

Quadriennal report 14–15–16–17



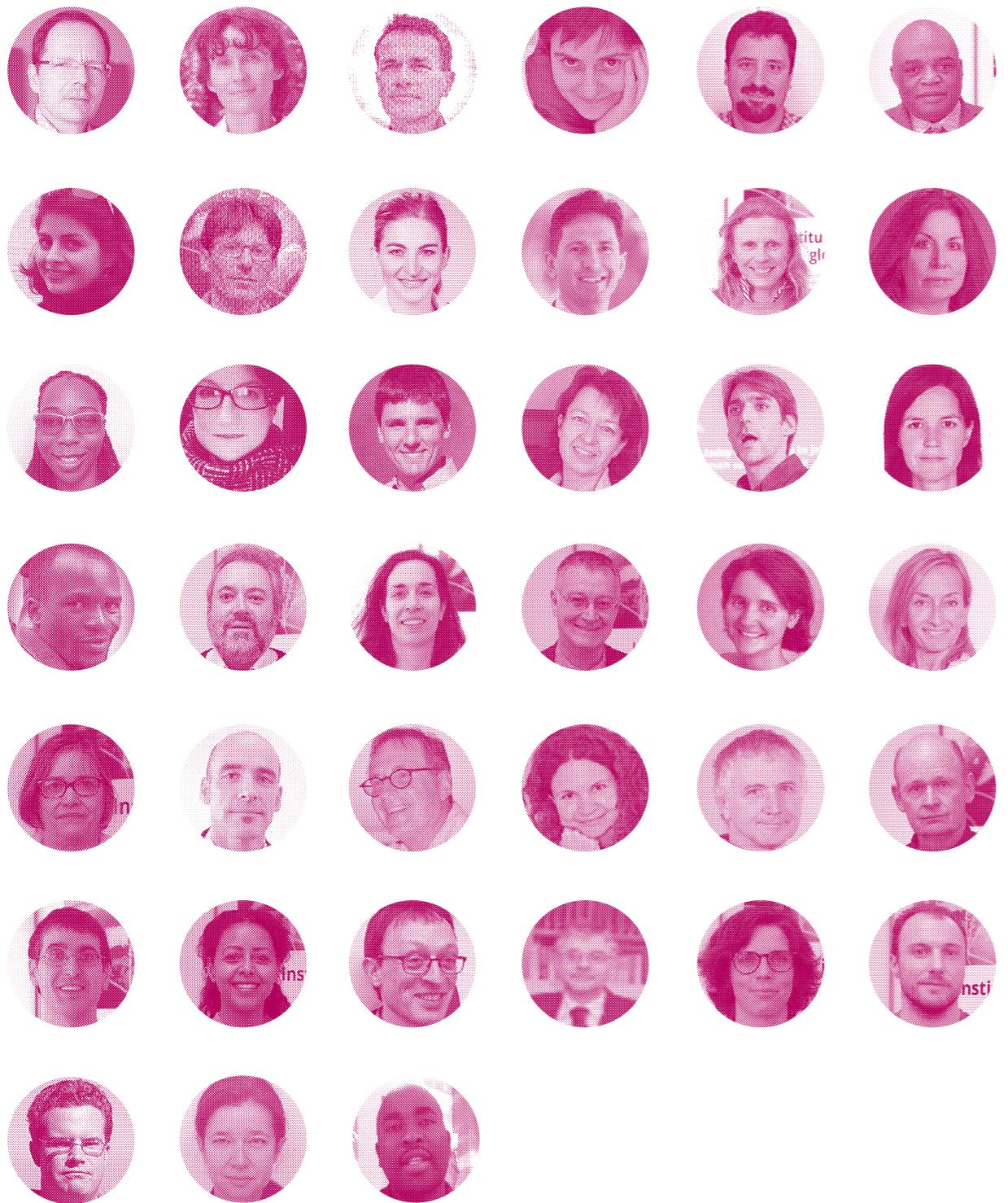
University of Geneva

**Institute of Global Health
Faculty of Medicine**

**With the support of a
Louis-Jeantet Foundation Chair**

— Content

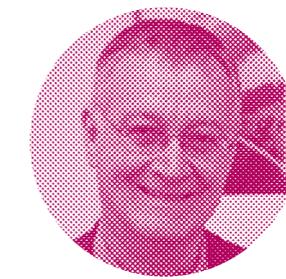
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I — A Message from the Director of the Institute



Director's word

In January 2014, the Faculty of Medicine of the University of Geneva launched its new Institute of Global Health on the grounds of its former Institute of Social and Preventive Medicine, with the support of a Louis-Jeantet Foundation Chair. Our academic institute belongs to the Ecole Romande de Santé Publique, the French-speaking component of the Swiss School of Public Health, an umbrella organization that

gathers all the universities in Switzerland who provide academia in public health. One of the main missions of the Institute of Global Health is to better serve International Geneva, which is, in the field of global health, almost a monopoly.

Geneva is indeed the unique city in the world, which each year, in May, converges the Ministers of Health and their delegations from 194 countries. Geneva is a unique place which concentrates such an amount of actors involved in global health, first headquarters of the World Health Organization, but also UNAIDS, UNITAID, ICRC, IFRC, the Global Fund to fight AIDS, Tuberculosis and Malaria, GAVI, DNDi, MMV, Permanent Missions of more than 140 countries, NGOs such as MSF. WTO, ITU, WMO and the World Economic Forum who are also located in Geneva, address many aspects relevant to global health (and forgive me if I do not explicit all acronyms, since they are almost in the current language now here in Geneva).

In the first four years of its existence, the Institute of Global Health has been at the origin of the creation of two training programs, in addition to its existing ones (i.e. the Master of Advance Studies in Public Health, and the Certificate of Advance Studies in Health Promotion and Community Health, both taught in French, and are about 20 years old). The new Master of Science in Global Health is run in an interfaculty centre (the Global Studies Institute), and the Faculty of Medicine runs the PhD of Global Health. The PhD program acts as an executive doctoral curriculum, allowing collaborators from International Geneva to continue to work full time for their organization, providing they perform their research work within the frame of their professional activity. Both of these new programs immediately met a large success, the University received a lot of applications, and allowed for reinforcing research work and production in Global Health within our University. This report, which is the first one, will provide many details on all activities delivered by the many brilliant and dynamic collaborators, I want to thank so much here. Without all of them, whatever their status within the institutions, the Institute would never had its observed growth and activities.

Global Health is in the DNA of Geneva, and the Institute of Global Health is proud to provide and foster academic education and research for the purpose of better health for all.

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I — B With the support of a Louis-Jeantet Foundation Chair



Louis-Jeantet Foundation to help fighting against diseases threatening humanity

True to the spirit of its founder, the Louis-Jeantet Foundation is driven by a vision which is both humanist and political, namely to encourage European and local biomedical research in the fight against diseases threatening humanity, but also to support the role and standing of European and local research centres vs. international competition.

The Louis-Jeantet Foundation encourages excellence, and only excellence. It undertakes to respect the academic freedom and independence of researchers and to finance innovative projects that offer hope to numerous patients.

Prof. Antoine Flahault
Chair Louis-Jeantet in Global Health

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II — The Institute at a glance

05 Research divisions

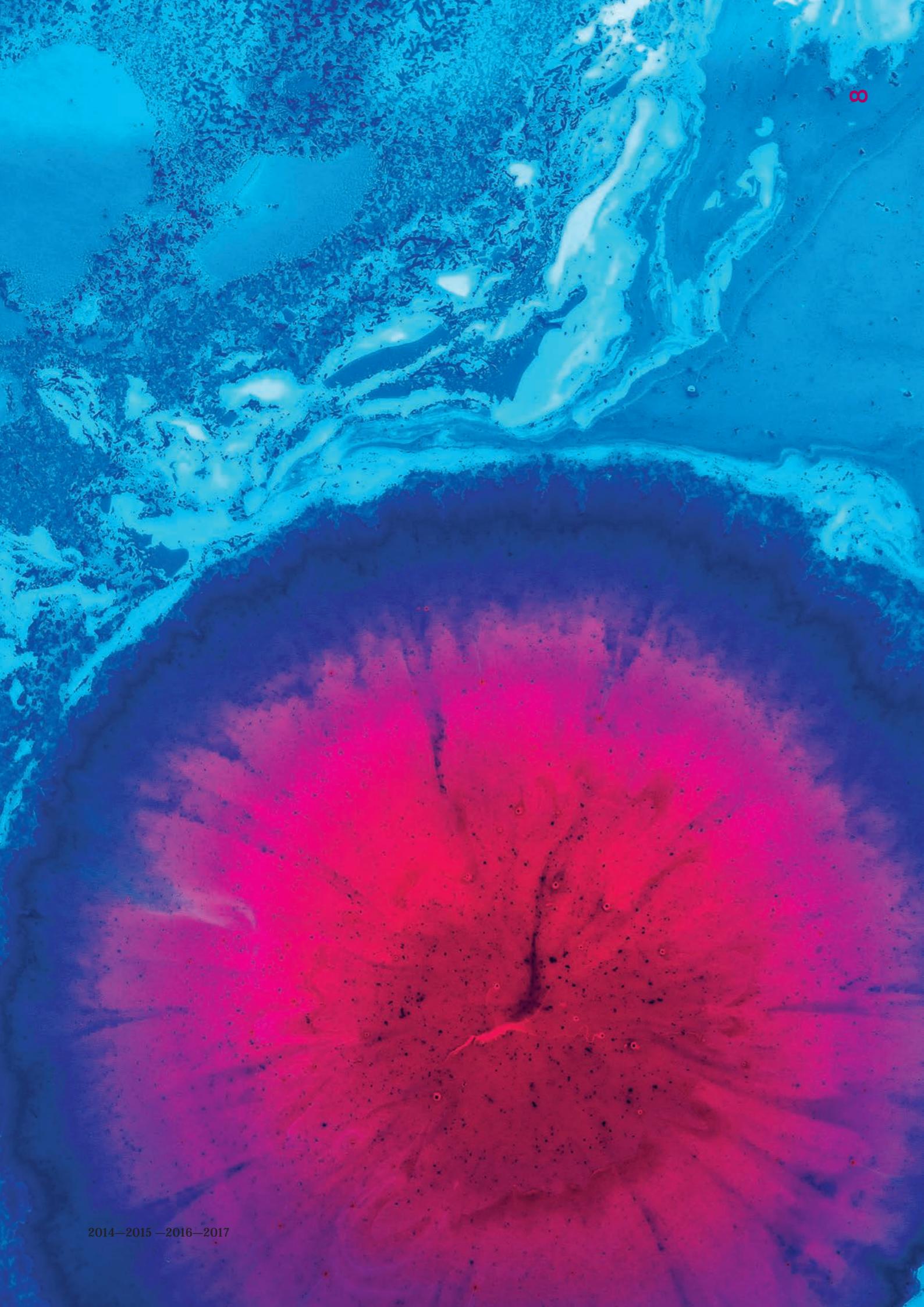
43 Staff members

01 Master in Global
Health and

07 post-graduate
programmes

37 PhD students from
23 countries

08 MOOCs developed
or in production



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III – A Division of cancer epidemiology and prevention

Teaching, research registering
and administrative staff of the
Geneva Cancer Registry:

Prof. Christine Bouchardy
Dr. Elisabetta Rapiti,
Dr. Isabelle Neyroud-Caspar
Massimo Usei
Robin Schaffar
Hyma Schubert
Jessica Tchoufayan
Raphaël Melon
Catherine Lacour
Florence Walker
James Keller Mighali
Daniela Loponte Pronini
Nicolas Ionescu
Prof. Simone Benhamou.



