture, doing loud experiments, ...) give a notice to the workers in the mechanical lab under ML F 44.1 before proceeding.
- Do not leave personal belongings unattended.

Seating

If you are the *Autolab Mayor*, you are entitled to a personal desk and storage cabinet.

If you are doing a *Master Thesis*, you are entitled to a personal desk and storage cabinet.

In all other cases, desks and computers can be used on a first come first serve basis.

Priority to seating in the main control room is given to group members of project that require direct access to the Robotarium in order to work (i.e., hardware related).

Computers and Monitors

The 10 desktop computers in the control rooms are shared resources, and should be treated as such.

The Robotarium server should be used only for its intended purpose, and not for general operations.

Amenities

The main control room is equipped with basic amenities such as a microwave, coffee machine and fridge. Treat with care, clean periodically.

Experimental Best practices

The Autolab is still not ready for remote operations. Stay tuned!

TODO: Write best practices on how to run Autolab experiments, once the robotarium will be up and running.

Purchasing

To run smoothly, the Autolab needs technical equipment and non-technical amenities.

All purchases need to go through Mac (corzilliusm@ethz.ch). To avoid spamming his email, please fill [this form](#) and post a heads-up message on the [#autolab-purchases](#) Slack channel.

Points of contact

Lab safety: Do you have any safety related doubt? Contact Mac.

Hardware: Need to make a hole in the wall or wonder if you can build a new fancy gigantic Duckie? Contact Mac.

Autolab living-together rules

Inventory: Do you need to know if we have something in inventory? Contact the Autolab Mayor.

Other: Do you have any question and you are not sure who to ask to? Contact the Autolab Mayor.

If everything else fails, contact:

Lab supervisor: Jacopo (tanij@ethz.ch)

Wintilab living-together rules

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The latest updated version will be available at <https://idsc-frazzoli.github.io/documents>.

Safety first

Safety is paramount in lab operations. Carefully read and understand the [Frazzoli lab safety rules](#) before proceeding further.

Make sure you know where the fire extinguishers are located and how to use them.

Location & other info

Being able to reach the hangar is your first chance to show the group that we should trust you around the go-kart.

Find directions and other info on [this page](#).

