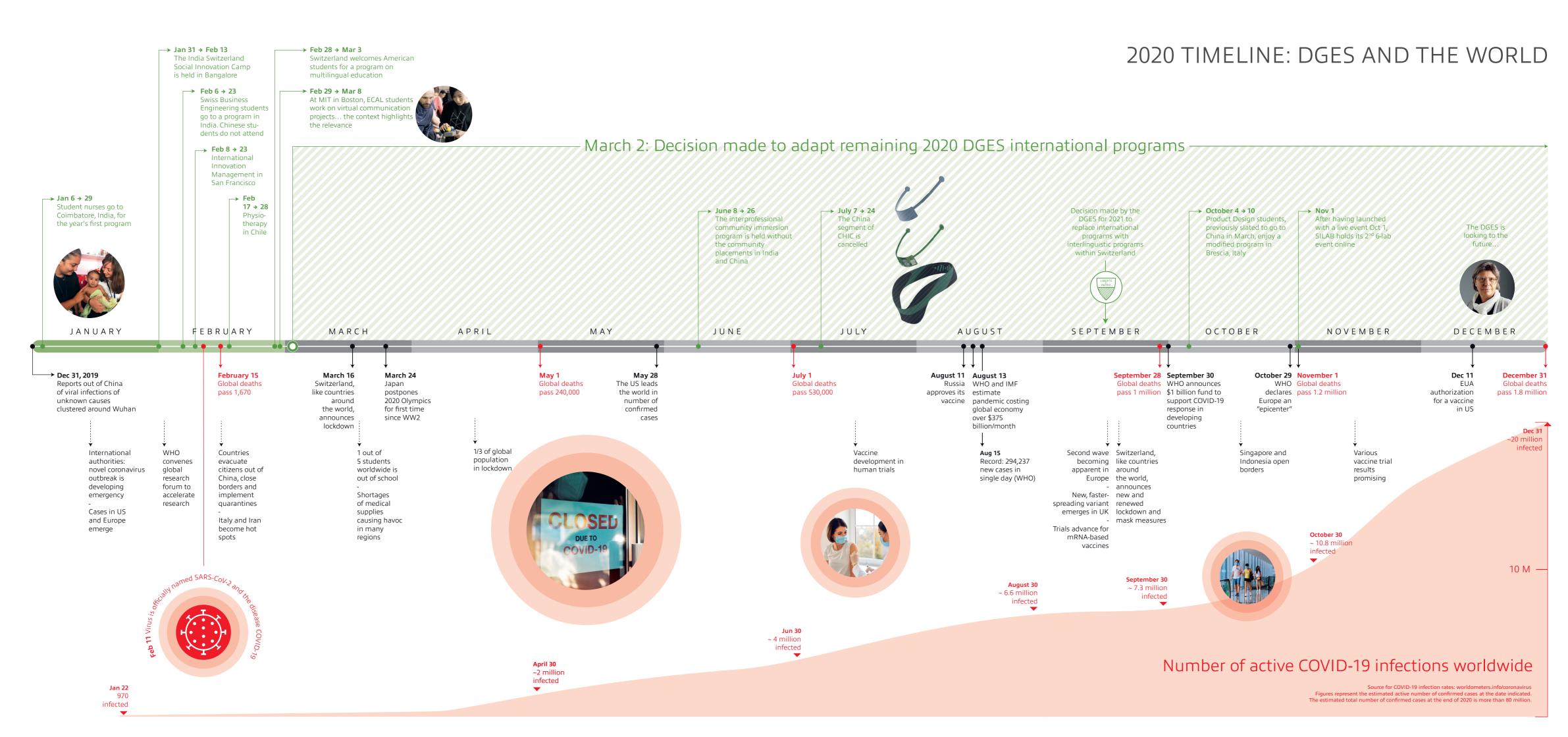


## A TIME OF CRISIS IS NOT JUST A TIME OF ANXIETY AND WORRY. IT GIVES A CHANCE, AN OPPORTUNITY, TO CHOOSE WELL OR TO CHOOSE BADLY.

Bishop Desmond Tutu



## Vaud Institutions of Higher Education



















## Lausanne, Switzerland

- Haute Ecole de la Santé La Source
- Haute Ecole de Santé Vaud (HESAV)
- Haute Ecole de Musique Vaud Valais Fribourg (HEMU)
- Haute Ecole de Travail Social et de la Santé Lausanne (HETSL)
- University of Lausanne (UNIL)
- University of Teacher Education (HEP Vaud)

## Renens, Switzerland

• ECAL/University of Art and Design Lausanne

## Yverdon-les-Bains, Switzerland

•School of Management and Engineering Vaud (HEIG-VD)

### Nyon, Switzerland

•CHANGINS – Haute Ecole de Viticulture et Œnologie

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## Message from Cesla Amarelle

## Reinventing ourselves, ready to shine

Over the course of these months so marked by the epidemic, digital tools have played an unprecedented role in our daily lives. They have helped us to maintain our connections and a semblance of normalcy in spite of the social distancing imposed upon us. Whether for work, for communication or for leisure, digital tools have saved the day for us more than once.

Within our Institutions of Higher Education (*Hautes Ecoles* – HE's), technological solutions were urgently implemented during the first wave of the crisis, then later in a more systematic way to enable hybrid teaching methods for the fall 2020 semester. This was made possible thanks to the work of administrative and technical personnel, as well as the teaching body. Distance courses were able to be given and exams were held as planned. But let's not be fooled: while digital tools enabled us to stay on track, the health crisis that we are living through and the social distancing measures imposed upon us have consequences that we must now face. Presence on campus, social ties, face to face dialogue and group dynamics are sorely missed in the HE environment.

Studying within an HE isn't all about studying and gaining knowledge to be tested in exams. This time of learning is a special time, marking the first phase of adult life. This period of life lends itself to sharing and mutual intellectual challenge, through which friendships are formed and networks are built. So many difficulties are impeding the course of learning for young people within our HE's during this period.

Although the distance learning put in place cannot replace flesh-and-blood interactions, it at least enables a connection to be maintained. This is especially the case for some of the programs supported by our International Affairs Department. Speaking of which, this epidemic and the tools we use to face it offer up interesting food for thought in the context of international exchanges that – in normal times – require long distance travel. This travel is a concern for another crisis we are facing, with regard to the climate and the environment. When the time comes that it's possible to resume these exchanges, how do we do so responsibly in terms of our ecological footprint? We will need to rapidly come up with solutions to again offer students these enriching experiences which enable them to confront other cultures and to build a large network, both personal and professional.

After a year that has so tested us, I dearly hope that we will find a way to reinvent ourselves to enable our HE's to continue their mission – and to shine beyond our borders.



Cesla Amarelle, State Councilor, Head of the Department of Education, Youth and Culture, Canton of Vaud

Cesla Amarelle, Conseillère d'état, Cheffe du Département de la formation, de la jeunesse et de la culture, Canton de Vaud

## Message de Cesla Amarelle Se réinventer et rayonner

Au cours de ces derniers mois marqués par la pandémie, les outils numériques ont fait irruption dans notre quotidien à un niveau inégalé. Ils nous ont permis de maintenir du lien et un semblant de normalité malgré la distanciation spatiale qui s'est imposée. Qu'il s'agisse de travailler, de communiquer ou de nous divertir, les outils numériques nous ont plus d'une fois sauvé la mise.

Au sein des hautes écoles, des solutions technologiques ont pu être mises sur pied tout d'abord dans l'urgence, durant la première vague, puis de manière systématique pour les modes d'enseignement hybrides organisés dès la rentrée d'automne 2020. Cela a été rendu possible grâce au travail du personnel administratif et technique et du personnel d'enseignement. Les cours à distance ont pu être donnés et les examens ont pu se dérouler comme prévu. Mais il ne faut pas se leurrer: si les outils numériques nous ont permis de maintenir la voilure et de garder le cap, la crise sanitaire que nous traversons et les mesures de distanciation spatiale que nous nous imposons ont des conséquences qu'il nous faut maintenant affronter. Dans le cadre des hautes écoles, la présence sur les campus, les liens sociaux, les dialogues en face à face et les dynamiques de groupes font cruellement défaut.

Effectuer des études au sein des HE ne consiste pas seulement à étudier, accumuler des connaissances qui seront ensuite validées par un examen. Ce temps de formation est une période particulière qui marque l'entrée dans la vie d'adulte. C'est un moment propice au partage et à l'émulation intellectuelle, au cours duquel des amitiés et un réseau se tissent. Autant d'éléments qui posent problème aux jeunes se lançant dans des parcours de formation au sein de nos hautes écoles, en ce moment.

Même si l'enseignement à distance mis en place ne remplace pas les échanges véritables en chair et en os, il permet tout de même de maintenir un lien. C'est tout particulièrement le cas dans le cadre de certains programmes des affaires internationales. A ce sujet, la crise sanitaire que nous traversons et les dispositifs que nous déployons pour y faire face, trouvent d'intéressantes résonnances dans le contexte des échanges internationaux qui impliquent en temps normal des déplacements importants alors que nous nous confrontons à une autre crise, climatique et environnementale, cette fois. Comment reprendre ces échanges, lorsque cela sera possible, tout en ayant une empreinte écologique responsable ? Il nous faudra rapidement inventer des solutions pour que les étudiantes et les étudiants puissent à nouveau bénéficier de ces expériences enrichissantes qui leur permettent de se confronter à d'autres cultures et de se constituer un large réseau tant personnel que professionnel.

Après une année éprouvante, j'espère de tout cœur que nous parviendrons à nous réinventer afin de permettre à nos hautes écoles de poursuivre leur mission et de rayonner au-delà de nos frontières.

## Message from Chantal Ostorero

## From resilience to optimism

Resilience is without doubt one of the key elements that helps us to get through life's challenges, enabling us to gain strength through experience. I must applaud the true resilience that the partners of our International Affairs Department have shown since the beginning of the pandemic crisis – despite the fact that they work within a field particularly touched by the impossibility of travel in our globalized world.

