

# 2019 Annual Report

HSeT Foundation  
Chemin des Boveresses 155  
1066 Epalinges, Switzerland  
<https://hset.org>

## Executive summary

In 2019 the Health Sciences eTraining (HSeT) Foundation has been facing major changes and challenges. The president of the Board, Prof. Dominique Sprumont resigned and was replaced by Dr. Michelle Rossier. Prof. Mathieu Nendaz, vice dean for education at the Geneva University Medical Faculty has replaced Prof. Antoine Geissbuhler, elected Vice Rector at the Geneva University. As mentioned in last year's report, HSeT had to deal with technical issues to satisfy the request from some of the HSeT's partners. Several important online programs required intense tutorship provided mainly by the HSeT team, members from the Scientific Advisory Board and from the HSeT Academia. We wish to thank them for their contribution.

Customized OnLine Training (COLT) activities in the form of online masters, bachelors, courses and workshops have been used worldwide. Samples of what has been offered by HSeT in 2019 are listed below:

- **Bachelors and Advanced studies (Master, Diploma, Certificate).**
  - ◊ **Bachelor of Medicine (University of Mauritius).** The Mauritius students studied for the 6th consecutive year the four modules with their 69 case-based learning activities (CBL) and the related content. Many students have graduated after completing both the Bachelor and the Master programs (page 4).
  - ◊ **Bachelor of Medicine (University of Geneva).** Nathalie Debard, scientific coordinator at HSeT has joined UDREM (The Unit of Development and Research in Medical Education) where she spends two days a week. Her task is to adapt the clinical cases developed for the Mauritius University to the needs of the bachelor of the Geneva Medical Faculty (page 5).
  - ◊ **International Master of Vaccinology (IMVACC) (University of Lausanne).** The students of the class 2016 have all completed their master thesis and received 60 ETCS credits and the diploma from the University of Lausanne. One of the students, Nicolas Peyraud has joined the HSeT team and he contributes to the development of field activities related to vaccines. The 5 students of the class 2018 are currently working on their master thesis project. The 8 students of the class 2019 have completed the first year and have successfully passed the final exam. They all have selected a project for their master thesis. Sixteen students have registered and have been accepted by UNIL for the class 2020 (page 5).
  - ◊ **DAS/CAS in Translational Nephrology (University of Bern).** The five eLearning modules on the renal control of homeostasis developed for the NCCR Kidney.CH network are now offered as a Diploma (DAS) or Certificate (CAS) of Advanced Studies by the University of Bern (page 4).
  - ◊ **Postgraduate study curriculum in Translational Medicine and Biomedical Entrepreneurship (University of Bern) (TMBE) and Artificial Intelligence in Medical Imaging (AI in MI) (University of Bern).** HSeT continued its collaboration with sitem-insel AG (Prof. Jürgen Burger) with respect to the study program in translational medicine and biomedical entrepreneurship and new program on Artificial Intelligence (AI) in Medical Imaging. Both study programs are financed by sitem-insel AG. The second cohort of the TMBE has completed all modules of their MAS or CAS, respectively, and is currently working on the MAS/CAS thesis. A third cohort has started in September 2019 and has already completed module 1. Like the first cohort, the results of the evaluation were very good. The sitem Center has started in September a new CAS of AI in Medical Imaging with MDs as target audience (page 6).
  - ◊ **Master of advanced studies in toxicology (MASTOXICO).** A new session had started in September 2018. The 24 students come from all parts of Switzerland and from several European countries. As the participants are actively engaged in their professional life, they particularly appreciated the distance format of HSeT's module, "Basic Principles in Toxicology". A HSeT team member created a new e-Learning module on "The oxidative stress". HSeT is in charge of posting the detailed programs and the handouts of the courses (page 6).
- **Scientific advisory board (SAB).** The SAB created in 2017 consisting of four members, Profs I. Knezevic (WHO), W. Reith (University of Geneva), J. Gruenberg (University of Geneva) and F. Verrey (University of Zürich) have met twice in 2019. Walter Reith has accepted to act as the future CEO of HSeT. François Verrey has taken the lead in the CAS/DAS in translational nephrology. (page 8).
- **Relation with the Geneva Faculty of Medicine.** On September 2, the HSeT team met in Geneva with the Prof. Cem Gabay, Dean of the Faculty of Medicine, Prof. Mathieu Nendaz and Prof. Walter Reith to discuss the future of the HSeT UNIGE collaboration. The Dean confirmed the financial support for Nathalie Debard and established a job description described in more detail in page 12.
- **IT development.** HSeT in collaboration with Amaris has implemented a new user responsive interface, thus facilitating its use on tablets and smartphones. HSeT in collaboration with the Swiss Italian University (USI) has set up a Moodle server hosted at USI, which is already used in the sitem postgraduate programs and IMVACC. Moreover, HSeT has advanced significantly with a procedure to extract high quality content material from its CMS and transfer it to different platforms (page 10).