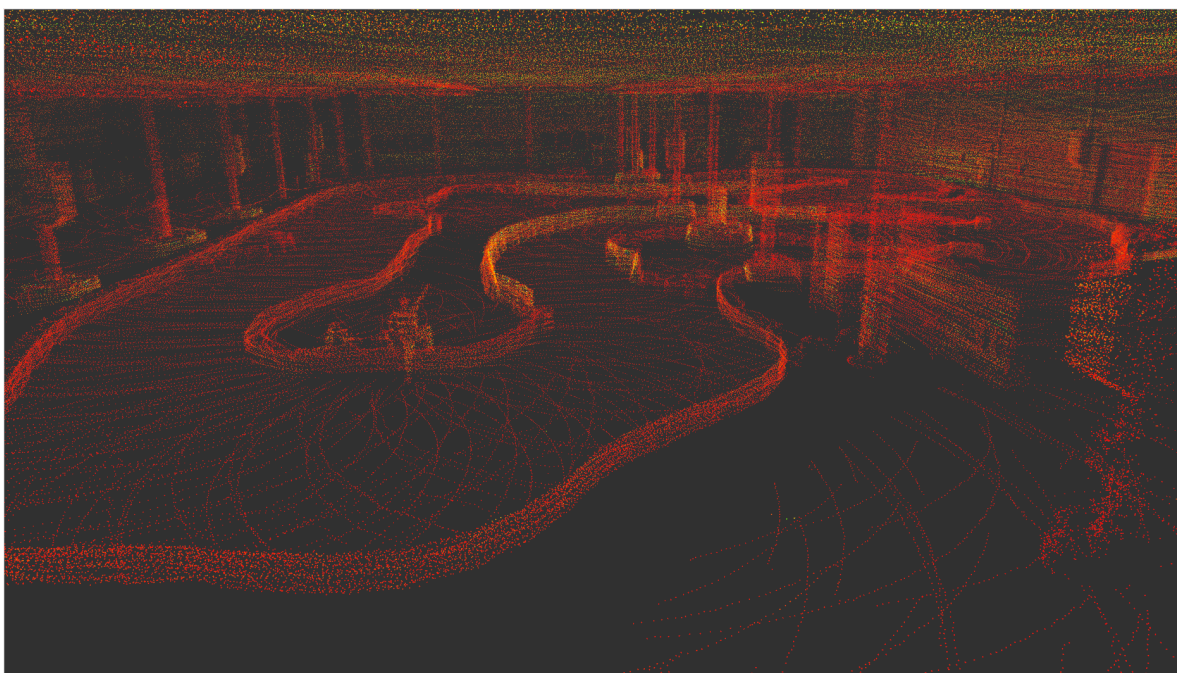


Figure 1: Lidar scan of the hangar.

Student onboarding checklist

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The latest updated version will be available at <https://idsc-frazzoli.github.io/documents>.

Introduction

This checklist describes everything that should happen over the course of two weeks at the beginning of a project.

Please print a copy of this checklist, as you and others will have to check off the items, and then later you have to give a physical copy to Annina.

Some of the actions here will be done by the lab staff. We adopt the following convention:

- The square “□” indicates that this is an action that you must do.
- The circle “○” indicates that this is an action that the staff must do.

If for any reason something does not apply to you, please write “N/A” and the explanation.

Annina will ask about any missing checkmarks.

The Annina pilgrimage

Check the first checkbox in this list: see? you’re off to a great start.

Find Annina Fattor. You can find Annina in ML F 42 at these times:

- Monday 9:00-14:00
- Wednesday 9:00-14:00

(Annina) Receive from Annina or from your supervisor an electronic version of all the onboarding documents:

1. [The IDSC Code of Conduct](#).
2. [\[The Wintilab Rules\]\[wintilab\]](#), if you are going to work at the Wintilab.
3. [The Autolab Rules](#), if you are going to work at the Autolab.
4. [The Frazzoli experience](#): this contains everything else, such as accounts, IT, thesis templates, grading. (temporarily in draft mode)

Note that these are also available [here](#)

Note for Annina: please obtain a fresh copy of the documents above, always accessible at the page <https://idsc-frazzoli.github.com/documents>.

Confirm with Annina:

1. The *scientific supervisor* for your project. This is also called *Co-Betreuer* on MyStudies. This is a person with a Ph.D. who supervises the project in addition to Prof. Frazzoli.
2. The *mentor* for your project - this is the person that follows you day-to-day. It might be a postdoc, Ph.D. student, a research staff person. In some case, the mentor and the scientific supervisor are the same person.
3. The *temporary title* for your project. This might slightly change later.



Student onboarding checklist

My project is a: group project, studies on mechatronics, bachelor thesis, semester project, master thesis, other: _____

Note: if you are doing a studies on mechatronics together with a bachelor thesis, you will need two different project IDs.

My full name is: _____

My nickname is: _____

My NETHZ ID is: _____

My institutional email address is: _____

My scientific supervisor is: _____

My day-to-day mentor(s) are: _____

My temporary title is: _____

Receive and sign from Annina any IP or confidentiality form you might need to sign. (Does not apply to all projects.)

I checked that this is the last version of this checklist available at the site <https://idsc-frazzoli.github.com/documents>. (Download and print the most updated version if not.)

Setting up accounts

Create accounts:

Create a Github account if you already don't have one.

My Github account is: _____

Create a GMail account if you already don't have one. We use it for Google Docs.

My GMail account is: _____

If your work requires literature review:

Create a Mendeley account (tied to the ETHZ account).

My Mendeley account is: _____

Create an Overleaf account (using the same email as Mendeley)

The Marc Encounter

Please complete the information above before meeting Marc.

Find Marc Albert, the PhD. student who acts as IT person. Please message Marc via email (maalbert@idsc.mavt.ethz.ch) and copy-paste the above account details and the instructions below. Marc will then sign you up to the group's IT services. CC your mentor and/or scientific supervisor to let them know you are being signed up to the IT infrastructure.

(Marc) Marc signs you up on the mailing list.

(Marc) Marc signs you up on our Github organization.