Within the DGES, as well as within all our Institutions of Higher Education and swissnex, everyone sought – and continues to seek – new ideas to enable students to live the experience of these exchanges, though differently. We greatly appreciate this work, this ingenuity. I wish to thank everyone involved in the monumental efforts needed for reinvention: institution directors; heads of international affairs; professors; students; and all others. Together, you looked for solutions to the challenges posed by travel restrictions, as well as alternatives to set up spaces for meeting and knowledge exchange. Bravo to all of you.

A great discovery for us in Switzerland, something that enabled us to make up somewhat for the numerous cancellations, was to arrange some projects elsewhere in our country with its multilingual context. We considered the value of this multicultural aspect within our own borders, which creates opportunities for our students to (re)discover nearby regions and languages learned but often practiced too little. These Swiss programs, organized in collaboration with institutions in the German- and Italian-speaking regions, proved to be very interesting. In fact, they offer considerable benefit for the University of Teacher Education (HEP) in Vaud and future teachers, who are required to have a good level of German, for example.

Going forward, it will be important to continue with the recent programs with new Swiss partners in other linguistic regions – but also to consider a reopening towards other horizons as soon as it will be possible to do this internationally. We must pick up where we left off with our collaborations – while nonetheless keeping in mind the climate considerations related to air travel. For such trips, longer-term placements may be an option. In any case, it is certain that as we emerge from this crisis, as soon as it is possible, we will all be in need of contact, human interaction and travel. Our International Affairs programs represent incredible opportunities to fulfil this drive to discover and share with humanity.

I therefore ask you to place your bets on the side of optimism, extract the positive elements that are emerging from this crisis. As for your thirst for discovery and appetite for culture, keep these for the years to come will allow us once again to travel and exchange. Consider these precious opportunities to broaden your horizons, build your skills and enrich your knowledge and understanding of others.



Chantal Ostorero, Director General, Board of Higher Education, Canton of Vaud

Chantal Ostorero, Directrice générale de l'enseignement supérieur, Canton de Vaud

## Message de Chantal Ostorero

## De la résilience à l'optimisme

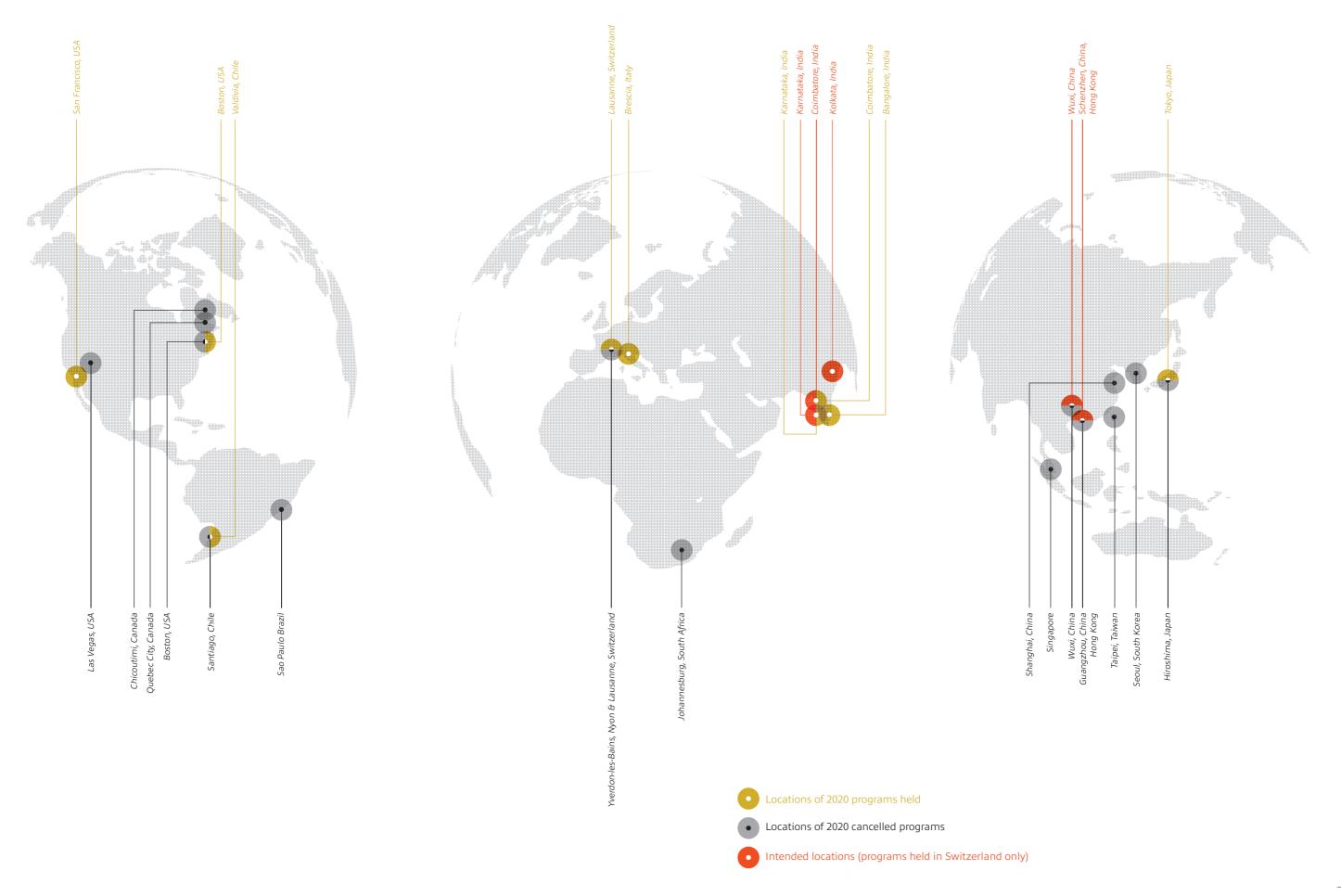
La résilience est certainement une des clés qui permettent de traverser les épreuves de la vie, tout en nous renforçant d'expérience. Il est essentiel pour moi de saluer ici l'extrême résilience dont ont fait preuve tous les partenaires des Affaires internationales depuis le début de la crise liée à la pandémie – alors qu'ils œuvrent dans un domaine particulièrement touché par l'impossibilité de se mouvoir dans notre monde globalisé. Au sein de la DGES, mais aussi dans toutes les hautes écoles et encore au niveau du swissnex, chacune et chacun a cherché – et cherche toujours – de nouvelles idées pour faire tout de même vivre ces expériences d'échanges, différemment. Ce travail, cette inventivité, ont été appréciés à leur juste valeur et je remercie ici toutes les personnes impliquées dans ces grands efforts de réinvention : directeurs et directrices, responsables des affaires internationales, professeur-e-s, étudiant-e-s... Ensemble, vous avez cherché des solutions aux problèmes posés par les restrictions de voyages à l'étranger, ainsi que des alternatives pour ménager des espaces de rencontres et d'échanges de savoir. Bravo à toutes et tous.

Une des découvertes majeures dans notre cas helvétique, et qui nous a permis de parer aux multiples annulations de programme, a été d'implanter des projets ailleurs en Suisse, dans le contexte multilingue qui caractérise ce pays. Nous avons pu estimer la valeur de cette composante multiculturelle au sein de nos frontières, qui se transforme en opportunités pour nos étudiantes et étudiants de (re)découvrir des régions proches et des langues apprises et peu pratiquées. Cette organisation de programmes internes à la Suisse, avec des institutions situées en Suisse alémanique et italienne, s'avère très intéressante. Elle constitue même un argument de poids pour la Haute école pédagogique du canton de Vaud et les futurs enseignant-e-s, qui doivent avoir pour leur formation un bon niveau d'allemand, par exemple.

Par la suite, il importera de poursuivre les programmes récents avec les nouveaux partenaires suisses des autres régions linguistiques – mais également de penser à une réouverture vers d'autres horizons dès qu'il sera possible de le faire, à l'international, en reprenant le fil des collaborations, tout en gardant à l'esprit les enjeux climatiques qu'impliquent les déplacements en avion. Pour de tels voyages, pratiquer des séjours plus longs pourrait constituer une option. En tous cas, il est certain qu'au sortir de cette crise, dès que cela sera possible, nous aurons toutes et tous besoin de contacts, d'interactions humaines et de voyages. Nos programmes des affaires internationales représenteront de magnifiques opportunités de réaliser ces envies de découvertes et d'humanité partagée.

Je vous propose donc de faire le pari de l'optimisme, de discerner les éléments positifs qui émergent de la crise, et de garder votre soif de découverte, votre appétit de culture, intacts pour les années qui viennent et nous permettront à nouveau de voyager et d'échanger, de considérer ces précieuses possibilités d'élargir les horizons, d'étoffer ses compétences et d'enrichir la connaissance de l'autre.

## DGES programs around the world



## Before the world changed: 11 programs

In January, there wasn't even have a name for the mysterious coronavirus affecting people in Wuhan. That month, the impact on the year's first DGES programs was minimal. But quickly, we needed to consider contingency plans. By February – by the time the virus was known as SARS-CoV-2 and the disease was called COVID-19 – we were considering the potential security risks of every student trip. Where were they going? How long was the intended stay? How easily could we repatriate students if needed? By March, we had put all programs on hold for the rest of the year.

Out of the 38 DGES-supported student programs planned in 2020, 11 were ultimately held in one form or another, with varying degrees of success. These are profiled in this section.

## The nurse's role from womb to tiny tot

January 6<sup>th</sup> – 29<sup>th</sup>, 2020 COIMBATORE, INDIA



**The concept:** Student nurses from Switzerland join local peers in rural India to learn about the country's healthcare system and to enhance care delivery skills, particularly in community nursing. In the region, poverty and its impact on health are among the key challenges. Resourceful and pragmatic care approaches that incorporate values of community, family, spirituality and culture are important. And all the while, the sights, sounds and tastes the students encounter keep the senses on alert – making every learning experience more memorable.

