



ACTIVITY REPORT 2021 SCIENCE INNOVATION HUB



**UNIVERSITÉ
DE GENÈVE**

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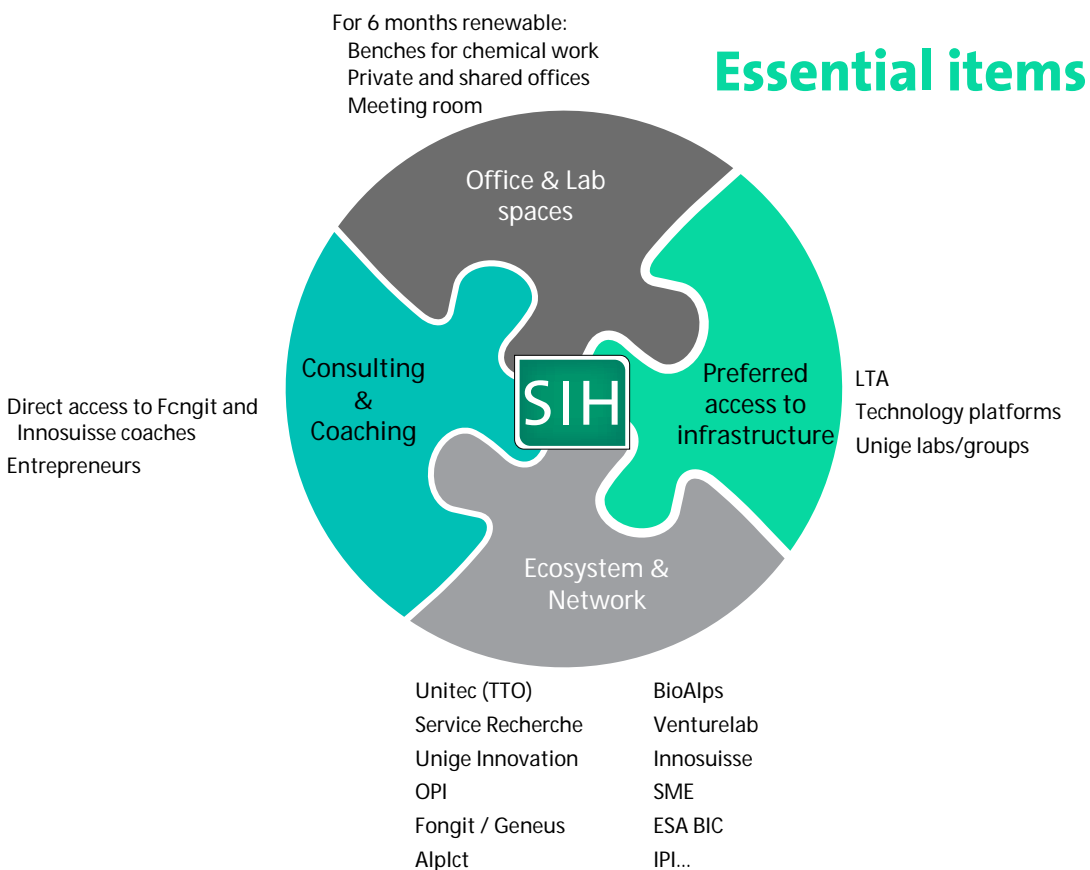
SCIENCE INNOVATION HUB INTRODUCTION

History et objectives

In 2019, the Dean's Office of the Faculty of Science has decided to strengthen the support to technology transfer and in particular to the creation of startups valorizing inventions coming from its laboratories, in all fields, by creating the Science Innovation Hub (SIH). The SIH can be considered as a pre-incubator, whose aim is to help researchers to exploit the commercial potential of their fundamental research and to make the link between the lab and the "real world". The Science Innovation Hub's Science Presentation reinforces the support to technology transfer and in particular to the creation of startups valorizing inventions

coming from its laboratories, in all fields, by creating the Science Innovation Hub (SIH). The SIH can be considered as a pre-incubator, whose aim is to help researchers to exploit the commercial potential of their fundamental research and make the link between the lab and the "real world". The Science Innovation Hub was inaugurated on November 11, 2019, during a conference organized with the UNIGE Communication Service and entitled "From the lab to your life" .

We welcomed Prof. Oded Shoseyov, from Hebrew University of Jerusalem. On this occasion, the first Science Innovation Awards were presented.



The mission of the Science Innovation Hub is to support researchers, staff and students of the faculty in their entrepreneurial activities in order to accelerate their innovative projects and create impact/value from academic research for the economy/society.

By joining SIH, young entrepreneurs have the opportunity to test and develop their business idea, by creating a proof of concept or a prototype, and to meet experts from our large network, in fields such as business, industry, or intellectual property, as well as coaches from incubators.

The SIH is a unique opportunity, within reach because it is in direct contact with the laboratories, to establish contacts with the Geneva and Swiss innovation ecosystems. The ultimate goal is to know, after 6 or 12 months, if the project is feasible, desirable, viable, and credible.

Access to the SIH is open to members of the science faculty or another faculty with a project involving a characteristic skill. All that is required is to submit a dossier describing the team and the project, its strengths, and the market potential envisaged. A jury composed mainly of professors and members of the Geneva ecosystem will study the application and, if appropriate, award the Innosciences Award to the team, which will be granted full access to SIH resources for a renewable period of 6 months.

This is the first Annual Report of the Science Innovation Hub. As such, in the remainder of this document, we provide an update on activities that took place in 2021, but reporting on some of the developments since the SIH's inception in late 2019.

SITUATION UPDATE

First, the Science Innovation Hub in 2021, by the numbers:

| | |
|-----|-----------------------------------|
| 2 | Innosciences Awards |
| 10 | New entrepreneurs supported |
| 1 | Created Startup |
| 1 | “Joint-Venture” |
| +10 | Connections or projects initiated |
| 6 | Events |

The SIH Council

The original Board was composed of Professors Jérôme Lacour, Christoph Renner, and Jean-Marc Leroux - Visiting Professor of the Faculty and CEO of CoreMedica Europe -, and of Julien Levallois. This year, we had the pleasure to welcome:

- Prof. Patrycja Nowak-Sliwinska, head of the Molecular Pharmacology group;
- Prof. François Fleuret, and of the Machine Learning group in the Informatics department;
- Prof. Orsolya Barabas, Department of Molecular Biology;
- Antonio Gambardella, Director of Fongit.