Student onboarding checklist

- (Marc) Marc sends you instructions on how to use the Google calendar of events.
- (Marc) Marc sends you an invite on our Slack.
- (Marc) Marc adds you to our Mendeley group.
- (Marc) Marc adds you to our Overleaf account / group.

If your work requires the use of our GPU-server or is computation intensive (if you are unsure about this contact your Mentor via Slack):

- (Marc) Marc creates a user account on the server “Rudolf” for you. The username will be your NETHZ username.
- (Marc) Marc confirms the completion of these steps to you (if something is missing, please message Marc again via Slack).
- Change the default password immediately upon receiving your user account to something safe.

Work infrastructure

With the mentor, define the ID of the project as proj-<CODE>-<last name> or optionally proj-<CODE>-<last name>-<short description>, where code is one of: bt (bachelor thesis), mt (master thesis), som (studies of mechatronics), sp (semester project), gp (group project).

Example: proj-mt-nager = master thesis for Mr. Nager.

PROJECT_ID = _____

If you are doing studies on mechatronics (SoM) together with a bachelor thesis, write your SoM PROJECT_ID here:

SoM PROJECT_ID = _____

- (mentor) The mentor creates a folder on the Google Drive by the name Google drive: Projects/PROJECT_ID and it gives you read/write access.
- (mentor) The mentor gives you read/write access to the meeting notes folder Google drive: Meeting Notes.
- (mentor) The mentor creates the Mendeley folder IDSC-Frazzoli/projects/PROJECT_ID.
- (mentor) The mentor creates the Slack channel #PROJECT_ID.
- Ask your supervisor or mentor to request any keys or access rights you might need via e-mail to Nadja Riberzani (CC Annina Fattor).

Making sure the accounts work

All communication regarding the project should go through this channel.

- Say “hi” on Slack in the #general channel.
- Put a (professional) picture in your Slack profile.
- If you wish the lab to remember your birthday, put your birthday on the calendar, so that we can wish you happy birthday, and we know you know how to use the calendar. If you don’t wish for us to remember your birthday, create an event called “Test event (First Last)” one week from today.

Introduction to the group and the Institute

- Prepare a brief personal introduction document.

This should include: (a) your name, (b) your picture and (c) a paragraph or two explaining who you are, what you are working on, who is your supervisor and which labs you will be working in. This document will be sent to the IDSC staff mailing list to let people know who should have access to lab spaces.

- Put the document on the project's Google Drive folder. (Later, the mentor will send on the IDSC mailing list.)

Meet the safety officers

- Find Marc-Andr  Corzillius (known as "Mac" in office ML J44.1-3).
- Read, understand and sign the lab rules that apply to your working space. If you have any questions about them ask Mac. You will hand the signed lab rules to Annina at the end of the onboarding process.

Organizing the scientific work

- (supervisor) The supervisor organizes a weekly meeting and puts it on the calendar.

Note:

- Day-to-day meetings with a mentor are not put on the calendar.
- The "once per week" schedule is optimistic. We have a policy of "skip instead of raincheck", meaning that we expect that the actual frequency will be closer to 0.6 meetings per week.

- (supervisor) The scientific supervisor tells you which group meetings you should attend.

The meetings I should attend are: _____

See the calendar for the meetings time/place.

- Take a look at the "[Survival advices for a joyful thesis](#)" documents.

First organizational meeting

- (supervisor) The scientific supervisor discusses with you the timeline (see section in *Lab rules*) for the project and answers any question you might have.

- (supervisor) The scientific supervisor discusses with you the grading criteria for the project (see section in *Lab rules*) and answers any question you might have.

- (supervisor) The scientific supervisor discusses with you the lab's philosophy and the core values of scientific integrity, etc.

MyStudies updates (might or might not apply)

If you are doing a project/thesis for credit at ETH, you have to register the project in MyStudies. This does not apply to all; for example, a visiting student might not do the project for credits.

Student onboarding checklist

This does not apply to me.

Otherwise:

You prepare and share on slack the *Aufgabenstellung* (short 1-pager about the thesis concept).

The scientific supervisor and the mentor approve the *Aufgabenstellung* (short 1-pager about the thesis concept).