The Geneva Cancer Registry (GCR), established in 1970, collects information on all cases of cancer diagnosed within the population of the canton of Geneva. It is the oldest Registry in Switzerland, and one of the oldest in Europe. The registry records systematically detailed information on patient, diagnosis, treatment, and cause of death of cancer cases in Geneva. Prof. Christine Bouchardy has been leading this entity since 1992.

Data collected by the GCR enables conduction of epidemiologic research on cancer, with specific regard to the following: risk factors, evaluation of screening programmes and prevention measures, access and quality of care, as well as the effectiveness of treatments. The GCR responds to requests for epidemiologic investigations by the local health authorities (e.g. Direction générale de la santé) and is involved in several multidisciplinary cancer networks, which include health professionals (from both the public and the private sectors) and patients. The Registry collaborates with national and international studies, on differences within the country, and among countries, in quality of care and survival. The GCR personnel are also involved in teaching undergraduate students, lecturing in workshops, postgraduate and MOOC courses, as well as supervising the Master programme, and thesis for the Doctorate in Medicine. In addition, the GCR plays an important role in cancer promotion, registration and epidemiology at national level, having initiated the creation of the National Institute for Cancer Epidemiology and Registration (NICER) and currently assisting with the elaboration of the new Federal Law on cancer registration.

— Smoking prevention

The team of Prof. Jean-François Etter, dedicated to the study of tobacco addiction and prevention, support this division. The team performs assessments of prevention programmes and conducts studies on tobacco dependence, nicotine vaporizers and e-cigarettes. Methodology, including epidemiology and psychometric methods, remain an integral part of their research.

Currently the research projects of this team focus on different emerging technologies, including electronic cigarettes, applications for mobile devices, and Internet-based prevention programmes. These projects are conducted in collaboration with institutions in the USA, UK, France and New Zealand.

In addition to teaching during pre-graduate medical studies, Prof. Jean-François Etter supervises doctoral students in the field of tobacco addiction. He is also in charge of the web-based and smartphone-based prevention programme Stop-tabac, Stop-alcohol and Stop-cannabis, that reach over 200'000 users each month.

Teaching and research staff:

Prof. Jean-François Etter





— Projects and activities

Monitoring the burden of the disease

The registry regularly produces a report on the situation of cancer in Geneva based on the data collected. These reports describe case numbers, age and gender profile, stage and histology at diagnosis, incidence rates and trends, national and international differences in incidence, mortality and survival rates. These findings can be used to map changes in burden of disease over time, and facilitate the planning and management of services. The last report covered the period 2006-2010, and was published in 2015.

Breast cancer and young women: tumour profile, treatment, outcome and effect on pregnancies

The primary aim of the study is to identify predictors of long-term rates of recurrence and survival among 1'642 breast cancer patients aged 45 years or younger (registered in the GCR). The study also aims to determine whether pregnancy during, or within one year (notably during child feeding) after breast cancer diagnosis, is associated with outcome. In addition to information available through the GCR database, a specially trained team is working to collect additional information from clinical files on all 1642 women. It will include information on the patient's tumours, treatments characteristics, pregnancies, deliveries and health outcomes.

This is the first study to be performed in Switzerland to enhance our understanding of tumour specificity, treatment, and outcome of breast cancer in young women. It is also the first study in our country, to examine the prevalence of pregnancies in young breast cancer patients, and assess the effect of pregnancies on outcomes. The results of this study will help clinicians and patients make more informed decisions regarding treatment options, or help their decision process of having a child or not after breast cancer. Additionally, this research will provide clinicians with some of the necessary information to improve the quality of care.

The study obtained funding from the Swiss League against Cancer.

Importance of family history of cancer on colorectal cancer occurrence and outcome: setting-up a population-based Familial Colorectal Cancer Registry (CCR) in Geneva

We are in the process of establishing a population-based cohort of CCR patients and their first- (FDRs) and second-degree relatives (SDRs) in Geneva to: a) Assess the prevalence of a family history of CRC (and other types of cancer) among CRC patients in Geneva; b) Compare patient, tumour and management characteristics according to family history; c) Investigate the risks of cancer in FDRs and SDRs of patients who had a diagnosis of CRC; and d) Evaluate the uptake determinants of genetic counselling among CRC patients with familial risk of CRC, to determine the impact of genetic counselling on survival.

FDRs and SDRs of approximately 6000 CRC patients recorded in the Registry since 1970 up to the end of 2012 will be identified through a computerized search in the Office cantonal de la Population database, using the personal identification number included in

both files. Immunohistochemistry analyses will be performed to evaluate the expression of the mismatch repair (MMR) proteins (MLH1, MSH2, MSH6, and PMS2) on next-generation Tissue Micro Array (ngTMA) blocks obtained from original whole tumour tissue blocks, to detect MMR-proficient or MMR-deficient tumours. Through combining the databases of Oncogenetics and Cancer Prevention Unit database of the University Hospitals of Geneva database with that of the GCR, patients who underwent genetic consultation will be identified.

To date, no population-based data exist on the importance of family history on CRC occurrence, characteristics, management, and outcome. The results of this project will help clinicians to improve screening, surveillance, and treatment of patients with a positive family history of CRC.

This study received a grant from the FNS and a grant from the Swiss league against cancer.

Biological research on breast cancer heritability of prognosis

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In a previous study, using data from the population-based Familial Breast Cancer Registry, we confirmed the presence of a significant association between survivals of FDRs with breast cancer. In addition, we showed that this association is independent from other prognostic factors, and therefore not explained by heritability of tumour characteristics or familial clustering of treatment choice.

On the basis of these results, we planned a study with the aim of assessing the degree of concordance of histopathology, prognostic markers and molecular characteristics of the tumours within 101 pairs of mother/daughter or sister/sister. This will allow us to assess whether the concordance in breast cancer histopathology and tumour markers can explain the association between survival of FDRs with breast cancer, and to determine which of these indicators could be useful to predict prognosis among FDRs.

Out of 320 couples, for 202 breast cancer patients the breast cancer material (paraffin-embedded tumour) is accessible for pathology review. Frozen tumour is, however, available only for few couples treated at the hospital in recent period. The review will also include some established prognostic markers such as ER, PR, HER2, Ki67.

To our knowledge, the possibility of combining epidemiological with biological data is a unique opportunity that will provide valuable insight into the complex and fascinating relationship between heritability of breast cancer and of its prognosis.

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— Other Projects

Breast Cancer

impact of socioeconomic status on breast cancer quality care and prognosis

Socioeconomic status (SES) disparities on breast cancer prognosis have been described but the reasons behind their impact on mortality remain to be established. With this population-based study, we aim to evaluate if SES differences in breast cancer characteristics and quality of care can explain SES inequalities in breast cancer mortality. We include a total of 1068 invasive breast cancer patients recorded in GCR between 2003 and 2005. SES was based on woman's last occupation, and when absent that of the spouse. We compared patient, tumour and treatment characteristics, as well as quality of care indicators established by the European Society of Breast Cancer Specialists between high and low SES by logistic regression. We applied Cox regression analyses to identify reasons for the SES inequalities in breast cancer specific survival.

Breast cancer quality of care and outcome according to surgeon's caseload

The surgeons experience in breast cancer surgery appears to be a predictor of patient's survival. However, due to quality disparities in the existing studies, there is still

ambiguity surrounding both the relation and reasons why surgeon skill could influence breast cancer mortality. This population-based study aims to evaluate the effect of surgeon volume on both breast cancer quality of care and specific mortality, taking into account patient selection bias. The study included 1489 women, who operated in Geneva in the private sector for invasive breast cancer between 2000-2009, recorded in the GCR and followed until 31 December 2014.

Impact of neoadjuvant treatment in breast cancer patients

There is still little information about the impact of neoadjuvant chemotherapy after breast cancer diagnosis in terms of recurrences, which limits the optimization of the sentinel lymph node biopsy procedure, and the use of adjuvant radiotherapy. Among all women diagnosed in Geneva from 2000 to 2013 (n=4240), we collected the information about loco-regional recurrences among all women who received neoadjuvant chemotherapy (n=354). We also collected data on tumour characteristics pre- and post-chemotherapy, pathological complete remission, and also breast cancer specific and overall survival up to December 2014. The aim of the study was to evaluate the pattern, predictors and impact of loco-regional recurrences among women treated with preoperative neoadjuvant chemotherapy.

Temporal evolution of survival of breast cancer women whose cancer has not been detected through screening mammography

Breast cancer mortality has been declining in many western countries, including Switzerland, starting from the late 80s. Mammography screening and improvements in treatments have been credited with different degree for this reduction. Mortality trends are also decreasing among unscreened women,

however, most of breast cancer deaths still occur among unscreened women. The objective of this study was to analyse trends of factors affecting survival of women within the unscreened female population in Geneva, starting from 1990 through to 2007. An organized screening program launched in Geneva in 2001, whilst opportunistic screening has been in existence since the beginning of the 90s.

Other Cancers and Miscellaneous

Evolution of colon cancer incidence according to sub site

Conflicting results on the shift of right-left ratio in colon cancer incidence have been reported. We examine incidence trends by sub site in all colorectal cancer cases diagnosed in the 1970–2011 period identified through the GCR.

Cervical cancer

Dr Elisabetta Rapiti has been part of the Swiss Working group on HPV surveillance led by the Swiss Federal Office of Public Health. The working group has developed and conducted a pilot cross sectional study, to assess Human papillomavirus-associated cervical neoplasia in Switzerland at the start of a national vaccination programme.