**2020 theme:** The year's focus on maternal-child health offered insights into the values, beliefs and cultural practices in this care. The students went to various care environments. For example, they visited an outpatient clinic, a center for handicapped people, an orphanage, and an Ayurveda therapy and teaching center. At PSG Hospital, they spent time in numerous different departments such as the neonatal ICU, maternity and pediatric wards. It was an intense learning experience that offered understanding on the local care practices and how they compare to Swiss approaches.

The warmest of welcomes: The students shadowed teams going into people's homes for community care. The visitors were very moved by the warmth with which they were invariably received. Families opened their doors with generosity, offering food and drink and discussing with genuine interest. Likewise, at the orphanage, some sixty children excitedly welcomed the visitors with a big party.

"A grandmother in a maternity center made an impression on me. She was sitting on the floor, proudly holding her grandson in her arms a few hours after his birth – she seemed so happy to introduce him to us."



## Years running: 8

## Field:

Nursing Sciences

### Partner institutions:

Haute Ecole de la Santé La Source, Lausanne, Switzerland

Haute Ecole de Santé Vaud (HESAV), Lausanne, Switzerland

Students from SWITZERLAND

Students from
PARTNER
COUNTRY
- 17 -

COUNTRY

– 13 –

SWITZERLAND

-3- -2-

itivito

## Spreading the light of social entrepreneurship

January 31 – February 15, 2020 BANGALORE, INDIA



"INSSINC was, on a personal level, the richest experience I've had. Working with people who think and implement differently, as well as immersing ourselves in a different culture with open minds and innocent eyes taught us in two weeks what people take years to learn."

**The concept:** Bringing a diverse group of 12 students together, the India Switzerland Social Innovation Camp (INSSINC) focuses on social entrepreneurship. Created in collaboration with swissnex India and the Selco Foundation (a Bangalore-based for-profit group aiming to improve living standards of poor households in rural India), it offers enlightening hands-on field experience.

**The challenge:** This year, participants sought ways to bring tangible improvements to learning conditions for children in schools within the migrant communities in Bangalore, where – as an urban area in a developing country – educational practices and perceptions are decentralised and complex.

**Tangible benefits:** In two short weeks, students – working independently and in interdisciplinary groups – quickly developed practical strategies to implement skills and knowledge acquired during preparatory workshops and coursework ahead of the trip. The visiting students tested their prototypes with the intended beneficiaries, the children. At the end of the program, they presented these to Selco staff, who had accompanied the students in the field, and other professionals working towards improving socio-economic conditions in the area.

**Cultural highlights:** Albeit intense, the two-week program made time for cultural outings, including an urban ethnography observation day, an intercultural workshop organized by swissnex India, and plenty of opportunity to taste typical Bangalorean cuisine, with its aromatic, colorful and spicy dishes.

### Years running: 2

## Field:

Design, Business Administration, Social Sciences and Engineering

## Partner institutions:

University of Lausanne (UNIL)

ECAL/University of Art and Design Lausanne

Swiss Federal Institute of Technology (EPFL), Lausanne

Switzerland

Students from Professors from SWITZERLAND SWITZERLAND

- 12 -

**-4** -



## Contrasting images: Cultural immersion in medical imaging

February 3 – 14, 2020 TOKYO, JAPAN



**The concept:** With themes of expertise in radiation protection, cultural diversity in technical professional practice in medical radiology, and the medical imaging industry, this program gives HESAV medical radiology technology students a true immersion in radiological practices in Japan.

**Immersive learning:** Visits to various radiology departments of Teikyo University Hospital enabled students to see in practice what they had learned at a theoretical level. They saw how the Japanese cultural and professional practices impact clinical patient examinations and treatments in a society with a significant elderly population, how medical teams collaborate, and how patients and healthcare professionals relate to one another.

**Privileged access:** The scientific visit to the Fukushima site, with support and supervision by Teikyo University professors, was a privileged learning opportunity, as access to the area and its facilities is strictly limited. The visit highlighted the sheer complexity of this tragic event, while underscoring the importance of practices aimed at population and environmental safety, as well as protection in the event of a radiological disaster.

**Art asides:** Students enjoyed teambuilding workshops with Teikyo University students in which they learned about the basics of the Japanese language and calligraphy, the age-old art of origami, the colorful world of Manga, and hit a few high notes with rousing rounds of Karaoke.

"The medical radiology technologist [...] has a role to play in raising public awareness about radiation. While it is perhaps idealistic to hope that such soulsearching can be done in our society before an accident occurs, we can – as future medical radiology technologists - nevertheless use the Japanese example by acting on a smaller scale by carrying out prevention work in the field of ionizing

# 市京大学医学部附属振导

### Years running: 2

## Field:

Medical Radiology Technology

### Partner institutions:

Haute Ecole de Santé Vaud (HESAV), Lausanne, Switzerland

Teikyo University, Tokyo, Japan

Students from SWITZERLAND PARTNER COUNTRY

-8- -9-

Professors from SWITZERLAND Professors from PARTNER COUNTRY – **10** –

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12

## Swiss-Indian management synergies and divergences

February 4 – 17, 2020 KARNATAKA, INDIA



"Our vision was to identify the Indian working culture and to understand the nuances of working together with a demographically diversified team. By the end of the program, the objective was met and we could gauge some sort of synergy that was exhibited in the days prior to the valedictory."

**The concept:** Typically, this program consists of a pair of 2-week exchange trips exploring business engineering and intercultural communication in two culturally divergent countries. Through courses and related professional site visits, an international group of students gains a sense of the many approaches to the business engineering and the impact of the cultural environment.

**About the year:** Due to the COVID-19 pandemic, the second part of this program, scheduled for summer 2020 in Switzerland, was cancelled. However, sixteen Swiss and Indian students nonetheless benefited from the first session in February, in India. Meeting managers and employees at businesses demonstrated numerous operational roles and added insights for team assignments. The companies they visited represented a cross-section of domains: plastics (Deccan), watchmaking pieces (Chiramith), food (Achal, ACE Foods, KMF) and steel (Elite).

**Mixing it up:** The students from Switzerland came from a variety of engineering disciplines while the local students were in an MBA program – this is integral to the program's design. Like the cultural mix, a mix of disciplines brings value-adding contrasts in perspectives.

**Swiss time in India:** The Swiss students were particularly interested in the visit to Chiramith, makers of precision pieces for watchmaking. The owners have previous experience working in Switzerland and thus inject a bit of "Swissness" into their operations with amazing success.

## Years running: 10

## Field:

**Business Engineering** 

### Partner institutions:

School of Business and Engineering Vaud (HEIG-VD), Yverdon-les-Bains, Switzerland

National Institute of Technology Karnataka (NITK), Mangalore, India

Students from Students from SWITZERLAND PARTNER COUNTRY

-8- -8-

Professors from SWITZERLAND PARTNER COUNTRY

- 1 - - 1 - - 1 -



## A taste of innovation in the food industry

February 8 – 23, 2020 SAN FRANCISCO & SILICON VALLEY, USA



**The concept:** Where better than California for an immersive experience in innovation and entrepreneurship? The "International Innovation Management" (IIM) course brings 12 HEIG- VD students to the San Francisco Bay Area for two weeks. They collect data for a handson project on an annual theme and generally explore the innovation challenges companies and society face.

**Fablabulous:** This year's edition included a novel twist: Students participated in a pilot project on the integration of "Fablabs" and other third-party partners into education. Fablabs – fabrication laboratories – are small-scale workshops for digital design and production processes like 3D-modelling or computer-aided design. The students went through a design thinking process first-hand, creating a prototype at the Fablab in Neuchâtel.

**Hungry for success:** Fresh from their Fablab experience, it was down to business – food business. Split into three teams, the students were matched with three food startups from Western Switzerland: Brave Foods (superfood snacks in a pouch), Food Detective (a global restaurant search platform) and Nutripixi (a lunch box promoting healthy, personalized eating). The teams determined key company challenges to prepare for the California trip, where their mission was to assess whether there was a market for the companies' offerings in the California agri-food ecosystem. Savor it on the student blog: iim.heig-vd.ch.

"The networking aspect was the great advantage of this trip, I was able to make new contacts which will undoubtedly be useful to me during my future career. In addition, I developed my knowledge in the fields of start-ups and innovation in Silicon Valley, which is also of great added value! Finally, getting out of my comfort zone to go and hold interviews directly in the field brought me a lot on a personal level."



## Field:

Information & Communication Technology, Media Engineering, Engineering & Management, Business Administration

### Institution:

School of Management and Engineering Vaud (HEIG-VD), Yverdon-les-Bains, Switzerland

Students from SWITZERLAND

- 12 -

Professors from

SWITZERLAND

\_ 1 \_

Scientific partner from SWITZERLAND

-1-



15

## Chilean physiotherapy from family health to Machupe herbs

February 17 – 27, 2020 VALDIVIA, CHILE



"A very enriching experience that allows us to discover other ways of seeing physiotherapy, in a health system that is very different from the Swiss one. [We received] an exceptional welcome from all the professionals and during all the visits to the centers in the region. [It was] a varied program with various activities and a good balance between more theory-based days and others with visits."

The concept: Providing a platform for an intercultural dialogue in the field of physiotherapy, this program takes third-year HESAV physiotherapy students to Valdivia - capital of Chile's Los Ríos region - for an in-depth module focused on community and family health. Participants learn first-hand about the physiotherapist's role within Chile's unique healthcare system where family, cultural, and community aspects are strongly integrated.

Training and therapy in action: HESAV students spent time with Universidad Santo Tomás students, discussing their training; the profession's overall evolution; their healthcare systems in light of divergent socio-economic conditions; and common and differing practices. Visits to community health and rehabilitation centers, hospitals, and retirement homes gave students the opportunity to observe local physiotherapists and other health professionals and see their therapeutic approaches in action.