## Activities and Accomplishments

### Courses

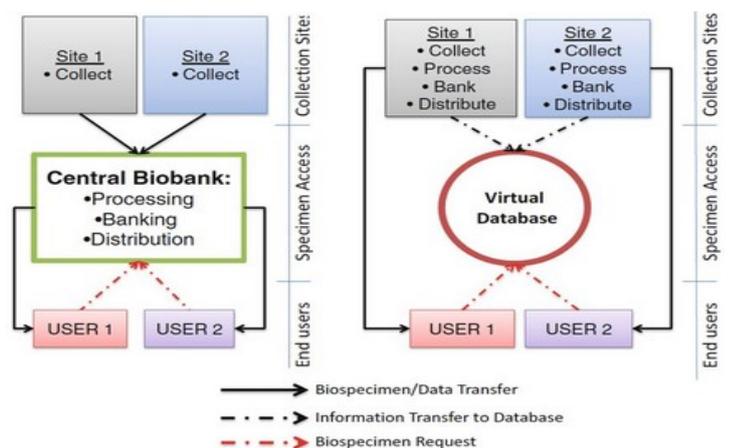
- Vaccinology course at the Pasteur Institute.** Since 2008, HSeT is responsible for organizing the web-based activities of the Vaccinology Course at the Institut Pasteur, Paris. As for the last 10 years, the web-based activities are composed of a first part consisting of self-assessment tests and a refresher training program in immunology and vaccinology to be taken before the face to face course and a second part with training material for the participants to prepare for a 1-day workshop. In 2019 the workshop was devoted to vaccine strategies against 4 diseases: Respiratory Syncytial Virus in pregnant women, *Shigella* in children, HIV in healthy adults and Influenza virus in the elderly. Selected articles related to the 4 pathogens with associated thought questions and a module on how to conduct clinical trials were part of the training material which was available before the course. Twenty four trainees worldwide participated in the course.



*Armelle Phalipon, Institut Pasteur (Paris, France) and Béhazine Combadière, Center for Immunology and Microbial Infections (CIMI-Paris, France), co-organizers of the Riyadh course*

- Pasteur International Vaccinology Course** at the Saudi Food and Drug Authority (FDA) in Riyadh, Saudi Arabia. The aims of the online course which was available before the 5 day face-to-face course on December 13-18 2019, were to train the members of the Saudi FDA in immunology and vaccinology. A one-day workshop on the process of WHO prequalification of vaccines took place during the course. The participants worked in four groups and presented the results of their discussion to the experts present at the course. Some leaders at the FDA discussed with Jean-Pierre Kraehenbuhl to discuss the possibility to develop a website containing training material for them.

- Course of Biobanking.** This biobanking course, an initiative of the Pasteur Institute Biore-sources network (PIBnet), the European Virus Archive goes Global consortium (EVAg, H2020 Grant N°653316) and HSeT will start in March 2020. The purpose of this course is to enhance transfer of knowledge on biobanking by providing an online and a practical training, emphasizing the terms and conditions to create and coordinate a biobank of pathogenic microorganism samples (virus, bacteria, fungi or parasites). The Pasteur Institute (PI), the Institut Pasteur International Network (RIIP) and the EVAg consortium have very large and high-quality biobanks. Six modules were created, the content and learning activities of which included annotated articles and case-based learning. Application will start on March 6 and the selection of the candidates in the second part of March.



**Centralized and Federated models of Biobanks :**  
*The Centralized model operates by a network of collection sites feeding a central biobank with samples obtained from donors. For the Federated model, a number of independent sites collect, process and store biospecimens. The information associated with the specimens are made available on a database .*

- Workshop on Surveillance and control of Rabies in Morocco.** This 11-day on-site course, which took place in September 2019, was organized by the Institut Pasteur of Morocco with the support of the Institut Pasteur in Paris, the Department of Biochemistry of the University of Lausanne, HSeT, WHO in collaboration with the Food and Agriculture Organization of the United Nations (FAO) and the Global Alliance for Rabies Control (GARC). This course was the fourth edition in a series that have been organized in Dakar (Senegal), Phnom Penh (Cambodia), Yaounde (Cameroon) and Amol (Iran). The course was attended by 23 participants from the Magreb and French speaking African countries.

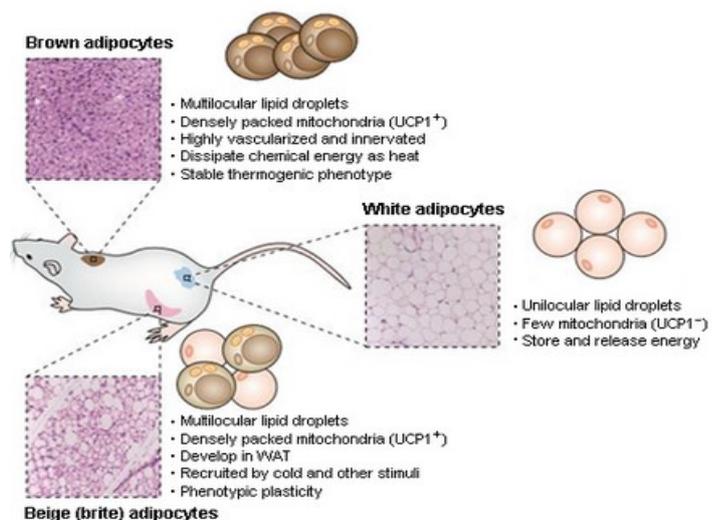
- **Prenanalytical Phase course University Cheikh Anta Diop in Dakar, Senegal.** A seven week course (June-July, 2019) on the preanalytical phase was organized in collaboration with the French African telemedicine network (RAFT, Geneva) within the superior study diploma (DES) of Clinical Biology for MDs and pharmacists. The students had to follow a tight schedule to study the online module and to answer self-evaluation questionnaires.