This Council also constitutes the jury of the Innosciences Award. The addition of new members this year allowed us to broaden the scientific expertise of the Board and therefore the relevance of the feedback given to the candidates. In addition, having Antonio Gambardella on the jury allows us to optimize

the chances of success for projects that are eligible for Fongit support, be it incubation or access to IFF grants. Laurent Miéville, director of Unitec, is also on the jury. Indeed, most of the candidates who compete for the Innosciences Award have an active invention announcement or even a provisional patent application filed via Unitec, guaranteeing and reinforcing the scientific credibility of the project.

Meetings of the Board are held every two months to review the progress of projects, decide on initiatives to be undertaken to improve the visibility of the Hub, and establish the rules governing the rights and duties of entrepreneurs within the faculty.

Mentoring at SIH

This year, we have confirmed and expanded the list of mentors who are “at the disposal” of entrepreneurs during their pre-incubation. These mentors come from the industry and have a solid experience in launching startups. The mentors at the end of 2021 are:

- François Plewinski, DAES
- Samuel Constant, Epithelix
- Franck Franchin, former Orange and Vivendi and founder of startups
- Davide Staedler, former Scientific Director of SCITEC and founder of Frattale Group and Daxtachem
- Jean-Marc Leroux, CoreMedica
- Sylvie Didelle, DAES

This list is of course subject to change, as new mentors are always welcome.

Projects that received the Innosciences Award

Since the launch of the Science Innovation Hub (SIH) in late 2019, 10 projects have been supported:

2019

- TransTJ, by Prof. Gerrit Borchard
- Biocellulose, by François Barja
- Agrolase, by Prof. Jean-Pierre Wolf
- FluoSphera, by Grégory Ségala – Prof. Aurélien Roux

2020

- Additive Manufacturing with hard metal and alloys, from Jorge Cors – Prof. Christoph Renner
- Ose !, student project
- SiGe-Med Technology, by Prof. Giuseppe Iacobucci
- RefFit, by Iris Crassee – Alexey Kuzmenko

2021

- Ecoskills, student project
- Pathogen Environmental Monitoring (PEM), from Profs Karl-Heinz Krause and Thomas Bräschler, Faculty of Medicine, in collaboration with Jorge Cors, DQMP

To date, other projects are under discussion - in close interaction with Unitec - for acceptance or application:

- Ethics of AI, by Ezekiel Takam, Faculty of Theology
- TESSA, by Jonathan Chambers - Prof. Martin Patel
- 2 projects of the group of Prof. Leonardo Scapozza
- 2 projects of the group of Prof. Ramesh Pillai

By the end of 2021, we noted an opening to projects from other faculties, but which have of course an essential contribution from the Faculty of Science.

For example, within the framework of the PEM project, a system developed for the detection of pathogens required microscopic texturing (a few microns). A patent application has been filed - we cannot detail this system here - and this collaboration could allow a new type of pathogen trapping.

A preliminary study with the Jorge Cors device (DQMP) has addressed this challenge and further developments will be carried out in the coming months.

Financial resources

The SIH does not have a specific budget. The few expenses incurred are covered by the Dean's Office. Nevertheless, in 2020, we submitted a request to the Ernst and Lucie Schmidheiny Foundation for a grant of CHF 10,000. This grant was awarded to us in order to finance trips to conferences, purchase of equipment, and organization of events, which is highly appreciated at this time.

Other sources of funding are possible: in 2019-2020, we hosted for a few months a Geneva-based start-up company, Green Change Sàrl, which had obtained an Innosuisse check and needed lab space - the work was done in collaboration with Serge Stoll of the Forel Institute. The rental of a lab space was regulated via the LLaboratory of Advanced Technology (LTA) and the amount was directly allocated to the SIH (about CHF 7,000).

The new framework agreement recently signed with Fongit will provide additional resources for the SIH.

Framework agreement with Fongit

Following the end of the Eclosion incubator activities, Fongit took over the Life Science activities in Geneva at the beginning of the year. In order to support startup projects as efficiently as possible, Fongit has joined forces with the UNIGE and, initially, with the SIH. A framework agreement was signed in May 2021 between the Fongit and the UNIGE regulating the possibility for a startup, whether or not it comes from the UNIGE, to start its commercial operations on the SIH premises. Thus, the startup remains in contact with the unique infrastructures of certain laboratories and can access them in a privileged way through the LTA.

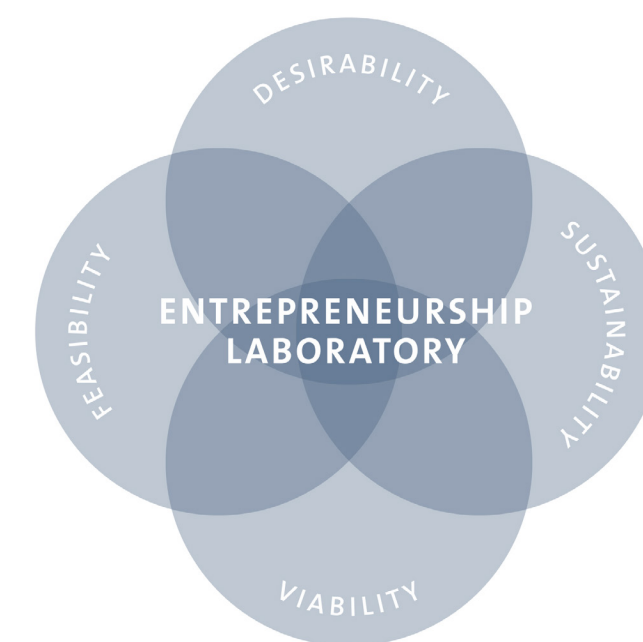
Creation of the Entrepreneurship Lab of the GSEM

The SIH has played a leading role in the creation of the Entrepreneurship Lab (eLab) of the GSEM, launched in February 2021. The origin comes from the fact that a scientist cannot alone prepare or launch an entrepreneurial project; indeed, competences such as financial plans, supply chain, or market research are indispensable and are not taught in scientific training. Although the Innosuisse Business Concept courses are becoming more and more attractive, it seemed essential to us to bring these skills to the projects supported by the SIH, by calling upon the students of the GSEM.