On MyStudies you should put this information:

Co-Betreuer: the scientific supervisor (person with Ph.D.) who follows you in addition to prof. Frazzoli.

Aufgabenstellung: the short 1-pager about the thesis concept you created with your mentor.

My official starting date is: _____

My projected ending date is: _____

Final onboarding steps: [Back to Annina](#)

At most 2 weeks from the start, send 1) this document - with all the boxes checked and your signature below - 2) a PDF of the signed NDA 3) the last page of the Code of Conduct as well as the Lab rules both duly signed to Annina (afattor(at)ethz.ch). This concludes the introduction process.

I declare that all the information above is true to the best of my knowledge, and I have received clarification on everything mentioned.

Date: _____

Signature: _____

If you were unable to complete any of the steps above, please explain the circumstances:

For Annina

(Annina) Open the *student tracking spreadsheet* and update, using the information above:

- the temporary title
- starting date
- projected final date
- institutional email
- Google drive account



Student onboarding checklist

Verify with the mentor that:

- (mentor) The mentor has sent the student introduction to the IDSC mailing list.

If some of the checkmarks above are missing, consult with the scientific supervisor. Otherwise, proceed.

We are done!

- (Annina) Change the status of the student from “onboarding” to “in progress”.
- (Annina) File this document in the student’s records.

Survival advices for a joyful thesis

Version information Last change made by alezana on Mon Feb 4 11:37:09 2019 +0100.
The latest updated version will be available at <https://idsc-frazzoli.github.io/documents>.

Introduction

The aim of this document is to provide general advices for your project. It is still unclear whether there is a causal relation between following these advices and a successful thesis or not. For now we have only observed statistical high correlation.

Use your slack channel!

The more you keep your supervisors in the loop the faster you get feedbacks. We encourage to share your results on slack: videos, plots, gif, and partial reports are highly appreciated.

Take a “how to” Latex

We assume you know how to use Latex, and all your reports will be written with it on overleaf. Use the IDSC template.

Continuously writing on the report helps you in the following:

- We establish common notation which makes future meetings more efficient.
- Supervisors could have read what you thought about this week and gave you feedback.
- You do not forget things that might be more easily forgotten otherwise.
- What you write doesn't have to be ready for final revision. Ideas, doubts, and speculations might be helpful.

Take a “how to” present course

- Think about what is the story you want to tell.
- Slides should be clean, avoid overcluttered ones.
- Do not get lost in explaining minor details, the report is the right space for those.
- Leave the most impressive result as last thing.
- Multimedia content is encouraged.
- Many others general advices can be found online.

Miniproject presentation (~4/5 weeks in)

After ~1 month from the start of the thesis hold a presentation during the group meetings. This is an occasion for you to mainly:

- Show how you have understood the project you are tackling.
- Discuss with the broader audience of the group the thesis strategy.
- Ask for steering the project in a different direction (e.g. “So far I have done this but I would love to do more coding/theory/math/hardware/lying in the sun”)
- Ask the day before the presentation your supervisor to review the slides, this can be considered a training step for the final presentation.

On average plan for 10 minutes. There will be a Q&A session afterwards.

Survival advices for a joyful thesis

Intermediate project presentations (2-4 months in)

Roughly midway through your project, you are encouraged to give a presentation to the lab members. The goal of this presentation is to obtain formal feedback from the lab.

FAQ

Q: I am one or two months in and I feel completely lost...

A: Do not panic, it can happen more often than you might think. Express your doubts to your supervisor

Finishing up

Version information Last change made by mauriliodc on Mon Oct 2 21:00:14 2023 +0200.
The latest updated version will be available at <https://idsc-frazzoli.github.io/documents>.

Everything comes to an end.

Introduction

This checklist describes everything that should be done at the end of your project.

Please print a copy of this checklist, as you and others will have to check off the items, and then later you have to give a physical copy to Annina.

Recap: Some of the actions here will be done by the lab staff. We adopt the following convention:

- The square “□” indicates that this is an action that you must do.
- The circle “○” indicates that this is an action that the staff must do.

If for any reason something does not apply to you, please write “N/A” and the explanation. Annina will ask about any missing checkmarks.