## Diploma of advanced studies

- **DAS Pharmacology University of Geneva.** The e-learning module on basic principles of pharmacology was proposed for the seventh time to the students registered in the UNIGE DAS on management of clinical trials. The objective of the module is to provide knowledge about basic principles of pharmacology.
- **DAS CAS in translational nephrology.** Since 2012, HSeT developed a series of e-learning courses commissioned by the Swiss consortium NCCR kidney.ch for the participants of the Kidney.CH education program. The courses comprise five web-based modules on the renal control of salt and water homeostasis, the renal control of pH homeostasis, the renal control of calcium-phosphate homeostasis, the role of kidney in oxygen sensing and EPO production and the impact of dietary components & metabolism on kidney. All modules are organized the same way with a kick-off and a return session with face-to-face lectures and group presentations and a 6 month e-learning part during which participants review reading material, take quizzes, read key articles from the literature, explore clinical cases illustrating translational aspects, and prepare both individual and team work presentations. The 5 modules are now part of a CAS/DAS in Translational Nephrology, which is hosted at the University of Bern and open to national and international graduates. The program officially started in March 2017. A new cycle with 6 modules to be completed within two years will begin in March 2020. HSeT is responsible for the e-learning courses of the program.

## Bachelors

- **Mauritius University Bachelor of Medicine.** The eLearning educational program in English for the Bachelor of Medicine of the University of Mauritius based on the curriculum of the Faculty of Medicine of UNIGE of 2014 was now offered for the sixth time to the students of the Mauritius University. A total of 69 vignettes with associated content have been created and are available through 4 modules: module 1 (Cell growth and aging/ Digestion, Nutrition & Metabolism / Reproduction), module 2 (Heart and circulation / Kidney and homeostasis / Lung and respiration), module 3 (Bones & joints, Introduction to the nervous system and Neurosciences) and module 4 (infection diseases and immunology). Since 2015, about 20 students were enrolled in the bachelor program each year. No curriculum updates following important changes in the Geneva curriculum have been made so far. There are therefore differences between both curricula. An update will be discussed and possibly implemented in 2020.



*Brown, white and beige adipocytes, The illustration is part of the clinical case on obesity and type II diabetes*

- **Bachelor of medicine (UNIGE).** Nathalie Debard contacted the heads of the teaching units of the 2nd and 3rd years of the bachelor of medicine to discuss how the e-learning material developed by HSeT for the University of Mauritius should be adapted to their needs. As a reminder the e-learning material consists of interactive PBLs (problems based learning) on clinical vignettes and supplemented with questions and content pages. Since only part of the learning objectives are covered in the interactive PBLs, more learning material is provided as online reading content supplemented with illustrations and animations. Some teaching units give this e-learning material to the students as a learning resource during the self-study phase of the PBL.

Different scenarios have been envisaged by the head of the teaching units to adapt the e-learning material to their needs and avoid the overabundance of self-learning resources: i/ replacement of the scanned book chapters by the online reading materials developed by HSeT, ii/ insertion of more content pages into the interactive PBLs and suppression of the other formats of reading materials (online reading materials and scanned book chapters) and iii/ conservation of the interactive CBLs, online reading materials and scanned book chapters, as used at the Mauritius University. Some of these scenarios have been partly implemented in 2019.

## Masters

- **Master of Advanced Studies of Vaccinology (IMVACC)**, an initiative of the Swiss Vaccine Research Institute (SVRI, G. Pantaleo, Fabio Candotti and Claude Méric) and the HSeT team, is proposed by the University of Lausanne which offers 60 ECTS and a diploma. IMVACC consists of 4 web-based modules with tutoring during the first year and a master thesis during the second year which can be carried out in an academic or an industrial organization (<https://imvacc.org>).

◇ **Class 2016.** The 4 students that started the MAS in 2016 have completed and successfully defended their master thesis. They received the UNIL diploma. One of them, Nicolas Peyraud, has published his master thesis entitled “Potential use of microarray patches for vaccine delivery in low- and middle- income countries” in the Journal Vaccine. He has joined the HSeT team to contribute in developing learning activities based on his extensive experience in humanitarian pediatric medicine and vaccination. Luc Gwom’s thesis title was “Challenges and opportunities in introducing HPV vaccine in Cameroon and other African countries”, Rodrigo Romero Feregrino’ thesis work was entitled “10 years of experience in the acquisition of vaccines for the Expanded Program on Immunization (EPI) in Mexico”, and Bontle Motlounq “A cross sectional study into the expanded programme on immunization vaccine (EPI) cold chain management among healthcare workers”.