Currently a Swiss working group “Putting into practice HPV routine” has been created in order to finalize the concept for the planned HPV routine monitoring. Dr Rapiti participates in this group representing the GCR.

National and International collaborations

The Registry is part of a big network of registries, both at a national and international level. We participate in several studies, contributing to the design, protocol, analysis, editing, and also the provision of data. We participate regularly to studies involving NICER (National Institute for Cancer Epidemiology Research) database, which includes data from all Swiss cancer registries. The last collaborations revolved around studies on: breast cancer amongst young women, colon cancer, prostate cancer and lung cancer. Two Swiss studies on Pattern of Care, one on breast cancer and one on prostate cancer are currently being conducted in collaboration with other Swiss registries. At European level, we are collaborating to Eurocare 5, a high-resolution study on treatment and survival of four cancer types, namely: melanoma, lung, breast and colorectal cancer. We also participate in the Rare Cancer European study which focuses on cancers with an incidence $<6/100\,000$ cases, and also the Concord studies, which assess the evolution of cancer survival worldwide.

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Teaching programme assessment on the treatment of tobacco dependence intended for doctors in Brno (Czech Republic) and Erevan (Armenia) – Project SNF SCOPE.

In this project, 80 young doctors were trained to treat tobacco dependence in their patients. We used participative, interactive teaching methods - an innovative approach introduced in the two partner countries. We used questionnaire surveys to evaluate the impact of this course.

Randomized trial in 800 smokers on the efficacy of financial incentives to quit smoking.

In this study, smokers were randomly assigned to receiving versus not receiving financial incentives if they quit smoking. The intervention proved effective, and doubled the odds of quitting smoking.

A research programme on the addiction to tobacco and e-cigarettes (8 on-going studies)

This programme includes two different longitudinal studies of e-cigarette users with follow-up after 6 and 12 months, two different studies of cotinine levels (a metabolite of nicotine) in e-cigarette users, a study of the

addictiveness of e-cigarettes, and a study of the effects of e-cigarettes on craving and other withdrawal symptoms. The research program also includes a study focused on comparisons of users of various types of nicotine vaporizers, a chemical analysis of refill liquids for e-cigarettes, a study of users of cannabis vaporizers, and also a comprehensive literature review on the effects of e-cigarettes.

Three studies on tobacco and cannabis withdrawal symptoms, in collaboration with Prof. John Hughes and Alan Budney, University of Vermont, USA.

These studies include a study of anhedonia (i.e. the inability to experience pleasure) as a potential tobacco withdrawal symptom, and studies of cannabis users in the U.S.A.



— MD and PhD thesis (on-going)

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<i>Breast cancer survival and mortality in overweight or obese women in the canton of Geneva.</i> (Thesis for the Doctorate in Medicine).	CHE	2003 2016	Stéphanie Seidler Geneva
This study evaluates the impact of BMI on survival of breast cancer patients diagnosed in Geneva during 2003-2006.			
<i>Breast Cancer in young woman: risk of locoregional recurrence, data from the Geneva Cancer Registry.</i> (Thesis for the Doctorate in Medicine).	CHE	2016 Ongoing	Aline Andrey Urias Lausanne
This study investigates the determinants of a loco regional recurrence after a breast cancer diagnosis among women <45 years old with a particular attention to the surgical margins.			
<i>Penile cancer epidemiology in Switzerland: a collaborative population-based study.</i> (Thesis for the Doctorate in Medicine).	CHE	2016 Ongoing	Rafael Blanc Moya Lausanne
In this thesis, trends in incidence, mortality and survival of penile cancer will be assessed using the data from the Geneva and the Vaud Cancer Registries.			
<i>Vaporiseurs de tabac: profil des utilisateurs, modes d'utilisation, avantages et risques perçus, effets perçus sur la consommation de cigarettes</i>	CHE	2015 2017	MD student: Sébastien Queloz
<i>E-cigarettes: users profile and public opinion in Taiwan</i>	TWN	2015 2017	PhD candidate: Chin-Shui Shih
<i>Accommodating epidemiological transitions of child health in middle-income health systems</i>	GBR	2016 2017	PhD candidate: Sugitha Sureshkumar

— Major publications: 14 — 15 — 16 — 17

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Cancer and prevention

1. Rapiti E, Pinaud K, Chappuis PO, Viassolo V, Ayme A, Neyroud-Caspar I, Usel M, Bouchardy C. *Opportunities for improving triple-negative breast cancer outcomes: results of a population-based study.* Cancer Med. 2017 Feb 17. [Epub ahead of print] (IF 2.915)
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4. Rapiti E, Guarnori S, Pastoors B, Miralbell R, Usel M. *Planning for the future: cancer incidence projections in Switzerland up to 2019.* BMC Public Health 2014; 14:102. (IF:2.264)

3. Clifford GM, Franceschi S, Keiser O, Schöni-Affolter F, Lise M, Dehler S, Levi F, Mousavi M, Bouchardy C, Darling KE, Wolfensberger A, Staehelin C, Bertisch B, Kuenzli E, Bernasconi E, Pawlita M, Egger M; Swiss HIV Cohort Study. *Immunodeficiency and the risk of cervical intra-epithelial neoplasia 2/3 and cervical cancer: A nested case-control study in the Swiss HIV Cohort Study.* Int J Cancer. 2016 Apr 1;138(7):1732-40 [Epub 2015] (IF 5.531)

Tobacco addiction and prevention

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2. Etter JF, Eissenberg T. *Dependence levels in users of electronic cigarettes, nicotine gums and tobacco cigarettes.* Drug Alcohol Depend. 2015;147:68-75.
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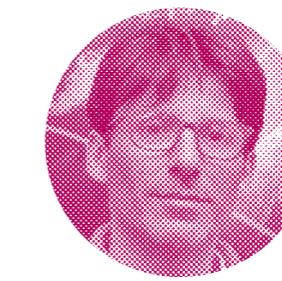
III — B

Division of Public Mental Health and Ageing

Teaching and research staff:

Prof. Emilio Albanese
Head of the division

Prof. Luc Mallet



Several colleagues from the Department of Psychiatry of the University of Geneva, Faculty of Medicine, conduct activities within the Division, including Prof. J-M Aubry, Dr. I Guessous, Prof. Yasser Khazaal, Dr. Sophia Achab, Dr. Natacha Premand.

The creation of the division of Public Mental Health and Ageing within the Institute of Global Health (IGH), addresses the new challenges in the global health agenda. Mental diseases hold a prominent position in the classification of the burden of diseases worldwide, especially as psychiatric and neurological conditions increase with age.

The main objective of the division is to gradually cover the whole field of Public Mental Health, from Human Rights (together with the division Health and Human Rights within the IGH), to psychiatric epidemiology - with inclusion of research on health services and health economy. It focuses on to ageing and dementia, fragility in elderly people, life expectancy in good health, and mental health in elderly adults.

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Other subjects will be developed, considering vulnerable populations requiring psychiatric healthcare in Geneva, and the priorities of the WHO Collaborating Centre (WHO CC) in Mental Health (migrants, patients with addiction issues, perinatal stress).

The Departments of Mental Health and Psychiatry of the HUG, Department of Psychiatry of the University of Geneva Faculty of Medicine, and the IGH also created this division to cement the collaboration on teaching activities including post-graduate (the CAS run by Prof. Albanese, the Spring School of the IGH, the MAS in Global Health, and the Summer School in Global Health and Human Rights), and pre-graduate (AMC in social psychiatry; IMC; and the epidemiology modules) studies. The head of the division is also the new director of the University of Geneva - World Health Organization Collaborative Centre (WHO CC) for research and training in mental health. The WHO CC conducts and leads several research projects, policy, and global health activities in close collaboration with the department of mental health and substance abuse. Finally, there is also collaboration with other partners, particularly through the network of institutions of the Swiss School of

Public Health (SSPH+), for both teaching (Winter School of Epidemiology; Summer School in Public Health Policy, Economics and Management), and research (PNR-74).

The Division is also very actively involved in the PhD programme in Global Health. A wide range of doctoral projects are under way, spanning from psychosocial interventions in low and middle income countries, their efficacy and scalability, to the investigation of the actual magnitude of the dreadful mortality gap associated with mental disorders in Eastern Europe.

Our PhD programmes and projects are closely interlinked with the activities of the WHO CC and particularly with those of the WHO Department of mental health, where our PhD students work or consult part-time. This close collaboration is unique, a link between academia and WHO, the highest policy organisation in the world of global health.

23 — Projects and activities

Global Mental Health

Excess body weight, obesity and dementia risk – a comprehensive meta-analysis and meta-regression of cohort and registry based prospective studies

In 2015/2016, Prof. Albanese conducted the most comprehensive meta-analysis so far on the topic. He designed innovative meta-regression methods to formally explore the sources of heterogeneity across the existing epidemiological studies on the obesity to dementia relationship. This area of research has enormous clinical and public health implications in all world regions. This work was conducted in collaboration with Prof. Matthias Egger from the University of Bern, who, for the first time, allowed us to introduce advanced meta-analytical methods in the field of observational epidemiology applied to dementia.

Cultural adaptation of minimally guided interventions for common mental disorders: A systematic review and meta-analysis

We have conducted (and widely disseminated) a comprehensive systematic review, meta-analysis and meta-regression, to explore the relevance of cultural adaptation of mental health interventions. This work is part of Miss Harper's PhD program at the UNIGE (i.e. Global

Health track), and is of great relevance for the implementation, and scaling up of the WHO mental health gap action program (mhGAP), dedicated to the field of mental health at WHO.

Mortality gap associated with mental disorders in the Czech Republic

The main aim of Dr. Dzmitry Krupchanka's PhD programme (of whom Prof. Emiliano Albanese is the co-supervisor alongside Prof. Yasser Khazaal) is to investigate the magnitude, determinants and implications of excess mortality associated with mental and substance use disorders in the Czech Republic. This record-linkage, large population based study is based on the comprehensive, Czech nation-wide, routinely collected, health data registries of patients' hospitalizations, and all-cause mortality, collected between 1994 and 2014. The outcome of the present project is expected to assist decision and policy makers in the design and implementation of a profound national reform of mental health services and strategies, as well as provide a sound epidemiological evidence base for further hypothesis generation and testing.