As a result, although its launch was delayed due to Covid 19, the first GSEM eLab workshop was launched in February 2021. It offers several forms of support to our projects, but also to UNIGE collaborators and alumni. The eLab is composed of 4 initiatives:

- An entrepreneurial window
- An accelerator program
- Entrepreneurship workshops
- A co-working space

The Entrepreneurship Laboratory is now directed by Nadine Reichenthal, a former UNIL and Venturelab staff member.



INNOSCIENCES AWARD

The purpose of this section is to review the projects that have received the Innosciences Award, and are therefore supported by SIH in establishing their potential impact - economic, industrial, social, or societal.

Projects that have left the SIH

TRANSTJ

The project was only at SIH for a few months and did not receive much support. A company was recently founded by Prof. Gerrit Borchard, KriyaBio SA, with the objective to offer innovative drug delivery solutions based on his patented permeation agent KBO1.

KOMACELL : BIOCELLULOSE

This project was initiated by François Barja, while he was a lecturer in the Department of Botany and Plant Biology. He joined the SIH when it was launched in 2019, and we worked on several projects exploiting biocellulose and its many properties - biodegradable, biocompatible, transparent, ... -. François Barja had received an Innogap grant (CHF 30,000) in 2020 which allowed him to finance the construction of a bio-fermenter prototype. Among these projects, we can mention dressings for chronic wounds, transparent masks, and food packaging. The latter were the subject of a Master's thesis by a student in Biology. After 2 years of efforts, François Barja finally joined in November 2021 the company HeiQ, which came to him with the aim of jointly developing innovative dressings based on biocellulose. Founded in 2005 as a spin-off from the Swiss Federal Institute of Technology

Zurich (ETHZ) and listed on the main market of the London Stock Exchange (LSE:HEIQ), HeiQ is a leading innovator in textiles and materials, creating some of the most effective, sustainable and efficient technologies in the market today.



Prototype de pansement en biocellulose

OSE !

This project was initiated following the entrepreneurship course given in the Bachelor Biomedical Sciences, where Julien Levallois was a juror. A group of 4 students had decided, following a course on fermentation given by François Barja, to develop the fictitious idea of a biocellulose condom - thus responding to the problem of latex allergy. The students having taken to the game, we welcomed them to the SIH during their 3rd year of Bachelor. They worked both on a biocellulose formulation that meets the constraints of a condom and on a potential business model.

In terms of funding for this development, the group received a grant from the Centre Maurice

Chalumeau en Sciences des Sexualités - and had undertaken other applications, including SIG Impact. Unfortunately, the laboratory studies did not result in a promising prototype. In addition, not all of the students continued their studies in Geneva and preferred to concentrate on their studies. Nevertheless, it allowed them to discover the world of entrepreneurship - writing a business plan, a request for funds for example - and the work in the laboratory, which will be beneficial to them for the continuation of their studies. This project had also attracted the attention of many journalists, from Radio Lac to Elle.

Current projects at the SIH

AGROLASE

This project from Prof. Jean-Pierre Wolf's group aims to drastically reduce the use of pesticides in viticulture - organic or not - by allowing the precise detection of pathogens - mildew, powdery mildew - in real time, associated with measurements of atmospheric conditions. Collaborations are taking place with Geneva wine estates such as Stéphane Gros or Les Hutins. The project has received Innogap funding for the development of the



Jean-Pierre Wolf's team on the field.

first stations. This project has received a lot of interest from the agricultural community in general - Agrovina Prize in 2020, TV reports - but the entrepreneurial aspect is now on hold.

There are several reasons for this: they received a competitive Bridge grant of about CHF 800,000 for 4 years, and difficulties due to the huge amount of images to be analyzed, to optimize the AI algorithms for pathogen recognition. On this last point a rapprochement was initiated with Prof. François Fleuret, from the Department of Computer Science.

FLUOSPHERA

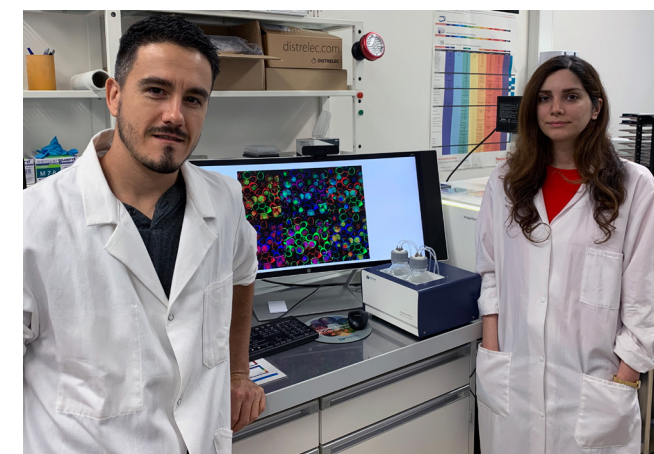
This project is led by Grégory Ségala, under the supervision of Prof. Aurélien Roux (Department of Biochemistry).

FluoSphera has recently obtained several substantial financial supports: Innosuisse without implementation partners in August 2019 (CHF 450,000 over 18 months), Innogap from Unitec in June 2021 (CHF 30,000 over 12 months), FIF from Fongit (CHF 50,000) for equipment purchases and finally the Dean's Office of the Faculty of Science (CHF 20,000) which is financing part of the necessary equipment but which will remain at the Faculty at the end of the project.

The company FluoSphera SA was created in November 2021, and as of December 1, 2021, it is officially incubated at the Fongit. At the same time, the company will remain at the SIH, and rent will be paid via the Fongit at first. In August 2021, Marie Shamseddin joined the project - following discussions we had with G. Ségala -, the salary being assured for 1 year by the Innosuisse subsidy. The company intends to start its commercial operation - through research projects - in early 2022.

ADDITIVE MANUFACTURING WITH HARD METAL AND ALLOYS

This project stems from the DQMP and the research work of Jorge Cors. In particular,



Grégory Ségala and Marie Shamseddin, co-founder of FluoSphera, in the ACCESS Geneva facility ACCESS Geneva, Faculty of Sciences of the Unige.

the project aims to develop a new Additive Manufacturing process, broadening the potential choice of manufacturing materials - in particular hard metals - and a reduced powder load. For this development, Jorge Cors benefited from a 12-month Innosuisse grant without an implementation partner, which successfully ended in May 2021. In parallel, we established contacts with the Geneva-based company Eskenazi SA, specialized in the development and design of cutting tools adapted to the needs of micro-milling, engraving, drilling, chamfering, reaming, and threading. An Innosuisse project will be submitted, despite lengthy discussions concerning contractual aspects, and it is very promising.