◇ **Class 2018** comprises four students from South Africa supported by fellowships from the South Africa MRC and one, a pediatrician, is from Switzerland. All five students have successfully passed the first year exam on January 2019 and are working on their master thesis project that they hope to terminate in 2020.

◇ **Class 2019.** Nine students have finished their first year. Five are financially supported by fellowships from the South Africa MRC, and 2 students from Tanzania and Kenya are supported by the European and Developing Countries Clinical Trials Partnership (EDCTP). One of the students had to drop out for health problems and will join the class 2020. All students have selected their master thesis project. Nobubelo Ngandu has presented at the 2020 kickoff meeting the experience of the 2019 group with the IMVACC first year activities.

◇ **Class 2020.** 16 students (see picture) have been enrolled by the Lausanne University. One student is from India, 1 from Kenya, 1 from Madagascar, 7 from South Africa, 1 from Switzerland, 1 from Tanzania and 4 from Uganda. They have completed a knowledge assessment module and have met for a kickoff meeting in Lausanne on January 13-15, 2020. Seven students have received fellowships from the South Africa MRC, and 6 from the EDCTP.



ONE YEAR  
EXPERIENCE  
WITH IMVACC  
2019

*Nobubelo Ngandu from the class 2019 has presented on behalf of the entire group to the members of class 2020 their experience with the activities during the first year of IMVACC*

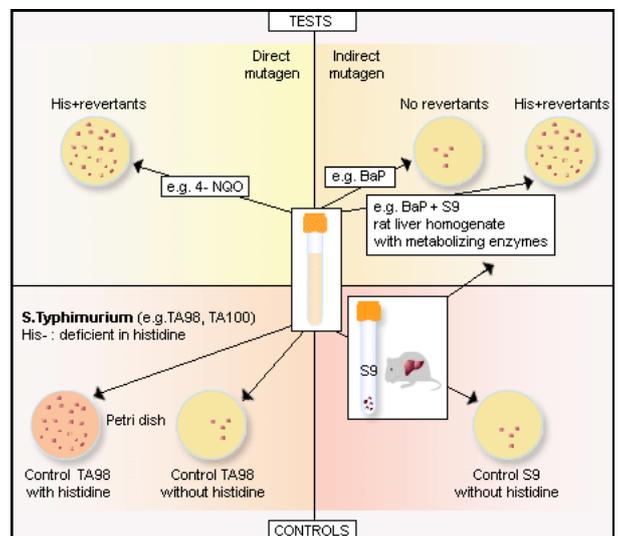


*Class 2020 with their tutors Claude Méric and Jean-Pierre Kraehenbuhl.*

• **Master of medical biology (MSc UNIL)**

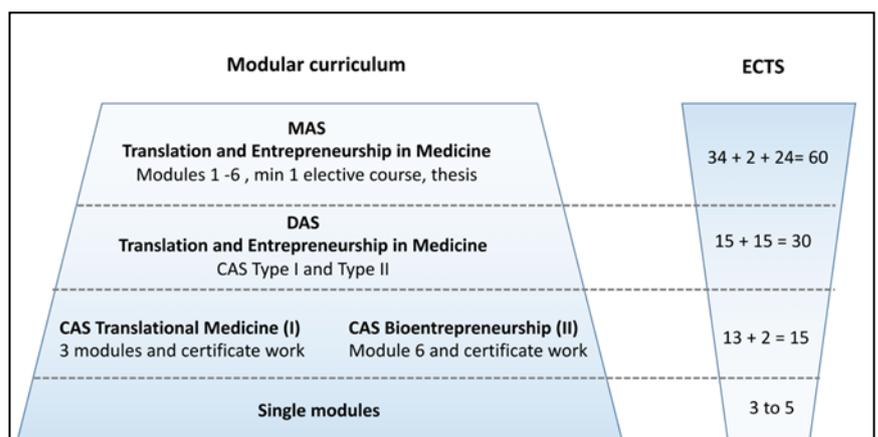
- ◊ **Toxicology course.** The sixth session of the e-learning toxicology module was proposed in March & April 2019 to the MSc students in medical biology, within the course of pharmacology. This e-training module is intended to provide learning material supporting and/or complementing formal face-to-face lectures in toxicology.
- ◊ **Immunology and cancer course.** In 2019, HSeT organized for the 11th time the eLearning activities for the 'Immunology and Cancer' course of the MSc in medical biology. HSeT provided a refresher training program and self-assessment tests to be taken before the beginning of the face to face course to ensure that all students had a firm understanding of the basic principles in immunology and oncology. HSeT also provided three annotated articles, an interactive clinical case and virtual microscopy material as background for face-to-face activities and practical work during the first & second semesters of the course.

- **MAS in Toxicology (MASTOXICO).** A new session that started in September 2018 with 24 participants for Module 1: "Basic Principles in Toxicology", ended on January 15th 2019. The e-Learning format was particularly appreciated by the participants who are actively engaged in their professional life. The students come from all parts of Switzerland and some from several European countries. A HSeT team member created a new e-Learning module on "Toxicological analysis" in close collaboration with the coordinator of the eponym module. In addition, HSeT was in charge of posting the detailed programs and the handouts of the courses.