Psychiatric Epidemiology and Mental Health Service Research

Psychometrics analysis of the psy-bus (Bus Santé) data/project

'Psy-bus' is the Geneva-based psychiatric epidemiological study designed by Prof. J-M Aubry and Dr. I Guessous (HUG) embedded into the larger 'Bus Santé' study. Prof. Albanese is collaborating with Prof. Aubry, Dr. Guessous, and Dr. Helene Richard to conduct advanced psychometric analyses (including Factor analysis, Latent Class, IRT, Rasch models) exploiting this rich database. The project also aims to test relevant research and clinical hypotheses on the ground of an advanced validation of the assessment tools and research protocol. Scientific publications and FNS grants are foreseen.

"There is no place like home": Testing the cost-effectiveness of home treatment for acute mental illness in Ticino.

A before and after study was designed to test the efficacy and cost-effectiveness of Crisis Resolution and Home Treatment team for management and care of psychiatric acute crises. This is in close collaboration with the University of Geneva and the SUPSI (Lugano). Prof. Albanese is a co-applicant on the Swiss

PNR grant submitted jointly with Prof. Luca Crivelli (director of SUPSI and deputy director of the SSPH+).

Global Dementia Research Priorities – a worldwide CHNRI Exercise

Prof. Albanese led and coordinated the adaptation of the CHNRI methodology to the field of dementia, and designed the CHNRI global survey, including: data collection, analysis and synthesis, and all related dissemination activities (i.e. WHO reports, and the Lancet Neurology main paper). Between 2015 and 2016, Prof. Albanese and the WHO have conducted an unprecedented global survey amongst dementia experts and stakeholders, to elicit relevant research questions/ topics, and to rank and prioritize the consolidated 59 research avenues across five criteria:

- 1 Potential for success
- 2 Impact on burden reduction
- 3 Potential for conceptual breakthrough
- 4 Potential for translation
- 5 Equity.

Based on these rankings, an overall research priority score was computed for each research avenue.

Dementia Global Action Plan and Global Observatory

In June 2016, the Executive Board requested the WHO Director-General to work

with Member States and relevant stakeholders to develop a Global Action Plan for public health response to dementia. Prof. Albanese substantially contributed to the draft and revision of the WHO Dementia Global Action Plan. He also worked intensively with WHO to define the scope, data framework and indicators of the Global Dementia Observatory (GDO), which provides standard indicators and measures to monitor progress towards clear goals and measurable targets. A stakeholder consultation meeting was held in Geneva in July 2016, during which a consensus on the final framework and list of indicators has

been reached across several Member States, including Switzerland. The Dementia Observatory is intended to be the key global Surveillance system that will be used to collect current data on the burden and impact of dementia and health. Prof. Albanese is one of the international experts that advised WHO on the design of the GDO data framework, relevant targets and indicators. The 70th World Health Assembly (May 2017) will set the WHO Dementia Global Action Plan on the highest level of health policy. In combination with the GDO, this presents a unique opportunity to compare the burden of dementia between and within countries. It will be crucial to monitor national progress towards these goals.



— PhD Thesis:

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<i>Improving the methodological quality of global mental health research through valid patient generated outcome measurement: The Psychological Outcomes Profile questionnaire</i>	GBR	2015	PhD candidate: Melissa Harper
<i>Prevalence, health consequences and effective interventions for children witnessing domestic violence</i>	FRA	2016	PhD candidate: Berit Kieselbach

— Major publications: 14 — 15 — 16 — 17

27

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2. Shehadeh MH, Heim E, Chowdhary N, Maercker A, Albanese E. *Cultural Adaptation of Minimally Guided Interventions for Common Mental Disorders: A Systematic Review and Meta-Analysis.* JMIR Mental Health 2016; 3(3): e44.
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III – C

Division of Environmental Health and Health Promotion

Teaching and research staff:

Dr. Jean Simos
Head of the division

Dr. Nicola Cantoreggi



The division also included
Dr. Derek Christie and
Dr. Thierno Diallo.

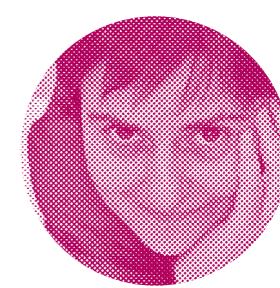
Prof. Thomas Mattig

Dr. Rafael Ruiz de Castañeda



Dr. Isabelle Bolon

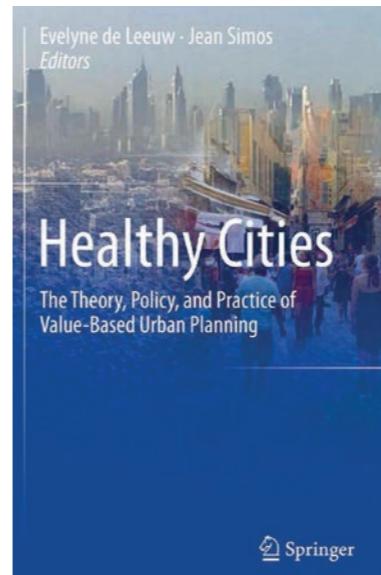
Dr. Sandrine Motamed



Environmental health and health promotion are essential fields in global health today, given the close relations between the environment and health. This division studies the impact of environments (especially urban settings) on health, but also the interrelations between animals and human health, — known as One-health. Health impact assessments for the public sector, promotion of health at a local level, studies of health implications of urban metabolism, like urban agriculture, and analysis of risk factors in urban environments, are the main fields of activity of the division Environmental health and health promotion. Through its participation in the WHO Healthy Cities project, the division works with numerous local governments to address the social, economic and environmental determinants of health in cities.

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Healthy Cities, The Theory, Policy and Practice of Value-Based Urban Planning, Evelyne de Leeuw, Jean Simos (eds.)

This forward-looking resource recasts the concept of healthy cities not only as a safe, pleasant, and green built environment, but also one that creates and sustains health by addressing social, economic, and political conditions. It describes collaborations between city planning and public health, creating a contemporary concept of urban governance — a democratically informed process that embraces values like equity. Models, critiques, and global examples illustrate institutional change, community input, targeted assessment, and other means of addressing longstanding sources of urban health challenges. In these ambitious pages, healthy cities are rooted firmly in the worldwide movement toward balanced and sustainable urbanization, developed not to disguise or displace entrenched health and social problems, but to encourage and foster solutions.

The division takes part in several academic programmes, including the Master in Science of the Environment (MUSE) at the University of Geneva, in collaboration with the Faculties of Sciences, Sciences of Society and Law, and also the Master in Global Health (MSGH) of the IGH. Dr. Jean Simos and Dr.

Nicola Cantoreggi teach the courses Health and Environment (in French) for the MUSE and Environment Health and Sustainable Development for the MSGH.

— Global Health at the Human-Animal-Ecosystem Interface

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The One Health / Eco-Health Unit was created at the end of 2015 at the core of the Division Environmental Health and Health promotion, at the IGH. It is the first interdisciplinary research and teaching unit of the Lemanic Region focusing on global health threats and opportunities at the human-animal-ecosystem interface. This includes both health risks resulting from human-animal interactions such as zoonosis or snakebite, but also opportunities for health promotion (e.g. biodiversity conservation and health). The unit is led by Dr. Rafael Ruiz de Castañeda* (animal ecology, disease ecology, wildlife microbiology etc.) and Dr. Isabelle Bolon (veterinary sciences, biology, public health etc.), and brings together theory and practice from a diversity of fields such as epidemiology of infectious diseases, veterinary public health, environmental health, zoology and disease ecology, urban ecology, conservation sciences, political sciences, medical informatics, citizen cyber-science, and action ecology for global health.

***Kindly supported by
Fondation Louis-Jeantet**

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Education and Research

Network

The One Health / Eco-Health Unit has developed a large interdisciplinary network of collaborations in research and teaching at the local, national and international level:

Local level: Internally at the IGH and Faculty of Medicine, and more largely at the UNIGE, including University Hospitals of Geneva (HUG), the Global Studies Institute (GSI), the Institute for Environmental Sciences (ISE) and the Citizen Cyberlab.

National level: Swiss TPH (Basel), VetSuisse Faculty (University Bern/Zurich).

Internationally: Strong links with the so-called International Geneva (e.g. WHO) and its global network and NGOs (IUCN, MSF etc.), University of Montreal, Institut Pasteur.

Teaching

The One Health / EcoHealth Unit led the development of a new interdisciplinary and multi-expert MOOC on "Global Health at the Human-Animal-Ecosystem Interface" which will be launched in Spring 2017.

The Unit was awarded a grant from SSPH+ (call "Foster Identity through Collaborations: Call for SSPH+ Workshops or Projects 2016")

to organise the first Global flipped classroom on One Health in 2017, in collaboration with SwissTPH (Prof. Jakob Zinsstag) combining two different MOOCs.

The Unit is involved at teaching activities at different levels, from undergraduate courses (e.g. Global Health and Tropical Medicine course at the Faculty of Medicine) to the Master and PhD in Global Health.

We took part in the ODD Summer School 2016, supervising 4 Chinese students from the University of Tsinghua, and a student from the MUSE Master (food market project).

Knowledge transfer and dissemination

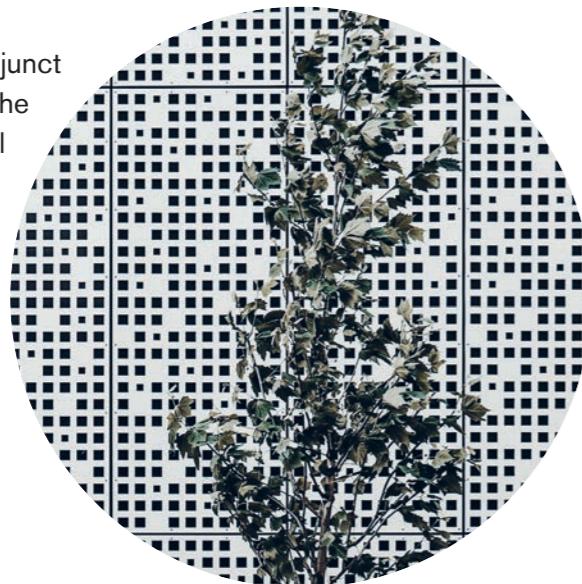
The Unit participates actively to UNIGE/ISG MOOCs dissemination and promotion via presentations and workshops: locally (e.g. Direction générale de la santé, State of Geneva, monthly meetings), nationally (e.g. Swiss National Public Health Conference 2015) and in international conferences (Geneva Health Forum 2016, SwiCOB2016 in Bern, World Health Summit 2016 in Berlin, OHEH 2016 in Melbourne (4th International One Health Congress & The 6th Biennal Conference of the International Association for Ecology and Health/Melbourne). Rafael Ruiz de Castaneda was an invited expert to the 2016 Coursera Partners Conference in The Hague.