SiGE-MED TECHNOLOGY

This project originates from the group of Prof. Giuseppe Iacobucci, from the DPNC, and aims

in the medium term to build a PET scanner for small animals. Two patent applications have been filed by Unitec, and Prof. Osman Ratib had joined the project for the commercial development. This innovative project aims to develop a revolutionary monolithic detector that can also be used for future gas pedals and space physics experiments and especially in medical imaging. In July 2020, they received an H2020 ERC grant of 2.5 million euros, until June 2025 - MONOLITH project (Monolithic Multi-Junction Picosecond Avalanche Detector for future physics experiments and applications). This has slowed down the process of the entrepreneurial project, as the creation of the startup to raise the necessary funds for the development of the detector was no longer essential. Nevertheless, recent developments by a postdoc of the group has revived the idea of creating a startup in the near future, which would aim at developing advanced electronics, based on the architecture of a Time-to-Digital Converter (TDC) whose basic principle constitutes one of the two patents filed. This postdoc attended the Business Concept courses this fall, we regularly review the situation, and we will take stock of the situation to consider the next steps at the beginning of 2022. An Innogap subsidy has also been granted at the end of 2021.

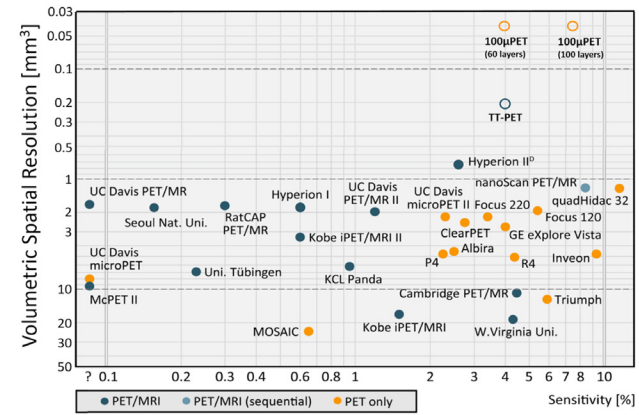
ECOSKILLS

Ecoskills is a project led by ISE student Flavia Wallenhorst and her team of mainly UNIGE students. It aims at developing digital tools useful to communities to implement more sustainability in their community. The project has no technological development as such, but proposes an innovative solution to raise awareness of sustainable development by including the psychological aspects of individuals. Recently, we have started the

studies to understand how SMEs could benefit from Ecoskills and we are in contact with OPI for this. SIH support is expected to end in spring 2022.

RefFit

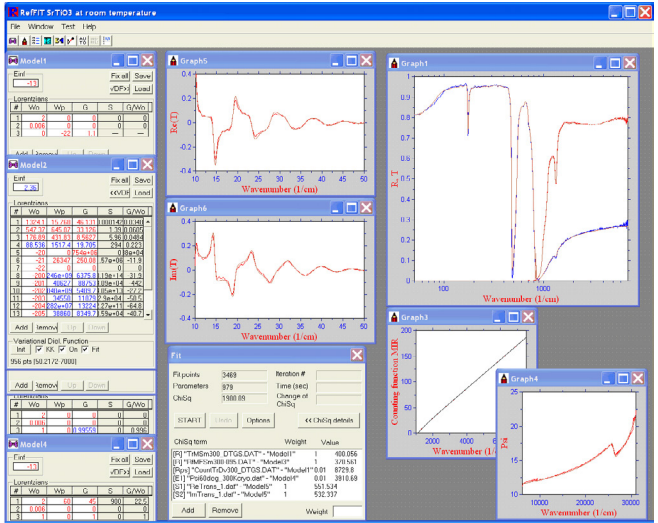
RefFIT is a software developed by Alexey Kuzmenko, from the group of Prof. Dirk van der Marel (DQMP). Although this software was developed in the context of academic research on optical spectroscopy, it has become apparent in recent years that it could be used in other fields. Iris Crassee, a former PhD student and now a postdoc in the group, is working on a more advanced version of the software, and is currently investigating the market - what areas, what features, what advantage over ML, etc.



Adapted to PET imaging scanners, this technology will enable a real quantum leap towards molecular imaging at ultra-high resolution.

In particular, the field of recycling seems to be a privileged target, as the difficulties to correctly sort waste for reuse persist, with the aim of a - more - circular economy. The project will benefit in 2022 from an Innogap grant (CHF 27,500), awarded in the fall of 2021. Close discussions are taking place with SIH mentors from DAES,

a Geneva-based engineering and consulting firm specializing in numerical simulations, to potentially collaborate on some concrete commercial projects.



Original application of RefFit in optical spectroscopy.

RESEARCH PROJECTS, EXPLORATION

In this section, we mention a few linkages or initiation of collaborative projects, either between faculty research groups or between a group and a company, that have been initiated by the SIH.

Advanced discussions have taken place between Prof. Michel Milinkovitch - Laboratory of Artificial and Natural Evolution - and two leaders among watchmaking groups. Prof. Milinkovitch's group studies the biological, physical, and mathematical principles behind the diversity of colors and color patterns in living beings. The concept of using these mathematical rules, through experimental algorithms implementing self-organizing principles by means of finite element and finite volume methods, to assist in the design of patterns on commercialized objects has been developed. The goal of these discussions was to consider developing a proof of concept consisting in realizing topographic patterns reminiscent of the mineral, biological or abstract world on a set of watch case and dial. After several meetings, and the sending of proposals for mandates, there has been no follow-up to these studies for the moment.

KEP Technologies established an Innovation

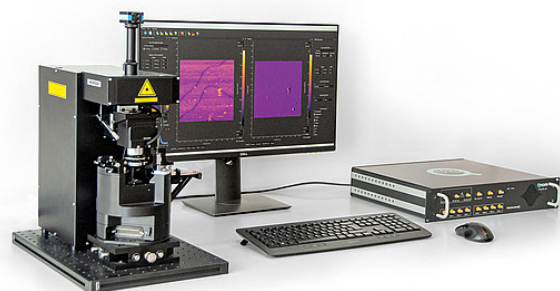


The skin color pattern of this southwestern European lizard changes from scale to scale, ©Unige.