*In vitro tests of mutagenesis are short-term tests used mainly to detect mutagenicity*

- **MAS of Translational Medicine and Biomedical entrepreneurship.** HSeT continued its collaboration with the sitem-insel School. Like last year, the sitem center proposed a postgraduate study program in translational medicine and biomedical entrepreneurship, which is awarded by the University of Bern. In September, the third cohort started with 9 MAS, 1 DAS and 4 CAS students. They have already completed module 1. The sitem center has started a new CAS, also awarded by the University of Bern which deals with Artificial Intelligence (AI) and Medical Imaging. The CAS, which consists of 3 modules: i/ AI project, ii/ programming and statistics and iii/ fundamentals in AI. The CAS targets mainly MDs. It started in September 2019 with a one day public mini-symposium. Thirteen students have been enrolled in this program, of which 3 are from Germany and one from Saudi Arabia. The students have completed modules 1 and 2. The first feedbacks are very positive and many trainees have already inquired about possibilities to do a MAS.



*Summary of modules and courses offered by sitem-insel and University of Bern .*

## Research Infrastructure Program

Infravec2 is an international and interdisciplinary infrastructure project on insect vectors of human and animal diseases, including mosquitoes, sandflies, other flies, and ticks. Infravec2 is not a research project. Its objective is to develop and share large infrastructures and biological resources for research. Infravec2 was launched on February 1st 2017 bringing together 24 partners in Europe and in Africa (Senegal, Mali and Burkina Faso). It has a €10 million budget for 48 months. The project is coordinated by the Institut Pasteur (Dr Ken Vernick). HSeT is a member of the Infravec2 infrastructure European consortium.

The aim of Infravec2 is to provide easy online access to unique vectors, facilities, services and technologies at no cost to the researchers. The budget is used to support demands made through an online shop hosted on the website, which currently offers more than 150 products. The shop is managed by the Institut de Recherche pour le Développement in Montpellier. Suppliers of material and training receive support only for products that are requested by users. The success of the project will be measured by how much products have been requested.

HSeT has developed the public website including an online shop (<https://infravec2.eu>) and an intranet. It is also contributing to the courses proposed by the project by developing their online dimension. The intranet is hosted on the HSeT platform. The public website is developed using the Divi framework of WordPress with the help of the IT agency troisdeuxun in Morges. The main activity of HSeT in 2019 has been the maintenance and improvement of the public website as well as providing support to the project coordinators and the Communication team in the advertisement of new products on the website and through mailing campaigns.



Screen print of an insect using a vinyl decal from Olivia Winokur

# The organization of the HSeT Foundation

## The Board

The Board replaced Prof Sprumont who resigned as president of the HSeT Board. The Board appointed Dr. Michelle Rossier as the new president and Prof. Matthieu Nendaz, Vice Dean at the Faculty of Medicine, Geneva University. The Board composition is the following:

- **Michelle Rossier**, HSeT Foundation. President.
- **Jean-Pierre Kraehenbuhl**, HSeT Foundation CEO & UNIL.
- **Isabelle Décosterd**, Lausanne University.
- **Nicolas Fasel**, Lausanne University.
- **Jonathan Fuchs**, Department of Public Health, San Francisco, USA.
- **Mathieu Nendaz**, Vice Dean, Faculty of Medicine, Geneva University.
- **Uyen Huynh-Do**, University of Bern.
- **William Pralong**, Federal Institute of Technology Lausanne (EPFL).
- **Frédéric Rochat**, esq, Etude Kellerhals-Carrard, Lausanne.
- **Bernard Rossier**, Lausanne University & HSeT Foundation.
- **Amadou Sall**, Institut Pasteur, Dakar, Senegal.
- **Dominique Sprumont**, University of Neuchâtel.



*Mathieu Nendaz, Vice Dean of Education, in charge of pre-graduate education, ordinary Professor of Internal Medicine, and director of the Unit of Development and Research in Medical Education (UDREM)*

The audited financial 2018 report and the 2019 budget were approved by the Board during the Board meeting. Frédéric Rochat made the changes of the Board composition in the Commercial Register of the Canton de Vaud. The 2018 HSeT accounts have been approved by the Federal Office of the surveillance of Swiss Foundations.

## The scientific advisory board

The scientific advisory board, Jean Gruenberg, Ivana Knezevic, Walter Reith and François Verrey met on February 5, September 13, and November 23 to discuss their role in HSeT. Jean Gruenberg has made contact at the Faculty of Sciences of UNIGE to explore whether the Faculty had needs for eLearning. Due to a positive feedback from the Dean, he is now actively looking for opportunities. Ivana Knezevic is acting as a tutor and thesis director in IMVACC. François Verrey has accepted the leadership of the nephrology DAS CAS. Walter Reith has accepted to become the next CEO of the Foundation and several meetings with Jean-Pierre Kraehenbuhl have taken place in the second half of 2019 to prepare the transition.