Exercising dialogue: Participants developed skills related to their roles in prevention and health promotion. Part of the challenge: After a few classes, HESAV students had to express themselves in Spanish, adapting their communication skills and technical vocabulary.

Cultural strength: Chile – and the Los Ríos region in particular – boasts several ethnic groups, including the area's predominant Mapuche people. To deepen understanding of cultural influence in health, members of the Mapuche community hosted two workshops. A definite highlight was learning about the medicinal herbs and ancestral medicine the Mapuche still use today.

### Years running: 3

## Field:

Physiotherapy

### Partner institutions:

Haute Ecole de Santé Vaud (HESAV), Lausanne, Switzerland

Universidad Santo Tomás Valdivia, Chile

Students from SWITZERLAND

Professors from SWITZERLAND

PARTNER COUNTRY – 2 –



## Speaking of... Swiss multilingual education

February 28 - March 3, 2020 LAUSANNE, SWITZERLAND



The concept: A short-term program exploring multilingual education concepts, challenges and practices for student teachers at the Bachelor's and Master's levels.

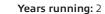
An exchange: This program was reciprocal to a 2019 visit by Swiss student teachers to San Diego in which they explored that city's experience with bilingual education. Bilingual education, particularly Spanish-English, is well established in the city that sits on the US-Mexico border.

A diverse region: In French-speaking Switzerland, language education is influenced by the country's linguistic diversity – with four official languages – as well as a high immigrant population. Multilingualism is simply an essential skill. Teaching second (and third) languages is a priority, as is integration of cultural and linguistic minorities.

Onsite observation: Onsite visits to schools were particularly helpful in illuminating the complexities of the region's approaches and policies surrounding education and language for the American visitors. In addition to visiting various schools where the Swiss participants currently teach, the group visited two professional trade schools. The University of Teacher Education Lausanne hosted a science day and a conference was held at the University of

In perspective: Analyzing and explaining how the school system functions in the region and the country proved to be an enlightening experience for the Swiss too. They gained added appreciation for the complexities – and for what works.

"The experience and seminar facilitated my sociopolitical growth and awareness of both the US and Swiss systems of education and culture, encouraged a more critical view of scholarship and practice, and contributed to my emotional, social, academic, and professional development identity. These are the types of experiences that strengthen institutional/ global partnerships, domestic engagement, and contribute to a more democratic and equitable society."



## Field:

Teacher Education

## Partner institutions:

University of Teacher Education (HEPL), Lausanne, Switzerland

San Diego State University (SDSU), San Diego, USA

Students from SWITZERLAND Students from PARTNER

**- 10 -**

COUNTRY

– 4 –

- 11 -

SWITZERI AND

**- 2** -

## Far is near: Media interaction with connected devices

March 1 to 8, 2020 BOSTON, USA



"Visits to design studios and the conversations that came out of these were so interesting and relevant for us as students." **The concept:** Digital communications play an ever-greater role in our lives. Distance no longer impedes real-time interaction: we can at once be near and far. Second-year Media & Interaction Design students from ECAL spent a week at MIT to deepen their skills and knowledge of their profession's role in these technologies through hands-on experience with connected devices.

**Real connection:** At MIT, the students discovered a system created to bridge the distance between Boston and Lausanne. Such a system comprises an input, which puts messages into the system, and an output, which interprets and relays the message. For the project, MIT Design Minor and BSc. in Art and Design students developed connected device inputs like joysticks, buttons and sensors. The ECAL students worked on outputs for the system based on technologies including web, virtual reality and projection. The two groups then brainstormed the next phases of the project, intended to follow in the semester, involving exploration of distance interaction.

**Cutting-edge:** MIT is known as a world center of excellence in the field – an inspiration and reference. It was thus a truly unique opportunity to meet and talk with some leading researchers and designers.

**Mens et manus:** The project is a perfect real-life example of the two sides of innovation that are embodied in MIT's motto, *mens et manus*, mind and hand.

Go to page 25 for an article featuring Pauline Saglio, Head of ECAL Media & Interaction Design, on how technology and education prepare Vaud students for a post-pandemic world.

## **Field**: Media & Interaction Design

## **Partner institutions:** ECAL/University of Art and Design Lausanne,

Renens, Switzerland

Massachusetts Institute of Technology (MIT), Boston, USA

Students from SWITZERLAND PARTNER COUNTRY

- 13 - - 7 -

Professors from Professors from SWITZERLAND PARTNER COUNTRY



## Community immersion proves critical to interprofessional program

June 8 – June 26, 2020 LAUSANNE, SWITZERLAND



The concept: In this program, called IMCO (immersion communautaire), students from different health professions work in teams of three or four on community health research projects. Multidisciplinary collaboration is important in professional healthcare practice, yet collaborative training is rare. IMCO offers that opportunity to study together and build understanding of the other disciplines. After laying the groundwork over a semester, the teams finalize their projects in China or India through community-based research and data collection. The immersive research fosters understanding of family, cultural and community aspects of health. For the nursing students, the resulting research papers fulfil their Bachelor thesis requirements. The study results are also presented at the annual IMCO conference and many are published in scientific research publications.

**About the year:** Four nurse-doctor teams formed and started to develop their subjects. But by March, before background research began in earnest, the travel segment was cancelled, as was the IMCO conference. What is a community immersion study without community immersion? Two of the teams nevertheless made the best of it and conducted rich literature reviews on their chosen subjects.

Immersion in a different community: In healthcare, prioritizing is an essential skill. In the urgent needs of the pandemic's first wave, nursing students – including those working in IMCO – were deployed throughout Western Switzerland to lend support where their help was most needed in the immediate.

"The community immersion is really key to the program. The unfamiliar environment helps catalyze the interdisciplinarity as they must draw on their best skills to connect with the community members and achieve their research goals. We had also released the nursing cohort from the Thesis requirement for graduation, so part of the program's interest was lost there too. The teams that continued to work together must really be commended."

Madeleine Baumann, Dean of International Affairs, Haute Ecole de la Santé La Source



## Years running: 7

## Field:

Nursing & Medicine

## Partner institutions:

Haute Ecole de la Santé La Source, Lausanne, Switzerland

University of Lausanne (UNIL), Lausanne, Switzerland

Students from SWITZERLAND Professors from SWITZERLAND

– 8<sup>\*</sup> –

\*Number who remained throughout

18 19

## China Hardware Innovation Camp... in Switzerland

August 31 – September 11 LAUSANNE, SWITZERLAND (in place of Shenzhen, China & Hong Kong)



"The CHIC program is a once in a lifetime opportunity to get together and produce a device that really resembles you and your team." The concept: How do innovative products get to market? It's often a long process starting with multidisciplinary teamwork throughout design and development, prototyping, testing and commercialization. As these various steps often happen in different parts of the world, the China Hardware Innovation Camp aims to give students hands-on experience in both multidisciplinary collaboration and international skills. Students from different fields and different Vaudois institutions form teams and spend two semesters to conceive and develop devices. They then head to China and Hong Kong to go through the final stages of prototyping, testing and pitching.

**Practical:** The projects are meant to concretely bring together concepts learned theoretically in their regular curriculum. To guide the students in their work, a variety of workshops are given along the way, as their ideas take shape and solidify.

**The unprecedented:** The collaborations had begun... several teams were brainstorming, investigating, drafting... then, all too early, the reality of COVID hit. The teams learned that the trip to China – without question the highlight of the program – would not happen. Instead of prototyping in Shenzhen and pitching directly to investors in Hong Kong, the prototyping would be done in Switzerland and the pitching with Hong Kongese investors by Zoom. Read page 32 - 33 to meet two teams who refused to let the pandemic stop them.

### Years running: 6

## Field:

Design, Business and Engineering

### Partner institutions:

School of Business and Engineering Vaud (HEIG-VD), Yverdon-les-Bains

HEC, University of Lausanne (UNIL), Lausanne

ECAL, University of Art and Design Lausanne, Renens

Swiss Federal Institute of Technology (EPFL), Lausanne

Switzerland

Students from Pro

Professors from SWITZERLAND

SWITZERLAND
- 23\* -

– **4**\* –

<sup>\*</sup>Figure for all students who remained with the program. Number includes students from EPFL not directly supported by DGES funding.



## Seamlessly knitting concepts and creativity for product design

October 5 – 10, 2020 BRESCIA, ITALY



**The concept:** Immersive experience for Master in Product Design students to connect them with a unique movement in the field. The program leverages a partnership with Santoni Knitting Machinery Co. Ltd.

**COVID-19 interferes:** A class of students was looking forward to a trip to Shanghai for a range of activities, including touring Santoni's factories there, from March 5 to 17. By the end of January, it was sure: no trip.

**Organizers quick to adapt:** A new option presented in Santoni's birthplace, Brescia, Italy. Organizers shifted into high gear. Despite the constant specter of COVID, by the end of the summer, they'd arranged a trip for October.

A textile hub: Brescia and the Lombardy region are considered Europe's leader in the textile industry. At Santoni's installations, the students learned about its renowned circular, electronic "Seamlesswear" knitting machines and technology that have revolutionized pattern design and flexibility. The technology offers significant industrial potential for the future of design. The students also visited Santoni suppliers and customers, as well as cultural sites including car museums – in line with the semester theme, car interior design.

**A success, but different:** Shanghai would have been a unique cultural experience, removed from the European context. But the bigger impact was that, with the delay to a new semester, the original group of students were sadly not able to go, replaced by the class behind them.

"With a full program combining cultural and professional activities, this was a great introduction to 3D knitting technology. I found it very helpful to be close to the machines and technicians to understand the sheer capabilities of this technology. As an introduction to a collaborative project, this trip was important for the creative process...and a chance to get to know my classmates better."