Community participation and health policy and practice

Dr. Sandrine Motamed's main research field is community participation and health policy and practice. She has been involved in a major task of community service for many years. This aims to develop the health, the well-being, and the quality of life in the canton of Geneva by means of community participation, town planning and the development of social links between generations.

Likewise, she coordinated the undergraduate course in International Health and Tropical Medicine and contributed to many others: the Certificate of community health, the Master of Advanced Studies in Public Health (MAS-SP) and the program in humanitarian action, to name a few.

She has been Adjunct Associate Professor in the Department of Global Health, Hokkaido University, Japan, as part of the interna-



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— Projects and activities

Health Impact Assessment

2017- : Equity and governance: an interventional research in WHO Healthy Cities network on green spaces and land (GREENH_City)

Partners : Ecole de Hautes Etudes en Santé Publique (EHESP), Université Paris-Nanterre, Réseau français des Villes-Santé, Institut National du Cancer (INCA)

The research aims to identify, within the municipal level, the most promising interventions to make operational approaches of health in all the policies (HiAP) at the local level, and act on the social inequalities of health in urban area. More specifically, it will: i) Describe and analyse the processes of governance favouring the approach of HiAP, and the promotion of the equity health within the Healthy cities network b) Describe and analyse the landscapes and green spaces interventions within French Healthy Cities municipalities; c) Analyse the use and the contribution of green spaces on the quality of life and well-being of the inhabitants, and also highlight the existing interactions between municipal interventions and the population. The research approach will use case studies and mixed methods. Quantitative analysis will be applied, following the findings of two qualitative ones (interviews of actors and collection of documentation vs. direct observation).

2015- : Potential health impact assessment (HIA) caused by wind turbines

Partners: equiterre, Institute of Environmental Sciences, VO Energie

Creators of the wind farm project "Sur Grati" in the Canton of Vaud identified the issue of wind turbines impact of health, following participation in several information meetings and discussion with the general public. The directors decided to call on the IGH in collaboration with equiterre, to achieve this HIA and ground the debate around matters of health. The report of this initial phase was published in December 2015. A second phase, still Ongoing, is about further exploring some of the aspects related to the evolution of wind turbines technique throughout the time.

2012- : The HIA, an appropriate tool to assess health impact of urban agriculture in the region of Dakar in the perspective of climate change

(PhD thesis in environmental sciences of Mr. Abou Ba)

Partners: Institute of Environmental sciences, University of Dakar, University of Montreal

In Dakar, like in most of the other big cities in the South, where food demand keeps rising, public policies tend to frequently see urban agriculture (UA) as an illegitimate prac-

tic, because it removes space for other uses (residential, commercial, industrial). However, this activity that creates numerous jobs and directly addresses food needs of the population, remains broadly unknown as for its true hold on space. Beyond the food dimension, income generated by UA deeply changes daily life of people, allowing them to financially take on health and education costs of small to larger family circles. With this study, we intend to understand the position and relevance of UA in spatial dynamics of Dakar urban area in an environmental context that evolves dramatically, but also aim to shed a light on the contribution of UA to population health through the development of a specific HIA approach that can be applied to other cities in the South.

2015-2016 : Health Impact Assessment (HIA) of Sectorial Plan of Aeronautical infrastructure of the Geneva-Cointrin Airport (GA)

Partners : equiterre, Swiss Tropical & Public Health Institute (Swiss TPH), EMPA, ECOPLAN, M.I.S.-Trend, association transfrontalière des communes riveraines de l'Aéroport de Genève, Etat de Genève

The future development scenario of the Geneva Airport for 2030 foresees a rise of over 50% of the number of passengers and over 25% of air traffic (take-off and landing). The environmental inconvenience resulting from this evolution, predicts potentially negative impacts that can be important for health of the populations living close to the airport, but also potential economic benefits. The HIA produced on the project PSIA at the horizon 2030, assessed potential health implications (mortality and morbidity, costs) of sound inconveniences (relatively stable) and air pollution (strong evolution), comparing them with the present situation (state of reference 2014). An inquiry to a representative sample of the concerned trans-border region explored the topic of quality of life. Through a review of literature, effects in terms of jobs and income of this development were also considered. Assessment concluded in particular to significant health effects that will

require a strict environmental follow-up plan, as well as a reinforced dialogue with the neighbouring municipalities to the airport.

2014-2015 : WHO European Healthy Cities Network Phase V Evaluation.

Partners : Centre for Urban Health (WHO EURO), Evaluation scientific advisor group, EHCN coordinators, University La Trobe (Melbourne)

For each Phase (5 years) of the "European Healthy Cities Network" program, WHO adopted a vision and set core attributes to work towards improving urban health and the environment. The evaluation of Phase V (2009-2013) was developed adopting the concept and principles of Realist Evaluation, which accounts for context, and the process of change from baseline to outcomes and impacts. The core of the Phase V Evaluation approach consists of: a) Structured case studies which had been coded using a qualitative software package; b) General Evaluation Questionnaire (GEQ) of 48 questions aligned with the strategic attributes as well as thematic areas cities committed to working on as part of their designation; c) information used from existing data collection tools as Annual Report Templates (ARTs), City Health Profiles; designation documents; and d) Eurostat indicators.

Human-animal interactions in the context of urban socio-ecosystems: urban health, food markets, food security and safety, urban farming, urban wildlife, etc.

– Rafael Ruiz de Castañeda and Isabelle Bolon were invited as experts to contribute to the global event "Urban Thinkers Campus, Health and Wellbeing in The City We Need" hosted by the United Nations University in Kuching - Malaysia (24 to 27 January 2016).

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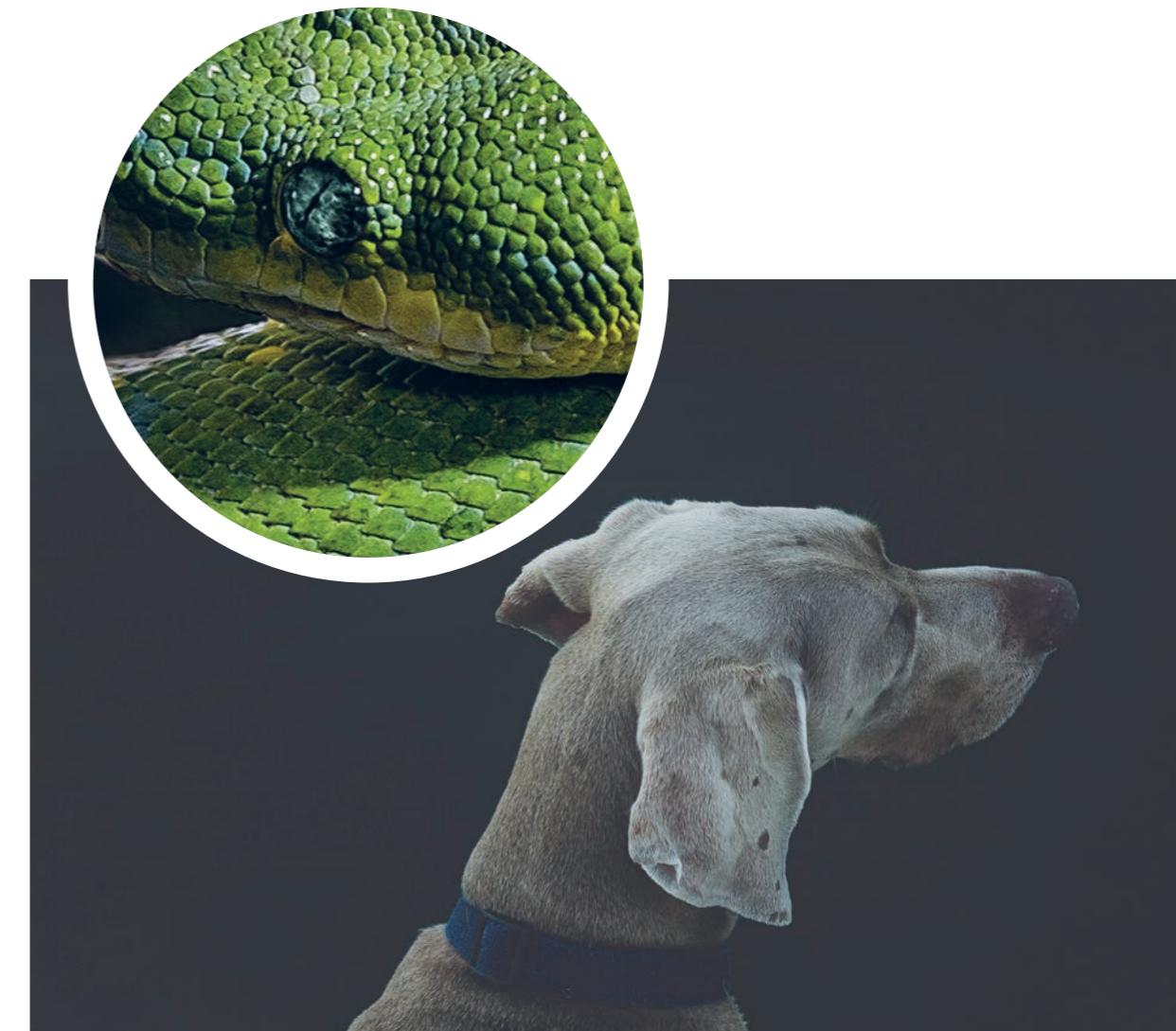
– The Project on food markets of the world as potential urban hotspots for the emergence of zoonotic infections and opportunities for health promotion and food security was selected by the Open Seventeen challenge (set by an international consortium including Bono's ONE campaign, CERN's Citizen Cyberlab, GovLab and SciFabric) providing coaching of a student from the Master in GH (Dr Lester Genevieve). This project was presented to Habitat III - United Nations Conference on Housing and Sustainable Urban Development, 17 - 20 October 2016, Quito - Ecuador.

One Health approach to Snakebite: collaboration with the Division of Tropical and Humanitarian Medicine (HUG) and its global network, the Institute of Environmental Sciences (UNIGE) and MSF.

The aim of this interdisciplinary collaboration is to contribute to tackling snakebite crisis as a global health and humanitarian crisis. Research on the impact of snakebite on both human and domestic animal populations in rural areas of Africa and Asia will be developed.