## The HSeT core team

### The scientific team

- **Pascale Anderle**, PhD, scientific coordinator of Bioinformatics, Statistics, Translational Medicine & Biomedical Entrepreneurship.
- **Nathalie Debard**, PhD, scientific coordinator of Immunology, Microbiology & Nephrology.
- **Jean-Pierre Kraehenbuhl**, MD, CEO and scientific coordinator of Vaccinology and Oncology.
- **Li Long**, BS, MS, manager of software in biomedical research.
- **Claude Meric**, PhD, scientific coordinator of vaccinology.
- **Nicolas Peyraud**, MD, scientific collaborator of IMVACC (not on the picture)
- **Michelle Rossier**, MD, scientific coordinator of Laboratory Medicine and Hematology.
- **Bernard Rossier**, MD, scientific coordinator of Pharmacology & Toxicology and Nephrology.



*The HSeT team. From left to right: Li Long, Alain Meystre Michelle Rossier, Nathalie Debard, Jean-Pierre Kraehenbuhl, Pascale Anderle, Claude Meric and Bernard Rossier*

### The technical team

- **Alain Meystre**, animation designer.
- **Thomas Pietrolongo**, project manager, **Cyril Lacroix** and **Cédric Mourgeon**, computer scientists, from Amaris, Renens, Switzerland are responsible for the maintenance and the development of the new HSeT platform.
- **Christian Milani**, from the Swiss Italian University, is responsible for the maintenance and development of the Moodle platform in close collaboration with Pascale Anderle.

## Website utilization

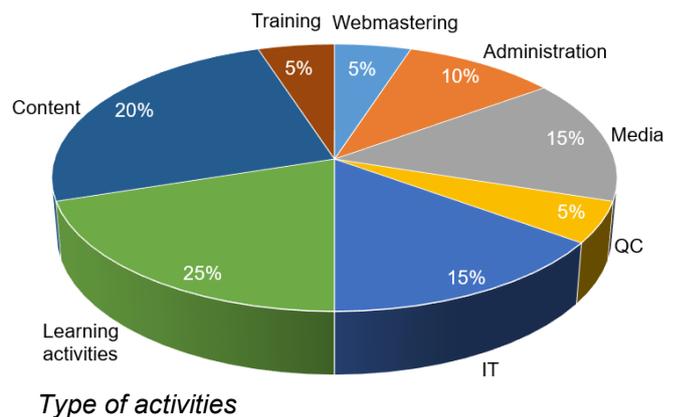
- Since 2006, the number of users is continuously increasing and in 2019 HSeT managed about 9'500 active accounts.
- In 2019, a total of 784'571 pages were viewed during 104'455 visits with an average of 17.5 pages per visit.

## Activities and project reporting

HSeT team members keep track of their activities and produce a daily report which is used to:

- **allocate** resources based on the consolidated information,
- **evaluate** resource distribution for each type of activity,
- **monitor** the costs of individual projects and contracts, which is particularly important for the reports requested by the EU commission.

As seen in the diagram, the HSeT team spends about half of its time in producing content and learning activities. The animations and illustrations created by our animation designer represent 15 % of the total HSeT activities. In 2019, the time devoted to IT increased significantly (15%) for two main reasons: first, a lot of quality control and adjustments had to be made for the new HSeT platform. Second, the HSeT team members had to master the transfer of the learning management from the HSeT to the Moodle platform. Finally efforts were made to transfer the content from the HSeT CMS to different environments. Webmastering (5%) consists in creating the trainees portals and the user groups and managing the communication tools.



The HSeT team also participates in teaching activities and tutoring (5%). The learning activities and content developed so far are listed in table 1.

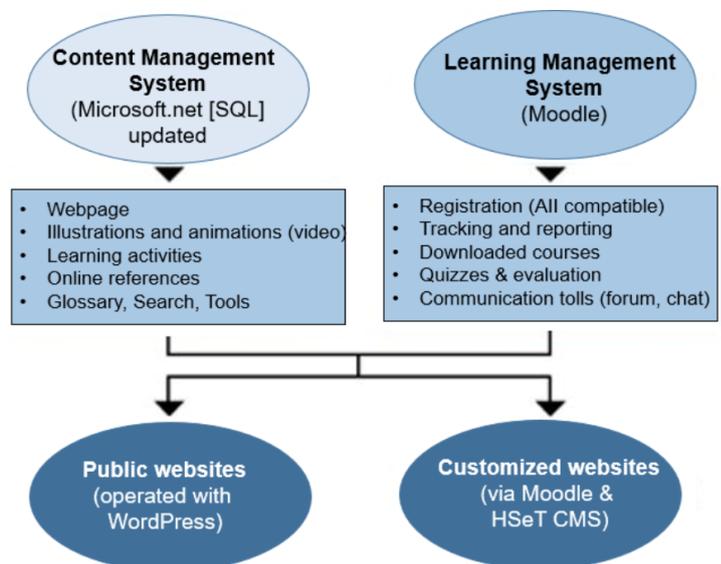
## IT Infrastructure

HSeT uses the Microsoft technology for running its Content Management System (Microsoft SQL) and Moodle to handle its Learning Management System.

The HSeT servers are hosted at the University of Geneva which also has taken the license for the Microsoft technology. A new HSeT's LMS Moodle server is now hosted at the Swiss Italian University (USI) in Lugano.

HSeT has significantly invested in the development of a modern IT framework last year to keep up with technical advances and their clients' requests.