## Years running: 1

## Field:

Product Design

## Institution:

ECAL/University of Art and Design Lausanne, Switzerland

Students from SWITZERLAND Professors from SWITZERLAND



## GES International Affairs Activities

## DGES 2020 programs – among the many costs of COVID-19

In a typical year, more than 400 students from Switzerland, along with their peers from around the world, take part in DGES-supported programs. Imagine the excitement, the anticipation. For most, this discovery of another culture and another approach to their future profession is a highlight in the course of their post-secondary education. And to make these programs happen, hundreds of professors, deans, assistants, administrators and field professionals devote countless hours to organizing them. To them, it's worth it! Their efforts – well above the call of duty – offer students an immensely profound educational and life experience. In 2020, organizers put in this time and effort for 27 programs that were ultimately cancelled. We want to recognize their investment and thank them sincerely, with hopes that this effort will serve in other ways. We also hope that students who missed out in 2020 will have such an opportunity in the future, because we believe this experience is priceless.

## Programs cancelled in 2020

PROGRAM	LOCATION	INTENDED DATES
Nursing	Santiago, Chile	January 6 – 24¹
Physiotherapy	Hong Kong	February 17 - 28 <sup>2</sup>
Nursing	Lausanne, Switzerland	March 2 - 20
Product Design	Shanghai, China	March 5 – 17 <sup>3</sup>
Nursing	Singapore	March 9 - 20
Industrial Design	Taipei, Taiwan	March 30 – April 10
Nursing	Wuxi, China	April 6 – 24
Teacher Education	Lausanne, Switzerland	May 1 - 8
Occupational Therapy	Wuxi, China	May 18 -29
& Physiotherapy		
Wine Economics	Ithaca, USA	June 15 - 19
Public Administration	Guangzhou, China	June 22 - 26
Nursing	Boston, USA	June 15 – July 10
Nursing	Lausanne, Switzerland	June 22 – July 10
Nursing	Lausanne, Switzerland	June 22 – July 15
Physiotherapy	Boston, USA	June 29 -July 10
Business Administration	Yverdon-les-Bains,	July 1 - 29
	Switzerland & Shanghai,	
	China	
Nursing	Hong Kong	July 1 - 15
Viticulture & Oenology	Nyon, Switzerland	July 4 – 18
Computer Science	Yverdon-les-Bains,	
	Switzerland	July 16 - 31
Teacher Education	Chicoutimi, Canada	August 1 - 15
Nursing	Seoul, South Korea	August 26 -September 8
Nursing	Quebec City, Canada	September 7 - 18
Photography	Las Vegas, USA	October 2 -10
Medical Radiology Technology	Lausanne, Switzerland	October 12 - 23
Visual Arts	Johannesburg, South Africa	October 15 - 26
Nursing	Hiroshima, Japan	October 12 -30
Visual Arts	Sao Paulo, Brazil	November 8 - 19

<sup>&</sup>lt;sup>1)</sup> Cancelled pre-COVID due to social unrest in Chile.

<sup>&</sup>lt;sup>2)</sup> Cancelled due to protests in Hong Kong.

<sup>3)</sup> Program rescheduled for October in Italy with a different group of students.

## Examining the pandemic's impact from many perspective

The unexpected, unprecedented events of 2020 caused much rapid adaptation – not only for the DGES international programs, of course, but in everyday life around the world. Facing a global health crisis, we saw just how interconnected we are as people around the world. We saw our own fragility – and our own strengths. For us at the DGES, aside from practical implications of stopping 27 programs in their tracks, the situation was a catalyst for introspection, analysis and reflection. What follows are a series of feature articles sharing thoughts on the impact the year had, on the value of our missions at the DGES and the Vaud Institutions of Higher Education, and on what the future holds.

## Vaud's next generation will be ready

Real-world education is fit for post-pandemic "new normal" in interconnected world.

The evidence is in: Over a year of living with COVID-19, the numbers and the anecdotes agree that in many domains, the pandemic has accelerated the adoption of communications technologies and permanently changed the way we get many things done<sup>1,2</sup>. Vaud's Institutions of Higher Education (Hautes Ecoles – HE's) were no exception, switching rapidly to online and hybrid teaching wherever needed and possible.

The tools – technical and social – for global collaboration in this new context inforce participation. At the HEIG-VD, their comprise a notable part of both research and education at the HE's.

### The interconnected world

"The crisis showed to what extent our problems are global," says Cédric Junillon, Head of International Relations at the School of Management and Engineering Vaud (HEIG-VD). "We are more and more interdependent between countries... It is essential that our students be well-trained: skills for the global market are a baseline."

For several years the HE's and the Vaud Board of Higher Education (DGES), have had a mandate to prepare students for the global market including through international exchanges. By graduation, students have grown intercultural skills, and been exposed to other ways of life and other approaches to issues.

evaluating the impact of global issues and their own responses, notably with regard to their carbon footprint. "The ecological impact is a huge factor for us, both teachers and students," says Pauline Saglio, Head of Media & Interaction Design at ECAL/ University of Art and Design Lausanne. "In each situation, it's important to weigh the benefits and drawbacks of digital versus Ms. Saglio. "This is important because design in-person collaboration."

had to find other means of teaching, both with regard to their international programs and regular classes.

## Responding to the pandemic: The HE's discover they have what it takes

"We trained up the teaching body to switch to online courses in 10 days," says Mr. Junillon. "A lot of people have built these skills during this crisis and that will certainly serve in the future."

Mr. Junillon says using digital tools to their full advantage boosts success. Visual communication tools like Zoom or Teams can be used a dynamic manner, with subgroups, surveys and other features to recreativity had to extend further to continue to offer hands-on learning in fields like engineering and electronics, which require tools beyond classroom instruction. "We distributed DIY electronic sets to our students so they could do their labs at home under remote advice and supervision," he says. "And some of our labs were adapted to become available through telemanipulation so the students could continue to do their experiments remotely, viewing the results on the test bench through the newly installed cameras in the lab. It's a project that we had talked about but with COVID, we had to set it up overnight."

## Digital complements face-to-face collaboration - now and tomorrow

"Digital collaborations have the advantage of eliminating physical barriers and gaining Yet even before COVID, the HE's were time," says Mr. Junillon. "We can also reach more people with a large online class versus sending 50 students abroad, for example. In the current situation and in general, this facilitates international work."

At ECAL, professional experts often come to give workshops in their specializations. "With digital intervention, we are able to expand access to this human resource," says is a synthesis of information and it requires When the pandemic hit, clearly, the HE's various inputs including other approaches and design traditions."

> Both see the future of digital collaboration as an enhancement - not replacement - to





Pauline Saglio, Head of Media & Interaction Design ECAL/University of Art and Design Lausanne

Cédric Junillon, Head of Internationa Relations at the School of Management and Engineering Vaud (HEIG-VD) face-to-face interaction. "Meetings or classes done through visual media tire us faster. They take more concentration because we lose many of the cues we use to understand, like reading lips a bit or seeing responses around the room," says Ms. Saglio.

"Digital collaboration can be efficient, but there is no 'coffee break'," says Mr. Junillon. "These types of seemingly inconsequential interactions are vital to our well-being as humans... and the quality of the collaboration is ultimately inferior without them."

For international and intercultural learning, full cultural immersion can't be replaced. "In the DGES programs that we typically do, the students are all together 24/7," says Mr. Junillon. "Online, you're actually dividing the learning time by two or three at least." However, he thinks virtual experiences can work for shorter programs, noting positive feedback from a virtual student workshop given by a Chinese partner. Another example he gives are virtual fairs, where organizations can set up virtual booths and attendees can 'drop by'.

## Digital tools and skills - essentials in a pandemic and after

Ms. Saglio's area of work puts her in touch with a wide range of tools to support remote collaboration - including those that are upand-coming. "There are currently what I call connection tools for real-time interaction, based mainly on video, sound and text, such as Zoom, Webex, Google Hangouts, Skype, Discord," she explains. "Then there are collaboration tools – keeping documents in a common Cloud for real-time editing by multiple users." She cites Google Drive and Microsoft SharePoint as general use examples and GitHub or Visual Code Studio for programming. She also sees value in "remote play spaces... where people meet for games traditionally played on boards." This last, she says was - importantly something her students used to stay socially connected during lockdown.

"Human beings have always been creative and adaptable," says Ms. Saglio. "In the first wave, we had to rapidly change the way we think about things - our workspaces,

communication in general... But I think we Ecole de la Santé La Source's SILAB health are now plateauing in terms of creativity. We are worn out."

Yet she adds, "I think we may get a new surge of creativity when we look at what we'll keep and what we won't, how to organize ourselves when we move to the new tions and connected objects is a prime focus. normal."

## The HE's among the vanguard, opening possibilities in remote collaboration

Many of Vaud's HE's are not only using interactive digital tools and media, but are involved in their conception, creation and improvement – as will many students in their future careers.

To list just a few examples: At the HEIG-VD, Bachelor's and Master's programs in engineering, computer science and telecommunications prepare students to create the technologies and infrastructures that will facilitate remote interaction; at the University of Teacher Education (HEP), pedagogic use of media and information technologies is an area of research and training; the Haute

innovation laboratory investigates remote use of robotics in healthcare and exposes nursing students to this; and in ECAL's Media & Interaction Design program, creating effective, user-friendly interfaces for communica-

Part of the HE's strength in these technologies comes from the practice-oriented study. While fairly basic technologies can be used to deliver a large-scale traditional university lecture online, HE training involves much more hands-on learning with direct access to materials. "This ensures our students are very well-trained for real-world problems," concludes Mr. Junillon.

McKinsey & CO. "How COVID-19 has pushed companies over the technology tipping point – and transformed business forever" Survey, Oct. 5, 2020

Pericles asher Rospigliosi (2020) "Digital transformation of education: can an online university function fully?", Interactive Learning Environments, 28:8, 945-947

> Students from Vaud HE's create and use a broad variety of technologies for remote communication and collaboration during their studies.