Writing the thesis

A thesis template (Bachelor Thesis, Semester Project, Master thesis) can be downloaded [here template](#).

For Studies on mechatronics please use the following [template](#).

Please also have a look at the [ETH citation etiquette](#) and carefully read the information about [plagiarism](#). Note that any work that you did not perform yourself will most likely have to be cited.

Giving your thesis presentation

Please use the following [presentation templates](#) in PowerPoint (compatible with Keynote), Latex and OpenOffice.

Please also include the IDSC-logo on the presentation slides (included in thesis template).

- Confirm the presentation date with your supervisor.
- Book a room at the correct date and time. The room should be big enough to host at least 20 people.

The presentation will be on (date and time): _____

- Provide your thesis abstract, along with the time and location of the presentation to your supervisor, at most 48 hours before the presentation.
- Your supervisor will send your abstract and thesis defense information to the institute.
- Send the slides you presented to your supervisor within 24 hours after the presentation.

Finishing up

Submitting your written thesis

- Upload the final version of your thesis to your supervisor before your ETHIS deadline.
- Pin a message in your project Slack channel advertising the uploading of your thesis. Make sure to tag the whole channel.
- Submit a signed “Declaration of Originality” to Annina. This declaration can be found at the end of the thesis template.

The Mac Encounter No.>=2: Returning your work materials

- Return to Mac the hardware that you were using.

The Jason Encounter No.>=2: Archive your code

- Meet Jason, archive your code.
- (Jason) The code is of sufficient quality and has been archived.

Signing out of accounts

Write down your account details:

My Github account is: _____

My GMail account is: _____

If your work required literature review:

My Mendeley account is: _____

If you worked on the Frazzoli group GPU-server:

My GPU-server username is: _____

I have removed all data that I need to retain. All data on my user account can be deleted safely.

The Marc Encounter No. >=2

Please message Marc via Slack and copy-paste the above account details and the instructions below. Julian will then sign you out of the group’s IT services.

- Message Marc on Slack with the necessary information (see just above).
- (Marc) Marc signs you out of the mailing list.
- (Marc) Marc removes you from our Github organization.
- (Marc) Marc removes you from our Google calendar of events.
- (Marc) Marc removes you from Slack.
- (Marc) Marc removes you from our Mendeley group.

Finishing up

- (Marc) Marc removes you from our Overleaf account / group.
- (Marc) Marc confirms the completion of these steps to you.

Receiving a grade

After submitting your written thesis, you will be evaluated according to the criteria set forth in [The Frazzoli Experience document](#).

- Your supervisor will provide you with an evaluation within three weeks from the delivery of the thesis.
- You can appeal the grade officially within one week from receiving the evaluation by setting up a meeting with your supervisor.

Organizing celebrations

- To top it off, you can organize a celebration and buy drinks to your supervisors (or is it the other way around?).
Make sure the celebration is advertised before time to allow for everybody's participation.

For Annina

If some of the checkmarks above are missing, consult with the scientific supervisor. Otherwise, proceed.

- (Annina) Update the column “de-boarding” in the student’s tracking spreadsheet with today’s date.
- (Annina) File this document in the student’s records.

Project supervision guide

Version information Last change made by alezana on Wed Jan 23 18:52:05 2019 +0100.
The latest updated version will be available at <https://idsc-frazzoli.github.io/documents>.

0.1 Think of the project

0.2 Describe and post the project

0.3 Monitor applicants

0.4 Select students

0.5 Start onboarding process

- Send the student the onboarding checklist.
- On the tracking spreadsheet, move the status to “onboarding”.
- Follow the other directions on the onboarding checklist.

0.6 Project setup

- If the work is to be done in the context of Duckietown, then create the suitable channel on the Duckietown Slack. Still create the channel proj-<name> in the IDSC-Frazzoli Slack, with a redirect notice to the Duckietown Slack.

TODO: Create the repositories?

0.7 Organization of the work

0.8 Meetings

0.9 Mid-project evaluation

0.10 Report

0.11 Presentation

0.12 Grading

0.12.1 Grading disputes

0.13 Archiving

Attachment to onboarding checklist: Cultural Self-evaluation

Fill out this form by indicating which movies you have seen, books you have read, etc., then give it to your mentor. This allows us to quickly address any shortcomings in your preparation that might prevent you to successfully work in robotics.