1 – Thomas Hafenneth

2 – Will Langenberg



— One Health / Eco-health unit

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— Major publications: 14 — 15 — 16 — 17

39

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Policy, and Practice of Value-Based
Urban Health Planning* ;
Springer, New York, 2017

2. Simos J, Cantoreggi N
"Environnement, santé et qualité de vie"
in Rapport social 2016 : Bien-être, pp.
268-288. Editions Seismo,
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3. Chastonay Ph, Zybach U, Simos J, Mattig T.
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Issue 7, pp. 763-764

4. Simos J, Spanswick L, Palmer N, Christie D.
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5. Mattig T, Cantoreggi N, Simos J,
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(2015) *HIA in Switzerland: strategies for
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6. Ackermann G, Kirschner M, Guggenbühl L,
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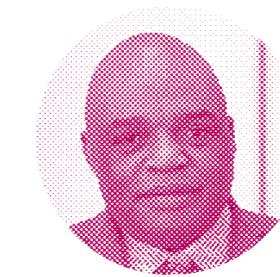
III — D

Division of Health and Human Rights

Teaching and research staff:

Prof. Emmanuel Kabengele Mpinga
Head of division

Dr. Jennifer Hasselgard-Rowe



One of the important lessons of the fight against the HIV/AIDS pandemics is the demonstration of the existence of relations between populations' health and their fundamental rights. This new paradigm on social determinants of health sheds the light on the conceptual basis of those relations, namely (a) health is a matter of human rights (b) human rights violations impact health and (c) conversely, a better protection of human rights contributes to the promotion and protection of health.

The Division of Health and Human Rights articulates around 4 main research fields:

- 1 Identifying the violations to fundamental rights impacting on public health**
- 2 Clarifying epistemological foundations between health and human rights**
- 3 Getting reliable indicators of surveillance of human rights implementation in the field of health at a global level**
- 4 Identifying adapted strategies of intervention and responses**

This division is part of an international network led by the University of Harvard. Research work focuses on the nature of the relations between health and human rights, indicators of implementation of right to health, as well as epistemological foundations of this discipline in a global perspective. In collaboration with the humanitarian medicine of the University Hospitals of Geneva (HUG) and diverse organisations working in the field of humanitarian action, research directs towards the economic and social costs of violation of human rights and the strategies of prevention of human rights violations in health systems.

The division takes part to the research of the Laboratory "Big Data in Global Health", especially through the works intended to better understand the protective potential of massive data in the implementation of right to health sur-

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Health and Human Rights during medical school

Health and human rights is taught during the first year of medical school and the elective course Health, human rights and globalisation in 2nd and 3rd year. Moreover Emmanuel Kabengele Mpinga co-supervises the unit immersion in community, sending students abroad for community projects.





1 – Pixels

2 – Roi Dior

— Projects and activities

Health and Human Rights

Economic and social costs of torture

Different forms of Human Rights violations cause economic and social costs, for which estimation models and levels remain relatively unknown. Results of such studies are important for the prevention, compensation and fight strategies against such practices. Studies were about:

- Creation and testing of an estimation model applied to Switzerland in collaboration with Dr. Conrad Frey from the Psychiatric Clinic, Obwalden Cantonal Hospital, Sarnen
- Study on challenges and methodological opportunities of torture costing estimation in collaboration with Profs Kandala from Northumbria University (UK) and Bukonda from Wichita University (USA).

Blood Transfusion Systems Studies: A New Interdisciplinary Approach built on Comparative law, Human rights and Public Health Research

This project rests on our previous works on the epistemological status of health

and Human Rights as well as its relations with other disciplines (Mpinga EK, London L, Chastony P (2011). Health and Human Rights: Epistemological status and perspectives of development. It studies practical aspects of inter- and trans-discipline in the fields of health law, public health and Human Rights with needs and encountered issues in blood transfusion systems as a frame. The project is led in collaboration with the Institute of Health Law of the University of Neuchâtel.

Preparatory works for the creation of an academic chair on female genital mutilations and other harmful traditional practice.

A complex and ancient phenomenon, female genital mutilations (FGM) concerns about 130 millions of women worldwide. Although the first attempts for abolishing this practice date back the XVIth century in Ethiopia, the fight against FGM is rather recent. Research that has been undertaken was directed more to its criminalization, as well as the medical consequences. We note a lack of precise data and methodological limitations of studies, social mechanisms that continue the tradition are not systematically explored. Psychological, sociological, economic and political effects of this tradition are rather neglected. Evaluation of fieldwork is insufficient or carried out in a non-systematic manner. Evaluation tools availa-

ble for field workers are nonexistent. Numerous stakeholders have not received suitable training. This context prevents actions of prevention and fight.

The projects aims at enabling the development of research activities and teaching for the creation of a chair in public health and human rights based on the FGM and other harmful traditional practice. It aims at:

- 1 Undertaking research in the field of FGM
- 2 Develop and test pedagogical material on FGM and organize a methodological seminar
- 3 Conceive the research and teaching programme of the chair
- 4 Create a network of partners at a global scale

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1—Pixels

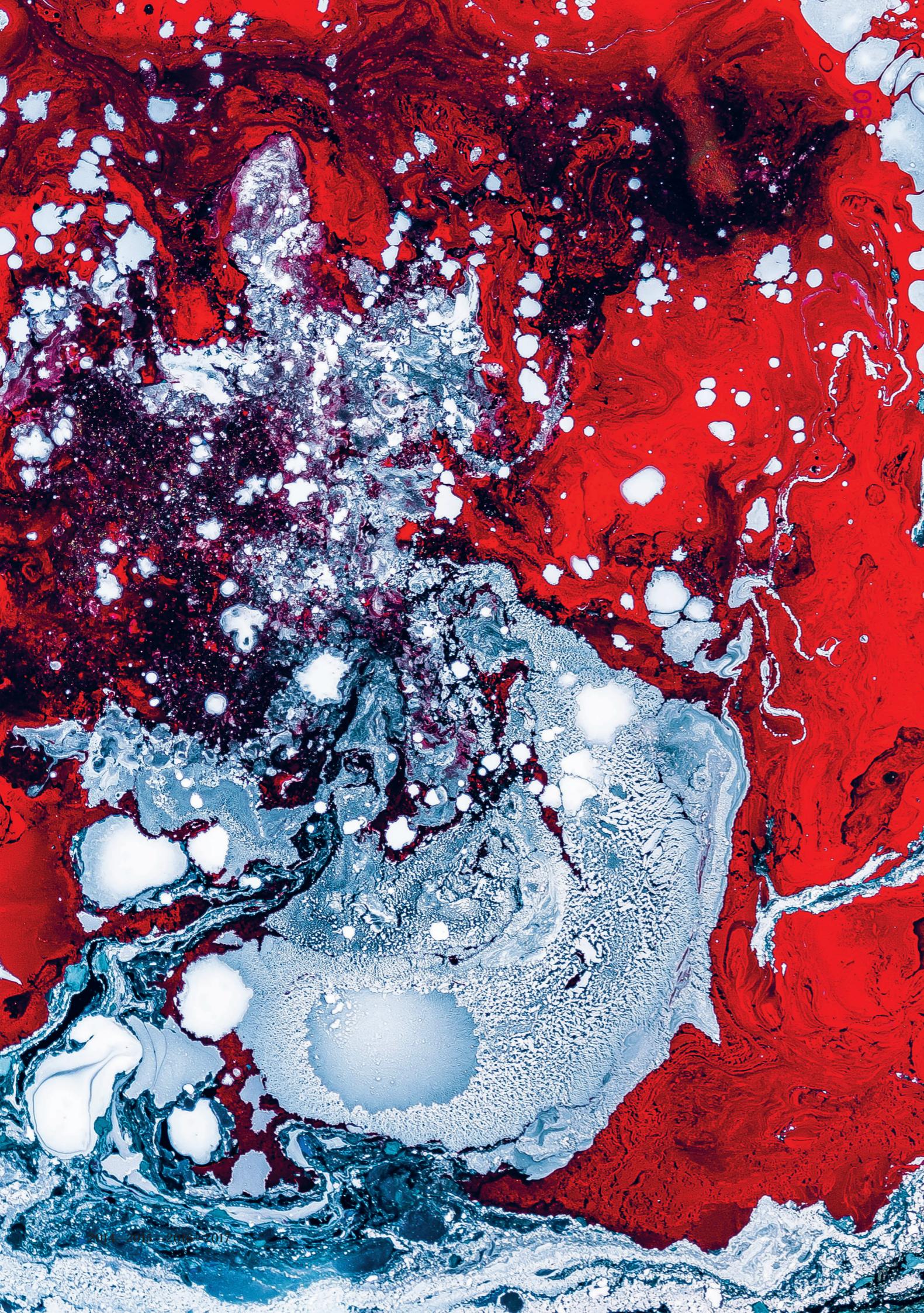
2—Pixels

— PhD Thesis:

<i>Chronic political instability and the implementation of the HIV/AIDS response in Guinea-Bissau from 200 to 2015: a case study of the intersections of politics and epidemiology</i>	USA	2017 Ongoing	PhD candidate: <i>Joshua Galjour</i>
<i>Prevalence of malnutrition in Lebanese hospitals and validation of a national screening tool</i>	LBN	2016 Ongoing	PhD candidate: <i>Krystel Ouaijan</i>
<i>Using Human Papilloma Virus Self-Sampling for Cervical Cancer Screening in Switzerland and Burkina Faso and monitoring the Earlier Impact of HPV-Vaccination Programme in Switzerland</i>	FRA	2015 Ongoing	PhD candidate: <i>Emilien Jeannot</i>

— Major publications: 14 — 15 — 16 — 17

1. Boccardi M, Gallo V, Yasui Y, Vineis P, Padovani A, Mosimann U, Giannakopoulos P, Gold G, Dubois B, Jack CR, Albanese E. *The biomarker-based diagnosis of Alzheimer's disease. 2—lessons from oncology.* Neurobiology of Aging 2017; 52: 141-52.
2. Mpinga EK, Macias A, Hasselgard-Rowe J, & al. *Female genital mutilation: a systematic review of research on its economic and social impacts across four decades.* Global Health Action. 2016;9:10.3402/gha.v9.31489. DOI:10.3402/gha.v9.31489.
3. Mpiana B, Mpinga EK, Kandolo T & al. *Risk Factors of Human Trypanosomiasis in Mbuji Mayi, Eastern Kasai Province, Democratic Republic of Congo.* International Journal of Tropical Disease & Health 2015; 5 (3): 190-20
4. Mpinga EK, Chastonay P, Conrad F. *Economic burden of Torture for a refugee host country: development of a model and presentation of a country case study.* ClinicoEconomics and Outcomes 2014; 6:165-173
5. Mpinga EK, Hasselgard-Rowe J. *Justiciability of the Right to Health in South Africa and Switzerland through the Lens of Its normative Components.* International Human Rights Law Review 2014, 3 (1): 1-28