In collaboration with Amaris HSeT has developed a new responsive front end of its CMS, which can be easily used on mobile devices. The new front end has started to be used for several programs including the sitem center and IMVACC.



*HSeT management infrastructure*

In light of some partners' request to have access to HSeT's content material, HSeT has continued its efforts to extract content information into html pages that can be imported into either Moodle or a CMS such as WordPress which was selected because of its worldwide use and availability of external resources.

After pilot projects in 2018, Li Long gained a good understanding of the migration process, feasibility issues, difficulties and complications. In 2019, part of the content was migrated into WordPress, using WordPress plugins to solve some major issues related to references and media files. Additional software tools were developed to facilitate the importing process. Currently, some manual editing is still needed, but ca. 80 % of the content can be extracted in an automated fashion.

In order to offer up-to-date communication tools for e-learning courses HSeT has evaluated various products in depth and set up the work process for a new software for video conferencing that can be integrated in Moodle and is already being used by its partners.

**Table 1**

**Learning activities**

Article-based learning  
Case-Based learning  
Protocol-based learning  
SOP-based learning  
Role play  
Virtual microscopy  
Individual and team work  
Self assessments & exams

**Resources**

Anatomy & Physiology  
Bioinformatics  
Clinical Research & trials  
Immunology  
Laboratory  
Medicine  
Microbiology  
Nephrology  
Oncology  
Pharmacology/Toxicology  
Public Health  
Translational medicine  
Statistics  
Vaccinology

**Major customized websites**

**Swiss Institutions**

[EPFL](#) Swiss Federal Institute of Technology. *MSc Pharmacology*  
[IAL](#) Lausanne University Hospital CHUV Immunology & Allergy  
[UNIBE](#) Bern University *DAS nephrology*  
[UNIGE](#) Geneva University. *MAS Human Toxicology (SCAHT) Bachelor Medicine*  
[UNIL](#) Lausanne University. *MSc Medical biology, IMVACC International master of vaccinology*

**Swiss organizations**

[FAMH](#) Foederatio Analyticurum Medicinalium Helveticorum  
[IMVACC](#) International master of vaccinology  
*Swiss Vaccine Research Institute*  
[NCCR kidney.CH](#) National Center of Competence in Research  
Kidney homeostasis regulation  
[SitemInsel](#) *MAS Translational medicine and Biomedical Entrepreneurship*

**European organizations**

[Biobanking](#) Biobanking courses from the Pasteur Institute  
[CLIC](#) Clinical Investigator Course, European consortium Pharmatrain  
[InfraVec 2](#) Insect vectors of human and animal disease,  
[Pasteur courses](#) Vaccinology Course, Institut Pasteur, Paris  
Epidemiology Course, Institut Pasteur, Paris

**International agencies**

[WHO eTraining](#) WHO Immunology Research and Training Center

**International organizations**

[HKU- PRP](#) University of Hong Kong Pasteur Research Pole  
[HVTN](#) HIV Vaccine Trial Network, Seattle, USA  
[IPD](#) Institut Pasteur Dakar, Senegal  
[Mauritius](#) Mauritius University. Bachelor of Medicine

The **catalog** of all the content developed by HSeT over the last 20 years is listed in the HSeT public website (<https://hset.org>) and is available for those that have a login in the following [page](#).

The [media library](#) allows teachers and tutors to pick up illustrations and animations from a media library to be inserted into their lecture powerpoints.

## Financial situation

HSeT's finances & human resources have been very efficiently managed in the last 13 years by Mrs Françoise Mugny from the Mugny Fiduciary. She retired in the spring 2019. HSeT is very grateful to her and thanks her for her dedication. At the same time, the Mugny Fiduciary was taken over by PMM & D conseils SA: Delphine Ramseyer and Frédéric Fisquet will take care of HSeT's finances and human resources.

**The HSeT 2019 financial situation** is balanced with a small operational deficit, due mainly to lower income from European consortia and to important IT expenses.

- The major funders are:

**Swiss universities.** The University of Geneva supports the salary of Nathalie Debard, the Microsoft license, the two HSeT's production and validation servers. The University of Lausanne (UNIL) provides offices and access to the IT services free of charges. The position proposed by the Dean of the Faculty of Biology and Medicine of UNIL in January 2019 has finally not been funded.

**Swiss organizations.** The sitem insel Foundation, Bern supports the salary of Dr. Pascale Anderle. The Swiss National Science Foundation via the NCCR program has supported the Translational Nephrology training program. The sitem insel Foundation supports the MAS in Translational Medicine and Biomedical Entrepreneurship. The Swiss Vaccine Research Institute as well as the tuition fees (20'000 CHF per student) support the MAS in vaccinology (IMVACC) and the salary of Dr. Claude Meric, now a free lancer.

**European institutions and organizations.** The Pasteur Institut, Paris via the European consortium INFRAVec2 provides significant funding to HSeT. The other EU funded consortia (GlycoGastroExplorer, Pre-demics and Stopenterics) all ended in 2018.

**International organization** includes WHO, the HIV vaccine trial network (HVTN), the University of Hong Kong, and the South African MRC.