Version information Last change made by alezana on Wed Jan 23 18:52:05 2019 +0100.
The latest updated version will be available at <https://idsc-frazzoli.github.io/documents>.

Essential academic and research-related cultural artifacts

Movies

- The Ph.D. Movie (I and II), based on the [Ph.D. Comics](#) cartoons.
- Footnote (2011)
- Good Will Hunting (1997)
- Real Genius (1985)
- A Beautiful Mind (2001)

Movies we don't like:

- Imitation Game — a female love interest for Turing?

Essential robotics/AI related cultural artifacts

Books

- Godel, Escher and Bach: an eternal golden braid.

Movies

- 2001: A Space Odyssey (1968) +
- Dr. Strangelove (1972) +
- Solaris (1972) +
- Star Wars Episode IV, V, VI in the “despecialized” edition
- Blade Runner (1982) +
- War Games (1983) +
- The Terminator (1984) +
- Short-circuit (1986)
- Robo-cop (1987) +
- eXistenZ (1999) +

Attachment to onboarding checklist: Cultural Self-evaluation

- The Matrix (1999) +
- Total Recall (2012) +
- Blade Runner 2049 (2018) +
- Star Trek: First Contact (1997)

Animation

- WALL-E (2008) +
- Ghost in the Shell (1995) +
- Neon-genesis Evangelion
- Akira (1988) +
- ERGO PROXY
- Cowboy Bebop

TV series

- Doctor Who
- Star Trek (Original series)
- Star Trek (TNG)
- Star Trek (Voyager)
- Doraemon
- Westworld
- Black Mirror (Season 1-4) +

Novels and short stories

- I, Robot
- Do Androids Dream of Electric Sheep? (1968)
- I have no Mouth and I must Scream
- The Three-Body Problem trilogy
- Dune
- Ubik
- The Hitch-hiker's guide to the Galaxy
- Ender's game
- Cryptonomicon

Attachment to onboarding checklist: Cultural Self-evaluation

- Blindsight
- Daemon (2006), by Daniel Suarez
- Hyperion, by Dan Simmons
- Stories of Your Life and Others (2014) by Ted Chiang

Other generally cool stuff that if you don't know it we will be disappointed

Books

- The Lord of The Rings
- The Silmarillon
- Nineteen Eighty Four

Movies

- A Clockwork Orange (1971)
- The Godfather (1972) +
- Alien (1979), director's cut +
- The Shining (1980)
- Brazil (1985) +
- Aliens (1986) +
- Spaceballs (1987) +
- Full Metal Jacket (1987) +
- The Adventures of Baron Munchausen (1988)
- Reservoir dogs (1992)
- Pulp Fiction (1994)
- Se7en (1995)
- Contact (1997) +
- Twelve Monkeys (1995) +
- Gattaca (1997) +
- Cube (1997) +
- Vanilla Sky (2001)
- Donnie Darko (2001) - Director's cut +
- Minority Report (2002) +
- Primer (2004) +

Attachment to onboarding checklist: Cultural Self-evaluation

- Sin City (2005) +
- The Prestige (2006)
- Paprika (2006) +
- Children of Men (2006) +
- Mr. Nobody (2009) +
- Triangle (2009)
- Watchmen (2009) (The Ultimate Cut)
- Seven Psychopaths (2012) +
- Looper (2012) +
- Edge of Tomorrow (2014) +
- Sin City - a dame to kill for (2014) +
- Lucy (2014)
- Kill BILL
- The wolf of Wall Street
- Barry Lyndon (1975)
- The Good Sheperd (2006)
- 21 (2008)

Do not watch

Movies we don't like:

- AI: Artificial Intelligence (2001)
- The Bicentennial Man

Conduct

Joining the IDSC

- Write a brief personal introduction. This should include your name, a picture of you, what you are doing at the institute, how long you are staying, and who your scientific supervisor is. You can add some personal details (e.g. hobbies) if you like. Send this introduction to your scientific supervisor. He will send it to the whole group.
- Make sure that you know your group's staff and that the staff know you. Say "hi" and shake hands.
- Fill out the form. Read and understand all the rules that apply to you. Sign the form (see last page).
- Get all the keys you need. Get familiar with the location of the rooms you will use.