Center in Plan-les-Ouates in 2016 - with the support of the Geneva Creativity Center, recently integrated into the OPI. KEP is active in several markets and develops expertise in Artificial Intelligence and software development, Electronics, Computing, Digital Simulation, and Thermal Sciences. We are considering with them several avenues of collaboration but also that KEP can test in real conditions some future products developed at SIH.

On June 22, 2021, we organized the visit of Qnami and its CEO Mathieu Munsch, a spin-off company of the University of Basel from the group of Prof. Patrick Maletinsky. Qnami develops and markets NV (Nitrogen Vacancy) quantum sensor applications. Their first commercial product, the Qnami ProteusQ, is a complete quantum microscope system. It is the first scanning NV microscope for the analysis of magnetic materials at the atomic scale, equipped with state-of-the-art electronics and software. Synergies have been found with DQMP and GAP researchers for internal research projects.

As mentioned in the "UNIGE innovation" section, we are regularly solicited by the Greater Geneva Bern area (GGBa) or the Directorate General for Economic Development, Research and Innovation (DG DERI) to support them in promoting the research and development skills of the Canton of Geneva to foreign companies wishing to set up in Switzerland. This year, there were about ten requests, which remain confidential, and a majority of them concern US and Indian companies active in Quantum Computing, Machine Learning and Biotechnology.



Qnami ProteusQ, complete quantum microscope system.

A connection with Switzerland Innovation, in particular the Switzerland Innovation Park Network West EPFL, was initiated following discussions with Didier Raboud, Secretary General of the UNIGE. Switzerland Innovation Park Network West EPFL is a platform for national and international companies of all types to develop their research activities in partnership with the region's universities and higher education institutions. These collaborations will be essential in order to highlight the UNIGE's infrastructure; we plan in 2022 to organize visits of foreign companies or to present the projects pre-incubated at the SIH to VCs/CVCs or multinationals interested in collaborating and/or investing in early-stage projects.



EVENTS

This year's events were mainly organized online (Zoom webinars). Some of them were co-organized in order to optimize synergies between the structures and to ensure a good complementarity, as well as to guarantee a critical mass of participants.

Fongit Force: Piloting your startup, 4 Mars 2021, online

This workshop was initiated by the SIH and co-organized with Fongit. The speaker, Pierre-Henri Chuet (Até), is a former pilot in the French Navy, and now a civilian pilot at Air Canada and trainer. During this workshop, he shared his experience and methods to help work teams thrive in stressful environments using techniques from the aviation world.

The goal was to provide useful tips from



aviation to entrepreneurs, in order to become the pilot at the controls of their startup.

Indeed, in over 100 years, aviation has evolved from a startup mode to the safest mode of transportation. In this workshop, Ate shared some of the aviation industry's best practices, and how they can be applied to teamwork and leadership: How do pilots make decisions with

incomplete information? How pilots train to continuously improve - briefing before and debriefing after each mission. What makes a good pilot, etc.

The event was attended by about 20 people, mainly Fongit entrepreneurs and some SIH researchers.

It is worth noting that in December, thanks to a connection, P.-H. Chuet held a workshop for the GAIN aeronautics consortium - which brings together a dozen Geneva SMEs - at the OPI.

Innosuisse Funding opportunity without partner, 11 Mars 2021, online

This event was also initiated by the SIH and then co-organized with Unitec and the Translational Accelerator of the Faculty of Medicine.

The main speaker was Stéphanie Lecaude, scientific collaborator of Innosuisse, specialized in Life Sciences. The goal was to introduce the ideal tool for scientific entrepreneurs proposed by Innosuisse, namely Innosuisse grants without an implementation partner. This was addressed through a formal presentation and testimonies of UNIGE researchers who have benefited from



this grant - Prof. Vladimir Katanaev, David Pejoski and Grégory Ségala - and how this key funding source could offer a decisive advantage to drive project development as well as to strengthen intellectual property and increase competitive advantage. The presentations were followed by a Q&A session.

This event attracted about 70 people, both from the Faculty of Medicine and the Faculty of Science, but more oriented to Life Sciences.

Meet the entrepreneur, 26 Mai 2021, online

The idea of these meetings, which we hope to organize periodically, is that an entrepreneur - preferably from the Geneva academic community - can share his or her experience in a relaxed manner with those who are considering the creation of a startup. The first such event was organized with Samuel Constant, CEO of Epithelix, a company specialized in tissue engineering, who is a former PhD student in organic chemistry at the Faculty of Science.

Samuel Constant described in detail his "adventure", his thesis research activities but also his early interest in entrepreneurship.



He did not avoid the challenges that a young entrepreneur faces, such as finding funding, building a team and managing a company.

About 25 people listened to Samuel Constant's

testimony and took the opportunity to ask him about his experience and these themes.

Medical Devices: understanding the current challenges, 15 Juin 2021, online

The purpose of this event was twofold: to introduce researchers to the regulatory framework for launching a MedTech product, and also to present the collaboration between SIH and Integrated Scientific Services AG (ISS).

The speaker was Marie Gaumet, PharmD, PhD, of ISS AG, Integrated Scientific Services, a company based in Biel/Bienne (Switzerland) providing strategic and operational expertise in the development of medical devices, from market introduction to maintenance. Marie Gaumet manages the Geneva office. This workshop aimed to discuss the applicable regulations and their challenges, as well as to share expert advice and practical tips on the various concerns one may have about medical device development. Indeed, whether one is about to launch a MedTech startup (including diagnostics, software, etc.) or already in business, it is always difficult to navigate the regulations. Several questions arise: What is the new EU regulatory framework? What are the key elements impacting the business plan? How to establish a realistic registration strategy? What about pharmaceutical products with a medical device component? Nevertheless, it is crucial to be well prepared and guided in order to make informed decisions: developing the right product for the right market, defining a relevant registration pathway and designing a realistic business plan to convince investors while being able to execute a strategy.

This workshop was attended by 14 people, from

several affiliations - physics, pharmacy, and chemistry among others.

At the same time, we took the opportunity to officially announce the signing of an agreement between the Faculty of Science and ISS on May 2, 2021. The purpose of the latter is to offer a pool of services - up to a total of CHF 3,000, in the first instance, which offers great flexibility, depending on the needs, with no lower limit - to researchers with a project at ISS. Given the missions of the Science Innovation Hub, such a general service will be useful to help meet some of the needs of the Medtech entrepreneurs we support. They can benefit from the extensive and specialized knowledge of the ISS team in a simple and efficient way. The scope includes all areas of expertise: Regulatory and Clinical Affairs, Quality and Engineering, and Software Development.