You don't hieght: only the unload hate, the unloved and ne unnatural. sealers, don't fight for slavery, fight for ou the people have the paar, the po reat the pour to create hipness! You th wer to make this life furry and so onderful adventured! Then, in name us use t ower. Let us all d,ac world. T E + 1 E + Système A règler No = time before plot at yo

## swissnex stays global in a world with less travel





Gioia Deucher, swissnex San Francisco

Below: Oliver Haugen, Head, New York Office. swissnex Boston

Is it unseemly to think about positives that the change of environment that you get from have come about because of this global pandemic? Consider this: Throughout modern history – and perhaps all history – crises have forced innovation and adaptation. The COVID-19 global crisis was no exception to this rule. With the shelter-in-place restrictions around the world and entire industries forced to work from home, innovation was the only option.

This need to quickly adapt and innovate certainly applied to Vaud's partnerships with the swissnex outposts in Boston, along with its New York office, and San Francisco, which have given Swiss students opportunities to participate in learning programs in the US for years. In 2020, both San Francisco and New York had programs scheduled for students from Vaud to work onsite and learn from experts, exploring various aspects of swissnex ingenuity. But by early March, it was clear all remaining programs would need to be cancelled or modified.

"We transferred most of our events to an online format, which absolutely has advantages – and of course drawbacks," explains Gioia Deucher, CEO of swissnex San Francisco. "The advantages are that you can include people without them having to travel places, so they are more easily and readily available to participate, whether they are actually in Switzerland or the US. You can create global content and you are no longer constrained. You can widen and broaden your audience geographically speaking."

The leadership at swissnex had recognized early on that the academic instruction in their programs wasn't the main long-term value to students. Rather, what set the onsite programs apart were the intangibles: the opportunity for professionals and students to interact in casual settings; being pulled out of one's day-to-day life to experience a different location and culture; and the ability to create connections across the globe through a multi-week engagement, connections that carry on well beyond the immersion program. These intangibles were difficult to recreate - some, impossible.

"The most important thing you miss in online alternatives is what comes simply from

being physically present in NYC," explains Oliver Haugen, Head of swissnex in New York. "It's what we call in French dépaysement, that is the learning that you get from being physically outside of your usual space."

The essential question to moving forward in 2020 was how to keep those critical components of the program alive in a world where teams could not be in the room together. For swissnex, with its focus on communication innovation, this challenge pushed their team to look at what was possible immediately and what might be viable for the future.

"Like everybody else, we had to think hard about how to adapt, what the type of impact it was going to have, and where was it going to hit most on our programs and collaborations," explains Mr. Haugen. "Part of our job is to help our partners achieve meaningful and interesting connections with the talents, organizations, and key learnings that you would get in the ecosystem that we work in. The challenge for us was how – what kind of replacement can we organize? How can we make the best of it?"

From the perspective of swissnex SF, Ms. Deucher says: "In our space in San Francisco, we have living labs so we always experiment on future work and what it might look like. We are transforming our space to fit those future needs, including on the event side, bringing in a technology setup to do hybrid events... Holographic technology, for example, is something we want to experiment with in 2021."

Ms. Deucher says that the most cuttingedge technologies are not always 100% reliable for a real-use setting. She describes their approach as "two-pronged". They balance the need to "work with what works", such as video conferencing systems for events, with "bringing in cutting-edge startup technologies, where we can experiment in settings that are not dependent on the technology working 100 percent perfectly and smoothly."

Mr. Haugen points to one program they successfully adapted. "One highlight that we look forward to every year is Design Week in New York, where swissnex Boston and the Consulate General of Switzerland in New York



## SII AB innovates to promote innovation in challenging year

## Q&A with Dr. Dominique Truchot-Cardot, Medical Doctor, Professor and SILAB Director



Dr. Dominique Truchot-Cardot, MD, SII AB Director

### Q: What is SILAB?

A: SILAB – Source Innovation Lab – was first conceived of about five years ago to create links among innovators and healthcare professionals. We wanted to fill a gap: accelerators or incubators in business fields were common, but we saw nothing to support been open just over two years now, in the Beaulieu satellite of the Institut et Haute Ecole de la Santé La Source.

Our external mission involves working with young start-ups and organizations with specific innovation needs. We create the conditions for concepts to be discussed, developed, and tested safely and scientifically, to bring ideas to reality. We work with Swiss entities like Innovaud, Innosuisse, as well as internationally, especially through partnerships with swissnex.

Our internal mission is to train La Source students, familiarizing them with the process of innovation. Between our external and

internal missions is the concept As for our event of acculturation. We bring them projects, however, together for interdisciplinary collaboration, so each side under-

> other. We put together caregivers who come with real-life problems and people who have the technical background to bring realistic solutions. There are few places like this where they can do that.

the year was a bust.

## Q: What impact did the pandemic have on SILAB's activities in 2020?

**A:** In terms of research projects and work with start-ups, we've never been so busy. The pandemic accelerated a lot of needs. Many research projects were directly related to the pandemic, in part because there was funding available. But others were forward-looking, anticipating post-pandemic needs, like systems designed to keep track of hospital equip-

ment. There was also a heightened focus on innovation in management, society, ecology, economy. We had start-ups from everywhere - the support from the DGES was key there. We served as an interface to bringing innovations into hospitals, because doors opened based on their confidence in us, which was solutions to hands-on healthcare needs. It's really rewarding. Our role as an innovation center is more firmly appreciated.

> As for our event projects, however - Défi Source and 6-labs – the year was a bust.

## Q: What are Défi Source and 6-labs, and what happened with them in 2020?

A: Défi Source 2020 was to be the big event, the great encounter between caregivers and innovators. It was designed to bring together students from an unlimited range of disciplines – from healthcare to business to engineering and more - along with entrepreneurs, patients, healthcare professionals and anyone with ideas for nursing science solutions or a desire to help. The program involves a four-step process: project proposals and team creation; a pitch day; a boot camp for development, prototyping, testing; and a public presentation day. After that, we stands the contributions of the support promising teams longer term.

Unfortunately, precisely at the exact moment it was to begin, the pandemic hit. To not lose momentum, we thought of holding several small events – parts of what we would have included in Défi Source - within mandated restrictions of course. So that became 6-labs, with sessions planned on topics like homecare or economic innovation in healthcare. We had a first, very successful, event in October. We had tables of five or six people from all walks of life - healthcare workers, engineers, students, patients. The DGES supported this initiative, promoting it around all the Institutions of Higher Education. We had students sitting with hospital administrators or university deans - a real

mix of people who wouldn't necessarily get that opportunity for a close exchange. We planned a second event in November but COVID came back, so we tried a virtual version. The event frankly lost its soul in virtual.

## Q: What was it about the virtual 6-labs event that didn't work, compared with the live one?

**A:** There were far fewer attendees, so we lost a lot of the diversity. There were a lot of engineers and hardly any healthcare professionals. We lost the perspective of the students - only three or four came. Students were doing all their classes virtually at that time and they were fed up; they saw it like doing anthe dynamic sort of exchange where you're working together, challenging each other all on equal footing. It was still interesting, but much less productive. The speed, the depth, the dynamism of the ideas exchange was lacking in the virtual setting. And the conviviality was missing – this is something that is especially important for caregivers when you bring them into this kind of exercise.

maining 6-lab events indefinitely to concenit happen, that's what we'll do. trate on remaking Défi Source for 2021.

## Q: How are the plans for Défi Source 2021 going, and how will you deal with limits or restrictions, not knowing how the COVID situation will evolve?

A: It's delayed by a year, and COVID is still going on, but we understand it better, have better tools and contingency plans. The first bit, in March 2021, is virtual with teams connected and working through the Innoboard, a digital ideation platform for teams to collaborate and co-create. We will put together teams based on their skills, interests and diversity.

Pitch day is to be a hybrid event, with one person representing each team as we meet in an amphitheatre – keeping numbers within regulations. I hope the environment will still allow for a bit of the "pitch feel" and the energy you get from such an event. Presenting a project while sitting in your kitchen doesn't cut it.

The part where they really work together with each other, supported by coaches, is between April 30 and May 7, so hopefully things will be calmer. However, we have planned it in such a way that we can spread people out, 12 teams of five or six people in separate rooms. They do a bootcamp over an extended weekend and present the work other class virtually. And indeed, there wasn't before an expert jury at the end. There will be prizes in the form of support to bring the projects forward, adapted to the project type and maturity. There are no bad ideas -I tell students the biggest risk is to succeed. We're hoping to find ourselves with 10 or so projects to follow and support through the year following the event.

So basically now, we've planned it with a lot of flexibility and pragmatism. If that's We ended up deciding to postpone the re- what it takes to fulfil our mission and make





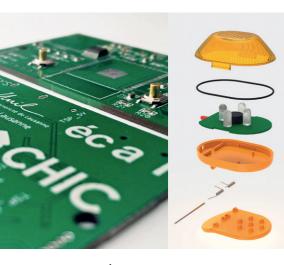
Below left: A view of a SILAB meeting room. Below right: The first 6-labs event October 2020





## No China for the China Hardware Innovation Camp? No stopping

Their ideas were strong. Their dedication was stronger. How two CHIC teams overcame the disappointment of a cancelled innovation visit to China to experience international entrepreneurship differently.







Alternating images from the CHECK-Y and Canary projects: from left, the CHECK-Y circuit board: deconstruction of the Canary prototype; a digital model for CHECK-Y; and the Canary prototype

Opposite: A deconstructed view of the CHECK-Y prototype.

"China was closed before any other country so we knew quite early that we couldn't go there. We were sad at first and then we just said, 'OK, we need to adapt and continue working on our prototype here in Switzerland,"" remembers Nicolas Mauroux, a student at the University of Lausanne's Faculty of Business and Economics, and a member of CHECK-Y, one of the 2020 teams in the China Hardware Innovation Camp (CHIC). "Then the coronavirus hit Switzerland and everything changed again."

In our interconnected world, the process of design, development and prototyping of devices often happens in different parts of the globe, with designers, developers and engineers from different educational and cultural backgrounds. Since 2015, CHIC has offered students the chance to gain hands-on experience of all the steps involved as they transform an idea into a connected device.