**Industrial partners** Sanofi Pasteur terminated its partnership contract with HSeT in November 2019.

## Publications

- **Rossier BC, Rossier M, Kraehenbuhl JP. 2019.** COLT a new weapon to disseminate knowledge: E-Learning tools for hypertension. In "Aldosterone/Mineralocorticoid Receptor Cell Biology to Translational Medicine" Ed. Jaisser F and Harvey B. An Intech Open Access Book <https://www.intechopen.com>
- **Rossier B, Anderle P, Debard, N, Huynh-Do U, Rossier M, Kraehenbuhl J.P.** 2019 Enseignement à distance dans le curriculum de médecine en Suisse. Swiss Medical Forum **4324** 713-720 [>PDF](#)

## Future plans and perspectives

### Lemanic universities

- The task force, set up in January 2018 and composed of Isabelle Décosterd (FBM UNIL), Antoine Geissbuhler (Medical Faculty Geneva) and Bernard Rossier (HSeT), sent a report at the end of 2018 to the Deans of the two medical faculties. A report was written which proposed i/ a public-private operational model for the sustainability of HSeT, ii/ a new governance of HSeT in partnership with the two Faculties, iii/ a new HSeT / Lausanne / Geneva partnership agreement replacing the 2009 (UNIGE) and 2014 (UNIL) agreements, iv/ changes of the Foundation's bylaws in agreement with the new governance, and v/ the funding of one scientific collaborator in Geneva (already existing) and one in Lausanne (post to be created). A reply from the Deans was expected in the first semester of 2019. On August 2019 HSeT was informed that a reply will be issued after a joint meeting of the two Deanships in October. So far HSeT has not received any decisions about the propositions made in the report.

- In Geneva, on September 2019 a meeting was organized with Prof. Cem Gabay, the new Dean of the Faculty of Medicine, Prof. Mathieu Nendaz, the Vice Dean for education, Prof Walter Reith, former head of the Department of Pathology & Immunology and four members of the HSeT team with the aim of defining the future activities of HSeT within the Medical Faculty. The Dean requested that Nathalie Debard be present in the Unit of Development and Research in Medical Education (UDREM) 2 to 3 days per week for the follow-up of the projects in link with teaching at the Bachelor level. She was also asked to monitor the Mauritius project and new projects with other institutions that would be interested in e-learning.

## New projects

- **Master of medicine in Geneva.** The Dean Cem Gabay and the Vice Dean Mathieu Nendaz proposed as a new project for HSeT to link the clinical training of the Master with the medical fundamental aspects taught at the bachelor level. They asked Nathalie Debard to contact the heads of the teaching units of the master years to explore their needs. They also underlined the important role of Walter Reith in the coordination of this project based on his involvement in HSeT and his knowledge of the teaching in the Geneva medical school. Nathalie Debard and Walter Reith are currently preparing a strategic plan that they will present to the Vice Dean in the spring 2020.
- **Admire**, an acronym for an Aldosterone and Mineralocorticoid Receptor had commissioned HSeT to develop and organize an eTraining website. The program stopped in 2017. Frédéric Jaesser from the INSERN unit at the Cordeliers Research Centre has responded to a new call (H2020-MSCA-ITN-2020) and submitted a proposal. If funded, HSeT will be asked to continue its collaboration.
- **Training program for lab technicians.** Following contacts that Michelle Rossier had with Wolfgang Korte (WK) director of the Institute in Laboratory Medicine of the St Gallen Canton Hospital, the possibility to create an online training program including case-based courses in a collaboration between the Hospital and HSeT was discussed. WK proposed to start a pilot project in 2020 with a budget, including the salary of a part time collaborator employed by HSeT and paid by the Hospital. WK intends to discuss the project within his institution and with colleagues in Switzerland before coming back to Michelle Rossier.
- **Clinical evaluation of vaccines.** A WHO workshop is planned for November 2020 in Ghana or another African country. Funding by the Paul Ehrlich Institute (PEI) is considered. WHO and the PEI will work on the preparation and HSeT will create the learning activities and the content for this workshop.
- **Rabies online training.**
  - ◇ HSeT has been asked by the Institut Pasteur to create an online training website for physicians from French anti-rabies centers. The Institut Pasteur is in contact with the General Directorate of Health (DGS) for funding.
  - ◇ A rabies workshop for the control and surveillance of rabies will be organized in November 2020 in Arusha, Tanzania, in a format similar to the previous workshops. New learning activities will be implemented in the workshop. It is the intention of Hervé Bourhy from the Institut Pasteur to foster interactions between the former and the new students by creating an online network with communication tools to share information and experience.
- **CAS of biobanking.** Discussion have been initiated with members of the Faculty of Medicine of Geneva to create a Certificate of Advanced Studies (CAS) in Biobanking. A meeting took place in October during which it was decided to develop a CAS in partnership with the Institut Pasteur and the Swiss Biobanking platform. Thomas McKee and Julien Virzi from the Department of Pathology and Immunology have accepted to act as coordinators provided a part time position would be made available by UNIGE.



Epalinges, February 8, 2020

*J.P. Kraehenbuhl*

Jean-Pierre Kraehenbuhl