Meet the Science innovation Hub, 30 Septembre 2021

The aim was to take advantage of the start of the academic year to invite the faculty's employees to (re)discover the Science Innovation Hub. The visit of the premises and the discussions could take place in person - respecting the Covid19 restrictions in force at that time - which made the exchanges very pleasant and fruitful. Some people - PhD, postdoc or collaborator - were able to discover our activities and the offers available, arousing interest and enthusiasm.

Obviously, this type of event should be repeated regularly.

Unfortunately the organization of an aperitif was not possible, which usually makes conversations more convivial, so we decided to offer visitors a local beer to take away from the brewery La Source, one of whose creators is a former PhD student of the faculty.

Entrepreneurship Week, November 2021, hybrid

Three events were co-organized by the SIH during the 2021 edition of the Entrepreneurship Week, organized by the UNIGE.

The first one, "Venture Briefing", was co-organized with Venturelab and the Entrepreneurship Lab of the GSEM. Venture Briefing is an event designed to help students intending to become entrepreneurs take their first steps towards creating a successful business. Experienced entrepreneurs, Madiha Derouazi, CEO of AMAL Therapeutics and Andrej Babic, CEO of Adiposs, shared their experiences and journeys and answered questions from the audience. Startup support programs such



as Venture Kick, Innobooster or First Ventures were presented.

The second one, "Autonomous shuttles: in search of a business model", was co-organized with the Office de Promotion des Industries et des Technologies (OPI) and Archparc. The objective was that through a use case of the autonomous shuttle Echosmile, the participants use the tools at their disposal to propose an original business model.

Finally, the third one, "Business Ideas @ UNIGE", was unfortunately cancelled due to a lack of people registered in person. It was co-organized with the EPFL Innovation Park, and was also intended to feature testimonials from entrepreneurs who had participated in the various Innosuisse support offers. It is nevertheless planned to organize it in early 2022 in Geneva or online.



UNIGE INNOVATION

At the UNIGE

Over the last three years, 5 pre-incubators have been created at the University of Geneva:

- the Science Innovation Hub (SIH) at the Faculty of Science
- the Pôle d'Innovation Numérique (PIN) at CUI
- the Entrepreneurship Lab at the GSEM
- the SDG Accelerator at the SDG Solution Space
- the Translational Accelerator of the Faculty of Medicine (ATFM)

The objective of these pre-incubators is to support students, staff, and researchers of the UNIGE in their entrepreneurial endeavours. In addition, there are numerous interactions with the HUG Innovation Center, the Advanced Technology Laboratory, the Research Service, and Unitec, the technology transfer office, for each project supported.

This shows the growing interest in innovation - or more generally the desire to create economic and/or societal impact - and entrepreneurship at UNIGE. UNIGE has understood this very well by making innovation one of the three priorities of the COB4.

The SIH is particularly involved in the animation and rapprochement between these different entities. In an inclusive perspective, synergy and optimization of resources and skills, we have strengthened interactions by creating a network of pre-incubators, under the banner UNIGE Innovation. Bimonthly meetings are organized in order to share information and initiatives of each structure and to consider

synergies on certain projects. In addition to strengthening these links, the objective for 2022 is to organize a common event, such as a pitch competition.

With the Geneva and Swiss ecosystems

In this section, we briefly describe some of our partner interactions. The list is not exhaustive and the search for partnerships is constant. It is useful for us to optimize the use of our resources and to be able to take advantage of different networks of expertise, whatever they may be.

OFFICE DE PROMOTION DES TECHNOLOGIES ET DES INDUSTRIES (OPI)

A structured reinforcement of the interactions between the SIH and the Office de Promotion des Technologies et des Industries (OPI) is underway this year. Bimonthly meetings are organized with the director Hélène Gache and her collaborator Sébastien Kicka. The objective is to systematize the contacts between the researchers of the University and the project managers of the OPI. For example, when it is determined after a market study that a promising market concerns a particular industrial field - recycling, additive manufacturing, etc. - in which members of the OPI are experts, sessions are set up during which the project is presented and avenues of collaboration discussed. Conversely, ideas for potential markets, partners, or early adopters for a case study can be generated during ideation sessions with the OPI.

In addition, the OPI has clusters dedicated to certain fields: Alplct for information technologies or GAIN for the aeronautics industry. For example, we have organized sessions with the LTA to promote the UNIGE's competencies to the latter and to encourage the establishment of collaborative mandates/projects.

GENEUS

The links with Geneus, Fongit's life sciences pre-incubation structure, are quite obvious. Among the projects supported by the SIH, those active in this field are often also supported by Geneus. The SIH is regularly called upon to be a member of the jury of the Pro Pitches, where Geneus entrepreneurs present their project in 8 minutes and receive constructive feedback in return.

BUSINESS CONCEPT

Twice a year, Innosuisse organizes, through the EPFL Innovation Park, the Business Concept program in Geneva. This free training aims to provide in 12 courses the practical tools to transform an idea into a solid business project.

It is an opportunity to introduce oneself to entrepreneurs and experts in the sector,



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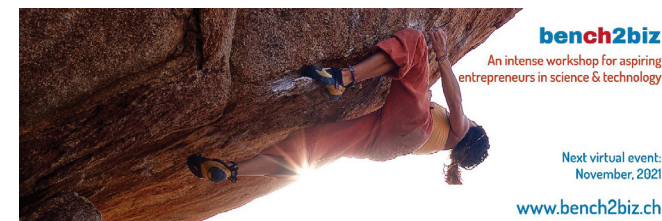
and to meet other people who also have the goal of creating a company. In addition to promoting this course at the faculty, which is

often strongly represented, the SIH is the main relay of the UNIGE and is present in the jury of this course; this consists in selecting the best projects and the most motivated candidates and in awarding, at the end of the course, the different prizes given by the partners.