Vaud students from the School of Management and Engineering Vaud (HEIG-VD), the University of Lausanne (UNIL), ECAL/ University of Art and Design Lausanne, and the Swiss Federal Institute of Technology (EPFL) work in multidisciplinary teams (other institutions from other cantons also participate). The multi-semester program culminates in a trip to China and Hong Kong to understand and gain experience in the parts of the innovation process that may happen in that region.

In early 2020, as the world ground to a halt, CHIC organizers and students got creative to quickly transform, aiming to maintain the core value of the program.

"Going to Shenzhen and Hong Kong is a key factor for many students who opt for the program, but that's only two or three weeks out of a year of learning," says Dr. Marc Laperrouza of EPFL, who leads the program. "When faced with the pandemic travel restrictions, we evaluated the learning outcomes that we had for China and looked for ways to accomplish some of them in

Switzerland. For example, we visited a printed circuit board factory. It's true it was difficult to achieve our intercultural goals, but I think the students valued our efforts."

The CHECK-Y team, made up of students from EPFL, UNIL and ECAL, designed and developed a 'smart headband' for athletes to monitor head impacts. They had planned to test their devices with hockey players, but the outlook of the next generation. "Nothing COVID-19 changed this too.

"By February we had prepared our surveys, we were ready to go! We had contacted all the hockey clubs... but just like that everything stopped, the clubs closed. It was impossible to get any feedback," explains EPFL Firmware and Software Engineering student Diane Marquette. "We were each alone in lockdown, but we had to find a way to keep moving forward together. Interviews we'd done in November and December 2019 with sport physicians, coaches, physiotherapists and hockey players gave us some insights. We exploited these to full potential, but it was very, very frustrating. We were finally able to do a bit of real testing in September 2020 – it made a huge difference!"

Another team designed and developed the 'Canary', a small wearable device to improve safety for railway workers. It alerts them individually when a train is approaching, sounding an alarm and flashing light. Early on, the Canary team lost its engineer due to the situation. The remaining UNIL and ECAL students had to persevere creatively to get their product to prototyping. They decided the best approach was to see the pandemic's challenges as opportunities.

have the same educational background as you. They haven't necessarily got the same approach to problem solving," says Noémi Soriano, a Canary team member who studies Industrial Design at ECAL. "The program let us experience how important relationships are in business and decision making."

The value of teamwork was also an important lesson for CHECK-Y members as COVID-19 wore on. "At the beginning of the project, we actually mapped various scenarios that we may have needed to manage – but we definitely never imagined of a pandemic!" says Ms. Marguette. "However, even in the middle of lockdown we still had team meetings virtually and tried to keep a rhythm. We learned a lot."

Dr. Laperrouza says he has the utmost admiration for the teams that stuck with it. "CHIC is one of the few opportunities in a student's education to actually have a blank sheet of paper and do something themselves," he says. "I'm not surprised that they kept working because that was the name of

the game – to be autonomous. However, it was very difficult, if not almost impossible in certain cases, for them to do physical prototyping and testing. But because they feel so much ownership, the cost of giving up is high."

Reflecting on the broader impact of the DGES's international programs, Dr. Laperrouza is deeply convinced of their value in shaping has ever grown or blossomed by being closed down," he says. "By going through such a program, hopefully our students bring cultural learnings and creativity into society. The Canton is smart in doing this - they're creating open mindsets."

For team CHECK-Y, the future is yet to be decided. They have considered creating a start-up, but also feel it would simply be rewarding if researchers could use their codes, electronics and design to advance research and make a difference in peoples' lives.

The Canary team received some additional funding to hire an engineering consultant and prototype their device. They are now talking to major rail companies, including the Swiss SBB, as well as companies

that produce safety tools for railways. They say the program has opened their eyes to life beyond study as they have developed a product that they want to keep taking forward

"We were sad at first and then we just said, 'OK, we need to adapt and continue working on our prototype here in Switzerland.""

Team member Tobias Tingström, a business student from UNIL, says one of the most important learnings is the power of research.

"You really have to interview, interview, interview and get to know all those who "It's harder to work with people that don't have an interest in your idea – users, safety personnel, insurance companies and more," he reflects. "Talking with them, you gain a better grasp of the problem and the context. If you don't know this in depth, potential investors won't trust you. Customer insights

> "What I'm most amazed about is that people in the industry, like railway, engineering and transport companies, seem really interested and see our product's potential," says Mr. Tingström. "In that sense, I'm proud. It's our baby – we are motivated to go as far as possible. Our vision is that a Canary would be worn by every railway worker, keeping them safe, not just in Europe but around



## A unique vintage: Old world and new connect in DGES program

Caroline Schaub and AJ Williams met in 2012 at a DGES-supported collaborative course that brought together the viticulture universities they were then attending, Switzerland's Changins - Haute école de viticulture et ænologie and Charles Sturt University in Australia. The couple now run their own wine label Down Under – the ultimate in long-term program collaboration.





Patrik Schönenberger, Instructor, Changins Haute école de viticulture et oenologie

Caroline Schaub-Williams and AJ Williams, former DGES program of Next Crop Wines

→ nextcropwines.com.au

"I've always enjoyed the idea of making something to share with people. The whole idea of interpreting a piece of soil, tending the vines, picking the grapes, making the wine and putting that on my table and saying 'welcome, this is what we do' is magic to me."

That's the heart-warming sentiment of AJ Williams, a viticulturist who studied wine science at Australia's Charles Sturt University. As a student there almost a decade ago, he took part in a collaborative education program billed as a 'Wine and Viticulture Tour' alongside students from Vaud's Changins -Haute école de viticulture et œnologie, in the remote Australian town of Wagga Wagga. Like wine itself, the program brings people together.

Patrik Schonenberger of Changins has organized the Wine and Viticulture Tour since 2008. "At the beginning of each edition, I say to the students that this program is really their opportunity to establish a professional network around the world," he says. "And, because the program is so intense, the students really form lasting bonds, staying in contact through social media. If they visit a region, they contact other program alumni."

Mr. Williams vividly recalls meeting Changins student Caroline Schaub at the 2012 program. "As part of my assessment, I was presenting my chosen topic, Riesling with different acidity and sugar levels. Ms. Schaub was sitting in the front row and I didn't understand why she didn't come up to

taste the different wines," he says on a Zoom call from their home in Australia. Beside him. Ms. Schaub laughs, "I was really focusing on the presentation because your Australian accent was so strong, I didn't understand. Finally, I realized 'I can taste the wine now'!"

Mr. Schönenberger points out that the program, which began in 2008 as a partnership between the US and Switzerland, now unites students from four corners of the wine world - Switzerland, the US, Australia and South Africa. He says that many former students go on to further round out their craft by participating in harvests in other regions. This was the case for Ms. Schaub, who participated in vintages in the United States in 2014 and Argentina in 2015.

Mr. Williams and Ms. Schaub met again in 2013, as they were both chosen to participate in a reciprocal exchange in Switzerland. Mr. Williams recalls he was most impressed to see the contrast between new-world and old-world winemaking. He reflects that learning from this was both humbling and a huge value-added for the students from such a different industry culture as Australia.

Ms. Schaub concurs, describing her passion to understand the contrast in the way wine is made and approached. "The sizes of the new-world wineries are so different and the whole purpose and way of making wine is different," she says. "In Switzerland we have a lot of small, family-owned wineries and if you work in wine you do pretty much



everything. In most new-world wineries you are either specifically in the cellar or in the vineyard or in marketing. It's a completely different scale.

"The exchanges open your eyes to what's done in other countries, and what is important in those different environments, particularly for wine in a climate sense. Educationally, learning all the things about how people make wine in different parts of the world is enriching and I still have contact bottles annually from their back shed, but with a lot of people that I met through the program," Ms. Schaub says.

One of those people Ms. Schaub stayed in contact with was Mr. Williams! The two communicated online and, after several years of a long-distance relationship, married in January 2019. Ms. Schaub now calls Australia home but is grateful for her education at Changins, believing that it, and particularly the international collaboration and intercultural skills that the summer programs fostered, made her the professional she has become. Today she is Assistant Winemaker

Together, they also run Next Crop Wines, in the Adelaide Hills in southern Australia. described on their website as 'being on that different side of the page by producing wines from alternative varietals and trying different wine styles'. Ms. Schaub and Mr. Williams try something different with their wines every year, including uncommon and daring styles or blends.

For now, they produce around 500 dozen Mr. Williams believes that with patience and the right decisions, this can certainly grow, "I've been doing viticulture for 20 years now so I have my ideas of what I want to get out of the soil, and with Ms. Schaub's ideas of winemaking I think we could definitely bring old world and new world together and deliver something unique," he says.

Ms. Schaub expands on that – envisioning a future with them owning a small vineyard and a Bed and Breakfast where they can welcome guests. She has another wine goal in her adopted home, "We need to bring



## It all started with the DGES

Teaching, research, a company: Dr. Staderini's growing list of collaborations in India

Dr. Enrico Staderini, a Professor of Biomedical Technologies at the School of Management and Engineering in Vaud (HEIG-VD), was involved with one of the first DGES international programs, in India in 2007. Little that time would lead to ongoing research and teaching collaborations that have only deepened over 15 years.

The Vaud Board of Education (DGES) international educational initiative was launched in 2006, with a handful of programs across various disciplines. The goal was to harness international collaboration to build unique experiences that would increase Swiss students' intercultural skills and prepare them for the global marketplace.

and confirmed over time was that the colla-

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boration and global impact extended well beyond the structhe complexities and the tured learning experiences. Out of these programs, new enterprises and collaborations have been forged, creating a more sustained and dynamic global presence for the Swiss partners.

While Dr. Staderini's founda-

tional education was as a medical doctor. much of his focus has been on medical devices. His research in neurophysiology instrumentation and biomedical electronics at HEIG was a good fit for this new international initiative.