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III – E

Division of Infectious Diseases and Mathematical Modelling

Staff based in Switzerland:

Prof. Olivia Keiser
Epidemiologist, head of the division

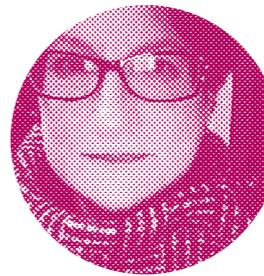
Dr Janne Estill
Mathematician



Dr Zofia Baranczuk
IT specialist, statistician and modeller

Dr Kali Tal
Social scientist

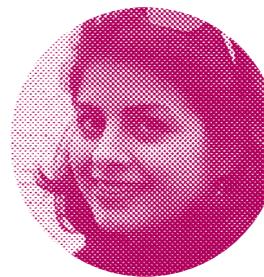
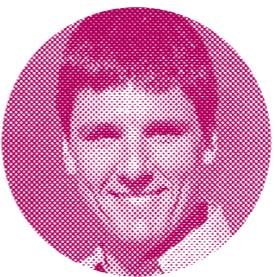
Dr Barbara Bertisch
Clinician, infectious disease specialist

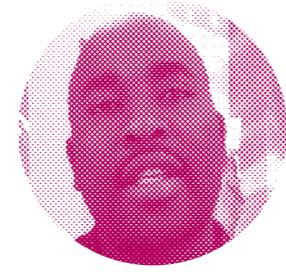
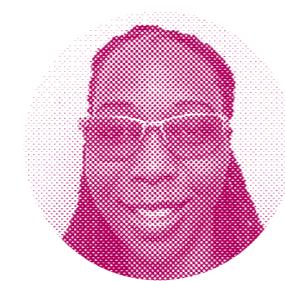
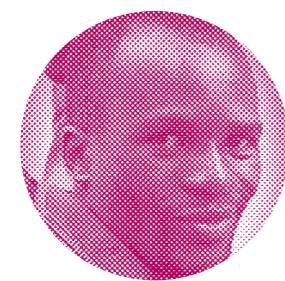


Dr Matteo Brezzi
Biologist and statistician

Maryam Sadeghimehr
PhD student and mathematician

Dr. Yves-Laurent Jackson
Medical Doctor, specialized in the
Neglected Tropical Diseases





Why does HIV prevalence and incidence vary so widely within single countries?

- 1 How do people (individuals and groups) spread diseases?
- 2 Should all patients with hepatitis C be treated at any stage of the disease?
- 3 How should a fixed amount of money best be allocated to reduce the number of new HIV infections and HIV-related deaths?
- 4 What are the main drivers of loss-to-care in HIV-infected pregnant women in Malawi?
- 5 Can probabilistic record linkage help track patients across health facilities?
- 6 Is diabetes incidence increasing in HIV-infected patients in Zimbabwe?

These are examples of questions the division Infectious diseases and mathematical modelling is trying to answer. The division consists of mathematicians, IT specialists, statisticians, biologists, physicians, and social scientists. They collaborate closely with experts from a variety of fields, such as Ministries of Health, and with international organizations like the WHO, UNITAID and the World Bank.

The division takes an interdisciplinary approach and combines mathematical modelling (including cost-effectiveness analyses), analyses of cohort data, systematic reviews, text mining, and qualitative research techniques.

The division focuses on HIV and hepatitis, both in Switzerland and abroad. But it is also interested in expanding its work to other infectious diseases, and in studying the interaction between communicable and non-communicable diseases.

— Projects in the division



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e+="Text",r.resetText||n.data("reset");
Class(t).attr(t,t):n.removeClass(t);
"buttons-radio"]');e&&e.find(".active").on=function(n){return this.each(function(this,s),n=="toggle"?i.toggle():n&&i.s.fn.button.noConflict=function(){return ,function(t){var n=e(t.target);n.hasClass("active")?n.removeClass("active"):n.addClass("active")},t=function(t,n){this.$element=e(t),this.$parent=n},.pause=="hover"&&!this.$element.on("mouseenter",this).on("mouseleave",this)),i:clear:clearInterval(t);&&(this.interval=setInterval(e.proxy(this.next,this),this.options.interval)),n=$.fn.carousel.defaults.is.element.find(".item.active"),this.$items=this.$active.parent().children(t){var n=this.getActiveIndex(),r=this;if(t>this.$items.length-1||t<0)return n=t?this.pause().cycle():this.slide(t>n?"next":"prev",sed!=0),this.$element.find(".next,.prev").length&&e.support.transition.e),this.cycle(!0),clearInterval(this.interval),this.interval=null,this,r(e("next")),prev:function(){if(this.sliding)return;return this.slide("prev",item.active"),i=n||r[t](),s=this.interval,o=t=="next"? "left": "right",u=t.pause(),i=i.length?i:this.$element.find(".item") [u](),f=e.Event("slide",)return;this.$indicators.length&&(this.$indicators.find(".active").remove=t=e($indicators.children())[a.getActiveIndex()]),t&&t.addClass("active")&de)){this.$element.trigger(f);if(f.isDefaultPrevented())return;i.addClass("active"),e.support.transition.end,function(){i.removeClass([t,o].join(" ")).join(" ")),a.sliding=!1,setTimeout(function(){a.$element.trigger("slidended())return;r.removeClass("active"),i.addClass("active"),this.sliding=!1, this});};var n=e.fn.carousel,e.fn.carousel=function(n){return this.each(function(f){,e.fn.carousel.defaults,typeof n=="object"&&!n,o=typeof n=="string"?n:umber"?i.to(n):o?i[o]():s.interval&&i.pause().cycle()}),e.fn.carousel.defaults.Constructor=t,e.fn.carousel.noConflict=function(){return e.fn.carousel},[data-slide-to]",function(t){var n=e(this),r,i=e(n.attr("data-"),""),s=e.extend({},i.data(),n.data()),o;i.carousel(s),(o=n.attr("data- t.preventDefault())}(window.jQuery),!function(e){"use strict";var t=function fn.collapse.defaults,n,this.options.parent&&(this.$parent=e(this.options){constructor:t,dimension:function(){var e=this.$element.hasClass("width"),r,i;if(this.transitioning||this.$element.hasClass("in"))return;t=this.dim parent&&this.$parent.find("> .accordion-group > .in");if(r&&r.length){i=r.collapse("hide"),i||r.data("collapse",null)}this.$element[t](0),this.transition&&this.$element[t](this.$element[0][n]),hide:function(){var t;if(t=this.dimension(),this.reset(this.$element[t]()),this.transition("remove set:function(e){var t=this.dimension();return this.$element.removeClass('ent[e]==null?"addClass": "removeClass"]("collapse"),this},transition:function(t),i.transitioning=0,i.$element.trigger(r);this.$element.trigger(n);if

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Modelling HIV and HCV Epidemics

Mathematical simulation models to test the effectiveness and cost-effectiveness of different health interventions

We have developed several mathematical simulation models for HIV-infected adults and children, as well as for tuberculosis and hepatitis C. One of our HIV models showed that tracing patients lost to follow-up prevents only a small number of HIV transmissions. In another project, we identified factors that may explain the typical age structure observed among diagnosed tuberculosis patients in Cape Town. To parameterize the models, we analyse primary data and conduct systematic reviews of published literature. We have developed a general version of a disease progression model that can be used for any type of disease; it is available online as an R package. We developed or applied simulation models in many of our other projects.

HIV in Malawi

In Malawi, we evaluated the prevention-of-mother-to-child-transmission programme, "Option B+" by combining quantitative and qualitative analyses techniques (see <http://www.umoyoplus.org/>). In that study, we

found that both HIV testing frequency and loss to follow-up varied substantially across sites. When we mapped the data, we realized that loss to follow-up rates clustered spatially. We decided to explore this spatial clustering by analysing data from qualitative focus groups and in-depth interviews of patients and health care workers.

In a follow-up project, we will extend the findings of this study to explore the spatial variability of HIV in Malawi. For this project, we will use state-of-the-art statistical analyses, review qualitative literature on socio-behavioural factors of HIV in Malawi, and develop a spatial simulation model. Since we work closely with local NGOs and the Ministry of Health, our findings will help others to develop and implement locally acceptable interventions.

Other HIV-related collaborations

For the past 10 years, we have led and contributed to many analyses on HIV therapy outcomes in HIV-infected adults and children in sub-Saharan Africa (ie DEA collaboration, www.iedea.org). One of our PhD students is, for example, working on an analysis of therapy failure and third-line therapy in Zimbabwe. We also continue to be an active partner in this worldwide network of HIV cohort studies. We also collaborate with the Swiss HIV Cohort Study, which is one of the oldest HIV cohorts worldwide (www.shcs.ch).

With the groups of Prof David Wilson (Burnet Institute Australia), the World Bank UNAIDS, and other partners, we constitute the “Optima group” (www.optimamodel.com). Optima is an allocative efficiency analysis tool that can be used to inform public health investment choices, and can also be utilised for academic research. The Optima approach involves, for example, assessing the burden of disease over time, defining strategic objectives under logistic, ethical or and/or political constraints; and, determining optimal resources allocation for achieving objectives. Optima is available for HIV, tuberculosis, nutrition, and hepatitis C. Other modules are in development.

Hepatitis C in Switzerland

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We have led several epidemiological analyses within the Swiss Hepatitis C Cohort Study SCCS (www.swisshcv.org). We have focused on access to care and therapy outcomes. We also have a mandate from the Swiss Federal Office of Public Health to conduct a situation analysis of hepatitis B and C in Switzerland. We have worked on several simulation models that assess the effect of difference screening and therapy interventions for hepatitis C-infected patients in Switzerland.

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— Major publications: 14 — 15 — 16 — 17

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New-onset Diabetes Mellitus among Patients receiving HIV care at Newlands Clinic, Harare, Zimbabwe. A retrospective Cohort Analysis.
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2. Haas AD, Tenthani L, Msukwa MT, Tal K, Jahn A, Gadabu OJ, Spoerri A, Chimbwandira F, van Oosterhout JJ, Keiser O.
Retention in care during the first 3 years of antiretroviral therapy for women in Malawi's option B+ programme: an observational cohort study.
Lancet HIV 2016; 3(4):e175-82.
3. Estill J, Ford N, Salazar-Vizcaya L, Haas AD, Blaser N, Habyambere V, Keiser O.
The need for second-line antiretroviral therapy in adults in sub-Saharan Africa up to 2030: a mathematical modelling study.
Lancet HIV 2016; 3(3):e132-9.
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Access to therapy and therapy outcomes in the Swiss Hepatitis C Cohort Study: a person-centred approach.
J Viral Hepat 2016; 23(9):697-707.
5. Blaser N, Salazar Vizcaya L, Estill J, Zahnd C, Kalesan B, Egger M, Gsponer T, Keiser O.
Gems: an R package for simulating from disease progression models.
J Stat Softw 2015; 64(10): 1-22.