BENCH2BIZ

With the same objective, the bench2biz workshop aims to support PhD students and postdocs, from all Swiss universities, in the initial phase of an innovative idea in the field of science and technology. They are helped to move from the idea to the concept stage, to shape their business ideas, to determine the commercial value and marketability of their idea or invention and to lay the foundation for their business plan.

bench2biz is a consortium of SNSF-funded Centers of Research Excellence, including the National Centres of Competence in Research (NCCR) Chemical Biology and PlanetS. The



founder is Marc Wilson, who is the founder of the Pre-Seed workshop on which bench2biz is modeled. About ten teams - of 3 or 4 people - participate in the workshop, during which the champion participants benefit from quick sessions led by one or two certified facilitators, advice specifically adapted to their project and support from experts from various backgrounds, including SIH for the past 3 years. At the end of the workshop, the results of the work are presented to these same experts and prizes are awarded.

DIRECTION GÉNÉRALE DU DÉVELOPPEMENT ÉCONOMIQUE, DE LA RECHERCHE ET DE L'INNOVATION

The goal of the Directorate General of Economic Development, Research and Innovation (DG DERI) is to rely on the partners of Geneva's economic fabric to strengthen Geneva's competitiveness and thus ensure the maintenance of its attractiveness and its jobs. The University is clearly part of this network; the skills, infrastructures, and knowledge it can offer are clearly an asset for industries and interactions are therefore multiple. For example, the development officers of the DG DERI work closely with the GGBa - Greater Geneva Bern area - whose mission is to advise and support foreign industrialists - mainly from the US and Asia - who wish to set up in Switzerland. As these companies often have strong R&D needs, we are regularly called upon to complement the responses of the DG DERI or the GGBa by highlighting the assets of the University of Geneva, in order to optimize the chances of welcoming them to Switzerland. Impact Hub

This year, a significant connection was made with Impact Hub Geneva. Impact Hub is a global network of over 100 hubs, bringing together more than 24,000 entrepreneurs with innovative, inclusive and sustainable projects. Synergies are envisaged, in particular in order to benefit from their expertise in environmental and societal transition, and their global network. In addition, it is a home for entrepreneurs who can join a SIH project or another pre-incubator, bringing their managerial skills, which are sometimes lacking in our projects.



ACTION PLAN

The goal of the Science Innovation Hub is to promote entrepreneurship and activities around innovation based on scientific research within the faculty and the University in general. The latter is indeed a source of impact and value creation and is a way to respond effectively and concretely to current challenges. In addition, the creation of startups leads to the creation of high value-added jobs, where Master and PhD graduates are sought after as qualified employees. In this section, we present some of the problems encountered and proposals for action to address them. These can be used as performance indicators at the end of 2022.

Reach out to new entrepreneurs

CHALLENGES

Basic research and teaching are the priorities for researchers in a university like UNIGE. Reaching out to students and researchers to present our activities and encourage them to submit a project to SIH - even if a patent application has already been filed at Unitec - is complicated. Bachelor and even Master students do not check their emails very often, which makes event announcements invisible. On the other hand, professors are drowning under an ever-increasing influx of information. Personal meetings and seminars in the departments are (still) difficult to organize, mainly due to the lack of interest perceived by the researchers.

OPPORTUNITIES

The first solution is to improve our Communication. For this, the reinforced support of the faculty communication officer, Massimo

Caine, is an important element. At the end of the year, we started to develop an impactful strategy, with the aim of targeting and reaching exactly the right people according to the topics at hand. For example, in addition to an existing Twitter account - with 474 followers to date - a LinkedIn account is now operational, in order to reach out to partners outside the University - such as companies that may see potential partnerships in certain projects. An Instagram account is planned for early 2022 in order to reach students, who are much more sensitive to this type of communication.

Informing about the successes of past SIH projects will be one of the best ways to attract more new projects.

In December 2021, we have submitted a P3 project with the objective of recruiting a Computer Science student to develop a new method, based on Machine Learning, to proactively detect and select entrepreneurs and research projects with high commercial potential, but also to know the innovation needs of companies in order to initiate collaborative projects with the UNIGE. The idea will be to use the available data - patent applications, research topics, publications, market studies, prospecting, etc. - and to extract the best potential candidates. After a selective selection process, our project has been retained but needs to be streamlined as it is too optimistic.

It will be necessary to reinforce the links with the doctoral schools. This year a presentation was given in the Bachelor Biomedical Sciences and this type of seminar should certainly be continued and multiplied.

CHALLENGES

Academic research often has the impression that any application coming out of the laboratories is either far removed or irrelevant. Commercial activities are often frowned upon within a university.

GOALS

- 20 contacts made
- 5 projects submitted
- 2 spin-offs created
- 5 departmental seminars
- 3 collaborations - Innosuisse, OPI grants, ...

Organize fruitful events

CHALLENGES

The year 2021 was a hybrid year: the Covid19 situation certainly allowed for a resumption of face-to-face activities, but not entirely and not unconsciously. The Zoom events have helped to maintain contact, but in innovation activities, nothing beats real workshops and improbable and fortuitous meetings. Nevertheless, between departmental seminars, work sessions or thesis defenses, there is no shortage of requests from the academic side alone.

OPPORTUNITIES

It is important to find attractive or atypical elements when organizing an event - even an online/hybrid one - in order to stand out but not to hesitate to involve ecosystem partners if their specificity is close to the theme of the event so as not to multiply the events.

A strong axis to commit to is transversality within the UNIGE. Combination - that is, hybridization or interdisciplinarity - is an essential element of innovation. New technologies are evolving at an exponential rate, and it is impossible to predict in advance which ones will work, in which fields and for which applications. Moreover, since the developments are so rapid and standardized, they can be used in fields that are distinct from their original application and, above all, can be combined to develop new products. In 2022, we therefore hope to significantly strengthen interactions between faculties in order to generate more innovation.

We offer the following event ideas:

- Conferences with star speakers: having a big name come and present their entrepreneurial experience, but who also has an academic background, will allow people to identify with this person. For example: Carlo Centonze, HeiQ or Jurgi Camblong, Sophia Genetics.
- UNIGE Innovation network events: pitch competition, project competition, ...
- Ideation workshops: the idea would be to draw inspiration from the innovation process used by Flagship Pioneering, an American start-up company, from which Moderna Therapeutics is derived. This process, called emergent discovery, is a rigorous set of activities that includes prospecting for ideas in new spaces, developing speculative conjectures, and continually challenging assumptions. Emerging themes for 2022 are for example: quantum computing, alternative proteins,

new semiconductors, artificial intelligence, and of course technologies fighting climate change - decarbonization, ...