Dr. Staderini explains his interests as the initiative kicked off and his team was offered the opportunity to participate, "They were recruiting a group of professors to go to India and to have contact with other universities, to see if there was a possibility of internationalization of our universities. I was very, very curious. I had no idea about India, not even the geography within the country. The idea was to go there and see what could be done. I didn't consider India a third-world country. They were in a good position from a

Dr. Staderini's early programs involved several partnerships. "Initially, I got support from the International Affairs at the DGES

and swissnex India. I also had very good connections with the Swiss general consulate in Bangalore. I had financing to host students from India here in Switzerland."

Leveraging these connections and funding did he know that the connections formed at from JNTUK, Dr. Staderini began teaching in 2011 at Jawaharlal Nehru Technology University Kakinada JNTUK (Andhra Pradesh), to fulfil a need expressed by his peers in India. His work there focused on sports medicine, a core concern in a country working to develop a more comprehensive sports training program, from children to college-level competitive programs, with the hope of growing global competitiveness. Dr. Staderini says, "In the last Olympics they had just one silver medal. For a country with 1.3 billion people, What became evident almost right away that is very low. They are pushing to introduce sports programs all over the country."

From the focus on sports medicine, there was a natural extension into broader use of medical devices in the country. He explains, "In the last few years, before COVID, I was going to India two or three times a year. When there were pauses in my teaching here, I was there teaching and running programs. Eventually I created a lab there with western-style instruments."

By 2016, Dr. Staderini saw that there were other needs that he could help fulfil, building medical devices that would work within the dynamics of the country. Although the urban regions had access to medical facilities, rural communities commonly did not. And equipment needed to be able to function in heat, rain, after traveling through the dust of unpaved roads. Mobile signals might be intermittent, so any device had to store information until it could be connected to wireless transmission.

"The final project we are starting on is focused on telemedicine to be deployed in Andhra Pradesh State," he explains. "I was able to leverage good contacts with the Ministry of Health and the Ministry of Tribal Affairs for the state. A couple of my students scientific point of view. And then I fell in love worked for three months at the Indian Hospital there on a telemedicine software for rural and tribal populations.

"Most of the population lives in rural areas where the only good connection is by mobile phone. So, we were investigating simple devices for acquiring vital signs, that send data into the main cities, like Visakhapatnam or Kakinada, through the phones. The work is ongoing; we are studying how to implement a telemedicine framework through the existing publiclyfunded healthcare service infrastructure. This is very important, because we should work in parallel [to the existing infrastructure] and avoid introducing disrupting activity."

Dr. Staderini realized there was potential to create a long-term opportunity through a new company, built from his years of experience in India. The company's labs have been active since the end of 2019 within the Acharya Nagarjuna University in Guntur. It will be incorporated as Medtechaholic Pvt. Ltd. with headquarters in Vijayawada, Andhra Pradesh (incorporation was postponed due to the pandemic). The value of the new enterprise, he says, goes beyond India, with envisioned tools and technology relevant around the world.

"When you are faced with the complexities and the difficulties of a working in a country like India – which is still a developing country even if some cities and regions are

well developed – you understand what really matters for conception of a medical device," Dr. Staderini says.

"For the user interface, you need to understand what it really means to the end user. For example, if the person is not very well educated from a medical point of view or cannot read English, you need something particularly simple to use."

He says the environmental conditions are also a consideration for physical design - in conditions of high heat or damp, for example, devices must be particularly robust. When designing to meet these software and hardware needs, they create devices useable

As Dr. Staderini prepares for his retirement in August 2021, he envisions a future with one foot solidly in India and one in Switzerland. He sees the intrinsic value in the challenging work of crossing cultures, countries, and connections. "For myself and the Swiss students I worked with there, this experience is not something that you can put value on in economic terms."

Dr. Staderini in 2014 with visiting students at the HEIG-VD

Acharya Nagarjuna University Auditorium, Guntur, Andhra Pradesh,

India, 2018

PSG College of Technology Auditorium, Coimbatore, Tamil Nadu, India, 2012



## Turning point: DGES international programs adapt for the future

Q&A with Maxline C. Stettler, Director of International Affairs, Board of Higher Education, Canton of Vaud



Director of International Affairs. Board of Higher Education. Canton of Vaud

Q: Describe what decisions and adaptations the DGES and the Institutions of Higher Education had to make regarding its international programs for students in 2020.

**A:** While a few projects took place in January and February, we made the difficult decision in March to not send students abroad for the rest of the year. We were able to hold a few programs online or in a different location, some others are postponed or may not hap- that we would only do programs online or pen. However, one project that we'd rebooked to take place within Switzerland had to be cancelled again due to the second wave. This is the level of uncertainty and complexity – safety is paramount, so we have to be both agile and pragmatic.

In terms of the possibilities for moving programs online, we had to consider the fact that for much of the time, the students were already doing their regular courses online. So for our programs, we were careful that, one, the differentiating international element would clearly be there and two, simply that we didn't contribute to "online overload".

Postponing the programs was necessary but dismaying. Year after year, we hear students describe their international programs as impactful, eye-opening, life-changing. Here is a whole cohort that may miss out on that if we can't provide it at a later date. We will do everything in our power, though, to see that that doesn't happen. We have confidence: creating these programs in the first place took an innovative mindset on our part so now we'll apply that to this new reality.

## Q: Were there things during 2020 that you would do differently now, with hindsight?

A:No, I don't think so. I think, ultimately, we really didn't have a lot of margin for decision-making. Considering the importance of keeping our students safe, we saw as the situation evolved that there was too much risk with travel. So the decisions were taken relatively rapidly and there was little ambiguity as to what was the most appropriate

## O: At what point were decisions made regarding 2021 and what were those

A: Director General Chantal Ostorero and I made the decision around September 2020, in Switzerland in 2021. It's a watered-down delivery of our mission, but it is clearly the only safe way. And we are seeing even that is not enough. For example, an innovation program, normally held in San Francisco, was set to take place in Zurich in February. This had to be cancelled, with the exception of one component, a week-long Design Sprint, held virtually. It is frustrating, but all this underscores our need to be flexible and patient as we continue to face this pandemic.

We have so far planned only about five or six projects total, although that may rise, as the work to adapt them is ongoing. It's clear that some projects we can adapt and do online or in Switzerland, but others, not.

## Q: What impact has the pandemic had on the DGES's overall approach and philosophy to promoting student

A: What I found interesting, in looking at what happened in 2020, was that - without our seeking it – it launched our programs into a sort of "third phase" of existence.

The first phase, in the first four or five years, was one of development. We established partnerships and grew programs, supporting and encouraging schools and programs that were motivated to go abroad. After that, there was a second phase lasting almost a decade, where we maintained a cruising speed with long-term partnerships in an established and functional manner.

But already in 2018-2019, our thinking was beginning to change. At that time, our awareness of climate impact came more to the fore, in part led by the students. We'd therefore begun to seek ways to offer the students international and intercultural experience with a lower carbon footprint.

So the pandemic came on top of that, and they cannot get that from theory. adding profound health and safety concerns to climate impact concerns. 2020 accelerated the need to investigate new frameworks for our mandate. I do believe there is positive to be found in this growing awareness, or consciousness, and repositioning of our Europe and are also creatparadiams.

In light of concerns for ecology, and now for health and safety, we're changing what makes sense to us. Not in terms of the value of international and intercultural experience - that remains absolutely critical - but we're School of Teacher Education, since teachers developing a broader spectrum of formulae for how to provide that to our students.

## Q: How do you see the next years unfolding?

A: What happened in 2020 has awakened our consciousness. We see that we as humans are not in control of everything. We elements may mean we have to adapt.

However, the pandemic has shown us that certain things that took so long to implement and seemed impossible are actually possible and even possible to do rapidly, such as online courses. For us at the DGES, this is boosting our flexibility even further. Online courses and the like didn't previously fall into our mandate, but we've now come to see how we can leverage them for new ways of developing multicultural skills.

In this "third phase", we aim to maintain some projects in the international exchange format we've developed since 2006, getting them back up as soon as it's safe. For some,

the value is too inherent in literally being on foreign soil. For example, the oenology programs compare old-world and new-world wine practices. You have to see and participate in the vintages and operations to understand. The students later infuse that handson experience in their professional practice,

However, we are additionally imagining projects that we can bring closer to home and still offer great benefits for the We're changing what makes sense students. We're looking at ing interlinguistic exchanges with the German and Italian regions of Switzerland. These are particularly valuable to students at the HEP, the

to us. Not in terms of the value of international and intercultural experience – that remains absolutely critical – but we're developing a broader spectrum.

in Switzerland are required to teach other national languages. Even though these take place in Switzerland, our department remains the logical one to oversee them since the execution is the same as our internation-

For 2022, I expect we will address the question of programming in detail towards can say, ok, let's plan projects for 2022, but the end of summer 2021. Experience will now we recognize that in reality, unforeseen enable us to adapt effectively. If, for example, we see this year that the Swiss interlinguistic programs work well and fulfil our mandate, it makes sense to take them forward in future years.

> Beyond that, in terms of re-establishing international programs, we'll have to see from a practical standpoint and assess the situation both from our side and from our partners'. We'll use all our ingenuity to make it happen, as our programs provide a huge benefit to students. Many just can't be replaced with local programs or Zoom exchanges. Experiencing divergent views of life opens students' eyes not only to the other culture, but to their own.

## Remembering those we lost

stress of not knowing, while others worked overtime – a particular thought goes to the scientists developing critical tests and vaccines. Many people took on additional duties, caring for neighbors and elderly parent, and schooling children. The toll on our mental

report is dedicated to them.



heart of this partnership that brought years of multicultural learning to countless nursing students. Our collaborations were marked by her irresistible energy, her openness and her kindness. Dorothy was more than a valued partner to us; she was a cherished friend. She was also "Mama" to two daughters and a devoted caregiver to both her parents, who

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