General conduct

- You are responsible for your own behavior. Do not put yourself or others at risk.
- Leave the places (kitchen, your desk, workbenches, test-benches, etc) you use at the IDSC cleaner than you found them. Use a broom and dustpan to clean the table and floor.
- Use all tools and infrastructure with utmost care. If you are not sure how to use a tool, please ask your scientific supervisor or the technical staff. If you damage or break a lab tool / equipment you must report it to our technical staff!
- Do not occupy space you do not need: a lab is not your TV room, the neighbor's desk is not your storage, etc.
- If you are the last one to leave the room, turn off all lights, close all windows and lock the main door.
- Eating at your desk, workbenches, test-benches, etc. is forbidden! Please use our kitchen on floor K.
- Think and act efficiently. You are a part of the institute, behave accordingly.

Security

- Never leave equipment unattended in publicly accessible spaces. Keep doors closed at all times. Keep in mind that many areas at ETH are accessible to the public.
- If you encounter strangers in the lab, ask them who they are and if they need help. Maybe they cannot find the exit, or do not belong in the lab at all.
- Don't give access to IDSC infrastructure and places to people you don't know.

Safety

- You are responsible for your own behavior. Do not put yourself or others at risk.
- Make sure that you know where fire extinguishers, first aid kits and emergency exits are.
- NEVER use machines that you are not trained for.
- Always get expert help if you are in doubt about whether the equipment you want to use is properly installed and functional.

Rooms

- The IDSC has several labs and workshops. Your scientific supervisor will tell you if you need access to these. Additional rules may apply, ask your scientific supervisor.
- Your scientific supervisor will tell you if you need special keys. These keys are for your personal use only. You are not allowed to lend them to other people.

Leaving the IDSC

- Return all your keys.
- Return all tools and equipment to their correct storage place.
- Say "good bye" to the people you worked with.

The staff

Onder Group

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Emergencies

- The ETH Emergency Desk is the contact point for all incidents connected with the personnel, building, and equipment security systems. The Emergency Desk can be contacted 24 hours a day.
- Reporting an emergency:
 - **Who** is reporting the emergency?
 - **What** kind of emergency is it?
 - **When** and **where** is the emergency taking place?
 - **How many** people are affected?

Emergency numbers

- **ETH Emergency Desk** (from internal phones): 888
- **ETH Emergency Desk** (from external or mobile phones): +41 44 342 11 88
- **Fire brigade**: (0)118
- **Ambulance**: (0)144
- **Poisoning** (toxicology information centre): (0)145
- **Police**: (0)117

Feuer – was tun? Fire – how to react?	Unfall – was tun? Accident – how to react?
1. Alarmieren Call 'S.O.S.'	1. Verletzungsart > Alarmieren Kind of injury > Call 'S.O.S.'
2. Personen retten Rescue all people	Schwerer Unfall Severe accident
3. Türen schliessen Close all doors	Vergiftung Poisoning
4. Brand bekämpfen Fight the fire	2. Nothilfe leisten (GABI,...) First Aid (ABC,...)
Alle Notfälle / All emergencies: 888	Alle Notfälle / All emergencies: 888
ETH Zürich, Abt. Sicherheit / safety@su.ethz.ch / www.sicherheit.ethz.ch	ETH Zürich, Abt. Sicherheit / safety@su.ethz.ch / www.sicherheit.ethz.ch

IDSC Code of Conduct

Please fill out the following form and return this page to your groups administration.

Name: _____

(Forename / Surname)

ETH library number: _____

(see note below)

e-mail address: _____

You are:

- phd student / staff
- assistant (teaching, research, or similar position),

your scientific supervisor: _____

- student (bachelor, master, studies on mechatronic, student project, or similar),

your scientific supervisor: _____

With your signature, you acknowledge that you read and understood the rules and safety guidelines in this document (IDSC Code of Conduct - v0.2.docx).

Date: _____ Signature: _____

Note:

the ETH library number can be found on the back of your ETH card