- In the same perspective, organize inter-faculty events.
- Scientific entrepreneurship course: This is a certified course - of a few days - given by an entrepreneur from the academic world. For example, Prof. Davide Iannuzzi - experimental physics at VU University Amsterdam, MBA - offers a course entitled "Entrepreneurship for Physicists: An introductory course". He founded the startup Optics11 in 2011 and will serve as Chief Impact Officer as of January 2022. Close ties already exist with SIH.

CHALLENGES

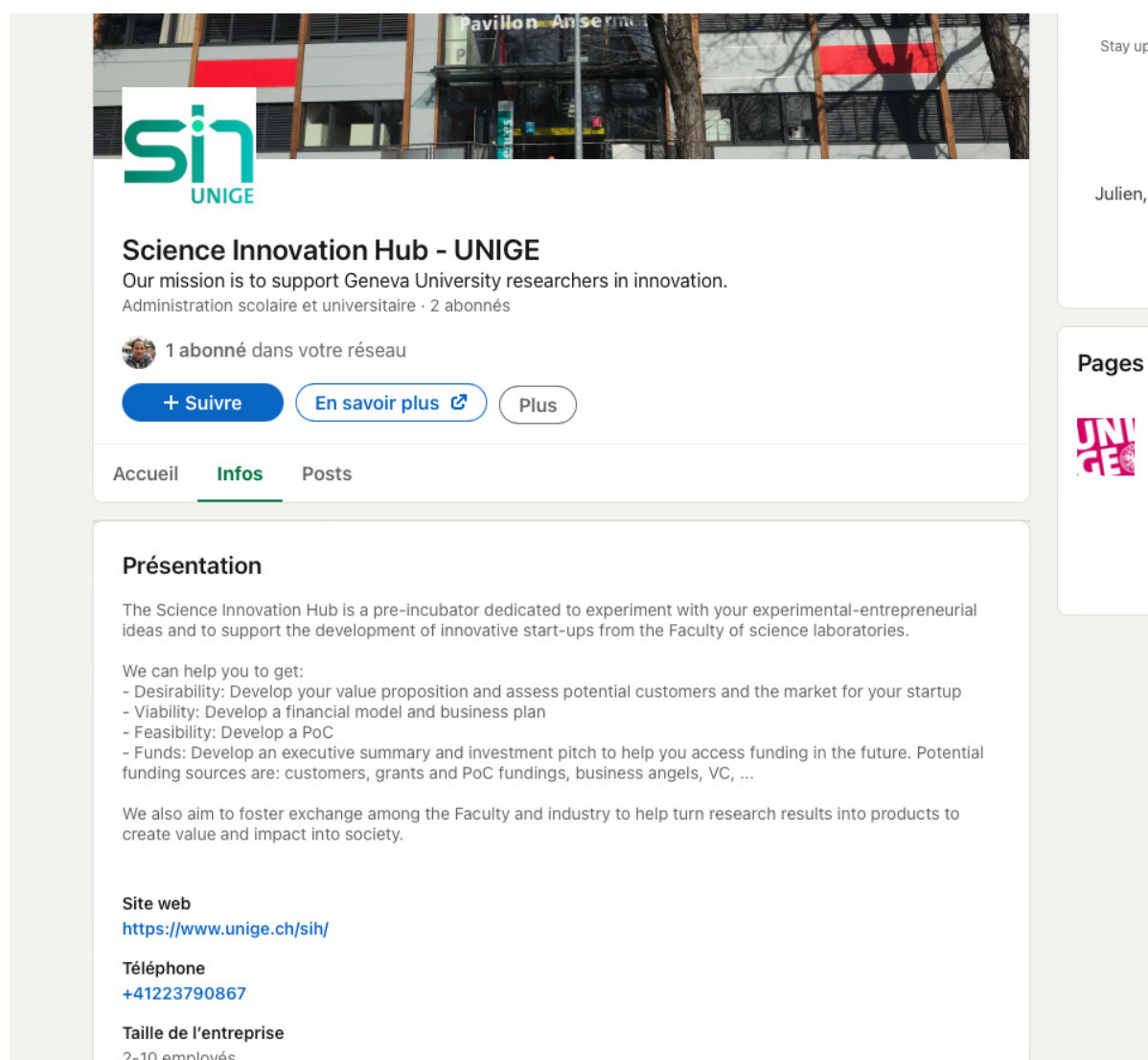
It will be necessary to convince speakers to come and allow students to participate in organized courses, and see if ETC credits can be granted.

GOALS

- 2 events with 1 renowned speaker
- 1 UNIGE Innovation event
- 2 inter-faculty events : Machine Learning, ...
- 2 ideation workshops - in collaboration with OPI, BioAlps, ...
- 1 entrepreneurial course

In addition to these ambitious events, we plan to organize in 2022 events of the same style as those organized in 2021. These include:

- 1 event on intellectual property - initially planned for 2021 - with Katzarov SA
- 1 Meet the Entrepreneur with Franck Franchin, cybersecurity specialist
- 1 Business Idea, co-organized with the EPFL Innovation Park - initially planned during GEW21



- 1 event on finance/equity portfolio management, with Mathieu Bellamy from Lombard Odier

Renforcer le positionnement dans l'écosystème suisse

CHALLENGES

EPFL and ETHZ are leaders in technology transfer and startup creation in Switzerland.

However, although the University of Geneva has nothing to be ashamed of in terms of basic research, little of this research is translated into innovation, particularly through the creation of startups. Although this is not the primary ambition of a researcher at the UNIGE, one must also ask oneself if all the means are correctly made available to those who would like to embark on the entrepreneurial adventure.

OPPORTUNITIES

In order to share feedback and best practices in the field of startup creation, whether in

Switzerland or in Europe, it would be effective to create an association of innovation centers/offices of universities and ETHs. Such an association exists, for example, for TTOs (the swiTT association) and the exchanges that take place between Swiss offices but also with European or American offices strengthen competencies and contribute to ensuring Switzerland's place as a leader in technology transfer. We would like to do the same in our ecosystem.

CHALLENGES

As the innovation policies of each university and ETH are different, it will be necessary to create the necessary synergies both within the offices or pre-incubators, but also with the different rectorates and presidencies.

GOAL

In 2022, initiate the creation of a Swiss association of pre-incubators.

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