III — F

Director's office

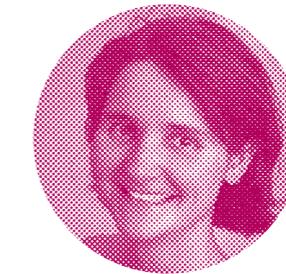
Director's office:

Adjunct Prof. Francis Moussy (WHO, Access to essential diagnostics)
 Dr. Nathalie Bot (Scientific collaborator)
 Dr. Damien Dietrich (Resident doctor in Public and Global Health)
 Dejan Locar (Scientific collaborator)
 Nefti-Eboni Bempong (Junior researcher)

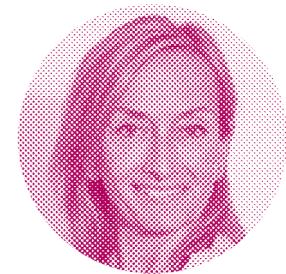
Prof. Antoine Flahault
 Director of the Institute of Global Health / Director of the NCCR Project



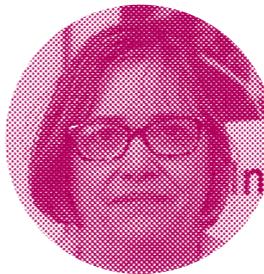
Prof. Olivia Keiser
 Deputy NCCR Project Director



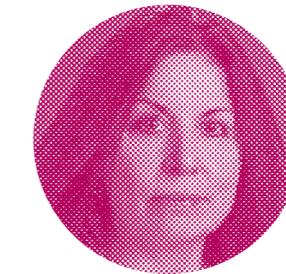
Prof. Bettina Borisch



Florence Walker
 Administrative Assistant



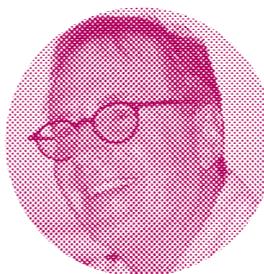
Christine Lehmann
 Administrative Assistant



Dr. Johanna Goncalves Martin
 Scientific collaborator



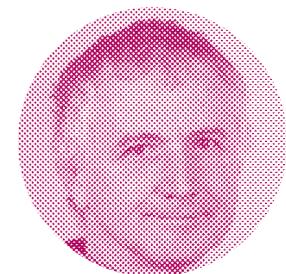
Dr Cyril Pervilhac
 International relations



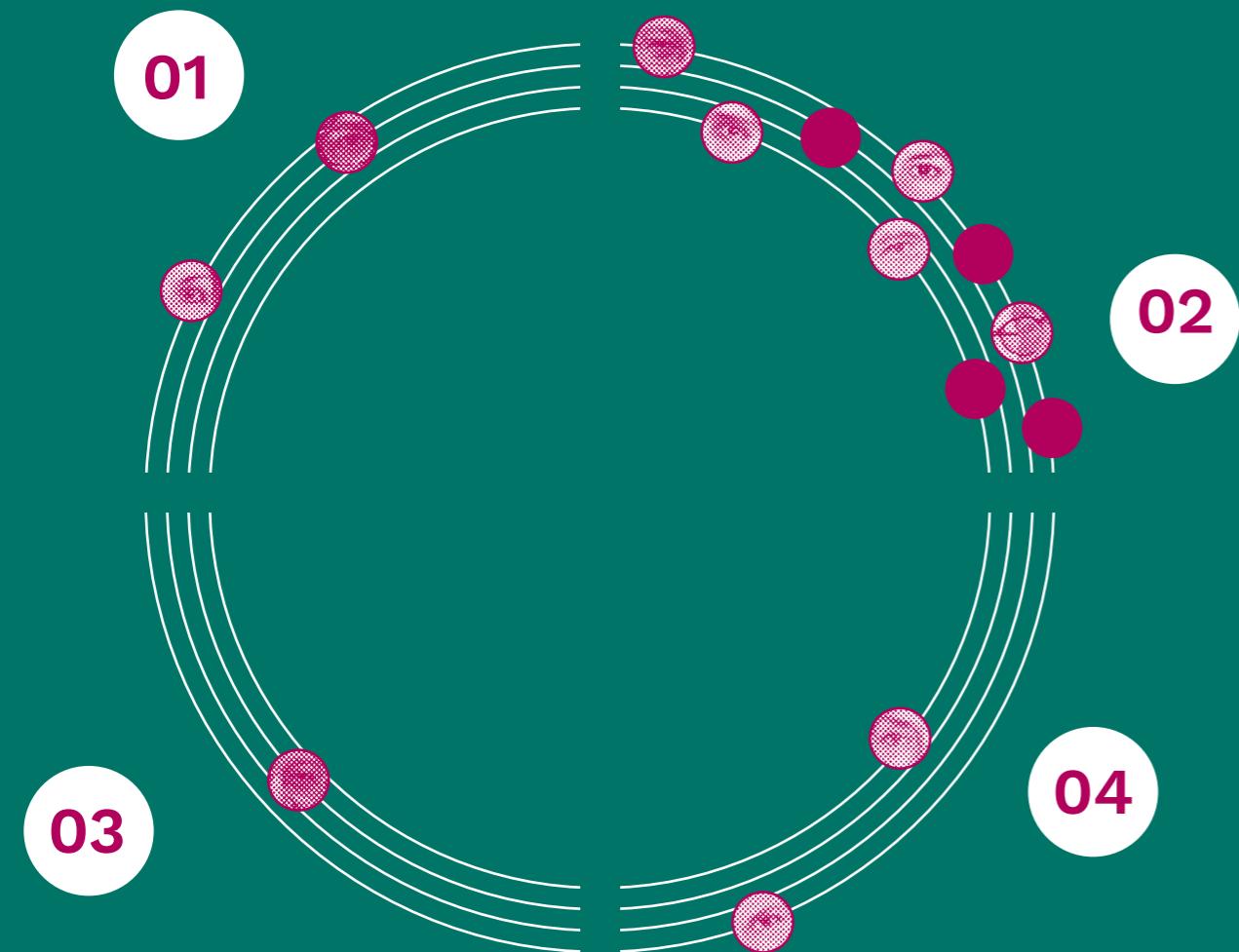
Dr Marta Lomazzi



Dr. Eric Comte
 (Scientific collaborator)



— Activities at the direction of the IGH covers four parts:



01 Administrative

Thanks to Ms Florence Walker and Christine Lehmann who both run all administrative aspects of the Institute, including management of funds, budget and invoices, human resources in relation with the administrative sections of the Faculty of Medicine and the Rectorate of the University, minutes of the meetings of our steering committee, and booking of rooms. Florence Walker dedicates 20% of her time to the Geneva Cancer Registry.

02 Precision Global Health

The precision global health project foreshadows further emerging projects and proposals in the domain of digital global health; it is funded by funds allocated by the Fondation Louis-Jeantet.

03 Governance

Organization of a monthly 90-minute meeting of the Steering Committee constituted by all professors (including adjunct professors) and private docent faculty members of the Institute. An assistant of the Directorate attends these meetings, and writes their minutes.

04 Implementation Science

In close collaboration with WHO Headquarter (Health Systems and Innovation), WHO EURO regional office in Copenhagen, and several other organizations from both the UN system (UNEP, UNISDR) and NGOs, the Group of Prof. Borisch is leading research on the implementation of global health interventions.

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Precision Global Health Project

Constituted in a team managed by the Director (Prof. Antoine Flahault) and the Deputy Director of the Project (SNF Prof. Olivia Keiser), the team consists of: one full time junior researcher (Nefti-Eboni Bempong), one part-time adjunct professor (Prof. Francis Moussy, from WHO), two part-time senior global health professionals (Dr Cyril Pervilhac and Dr Eric Comte, from MSF and GHF), a full-time senior scientist in sabbatical (Dejan Loncar, from GAVI), a full-time resident (Dr Damien Dietrich), and an epidemiologist and anthropologist (Dr. Johanna Goncalves Martin), all in partnership with Antoine Geissbuhler's and Christian Lovis's groups at Campus Biotech. It is mainly dedicated to prepare, with the Geneva Center for

Viral Emerging Diseases (Director: Prof. Laurent Kaiser; Deputy Director: Prof. Isabella Eckerle) an answer to the large call for proposal (National Center for Competency in Research) at SNF, with participating institutions and partners. It aims to create momentum for creating a consortium of Swiss academic institutions and international organizations, NGOs, and the private sector, for thinking on how to implement innovative and sustainable solutions for better targeting efficient global health interventions. It contributes to help organizing the scientific aspects of the Geneva Health Forum (GHF). Nefti-Eboni is currently working on a series of case-study specific systematic literature reviews, which aim to feed the research project.

Anthropology in Personalized medicine and Precision Global Health

Geneva concentrates a number of people working on social and humanistic aspects of health, at different universities and institutes, hospitals, and international organisations. It is also the centre of policy

making, with direct implications on global health interventions. In a space where social scientists may present and debate their contributions to global health practices, amongst people and agencies involved in global health;

debate surrounding current social science research on health, illness and medicine, remains a central part of discussion.

At the IGH, a group of social scientists are interested in starting a project, exploring the relationship between technology and health, prompted by the rising use of new technologies (big data, AI and machine learning, genomics, 'robust' humanitarian technologies, drones), as proposed solutions to health problems around the world (and the social, ethical, legal entailments and implications). The project aims to address this area

from an anthropological perspective, and furthermore aims to investigate personalised medicine and precision global health.

Based on the need to fulfil research within the social sciences, the project led by health anthropologists Johanna Gonçalves, Bogomil Kohlbrenner, and biologist Nathalie Bot, was just created in May 2017. The project aims to contribute in bridging the gap between social and epidemiological approaches, 'theory' and 'applied' research, to personalized medicine and precision global health.

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Anthropology in Personalized medicine and Precision Global Health

Implementation research often focuses on the strategies needed to deliver or implement new interventions – implementation strategies, a term used to distinguish them from clinical and public health interventions. One of the greatest challenges facing the global health community is how to take proven

interventions and implement them in the real world. Research on health systems, such as implementation research, is crucial to meeting that challenge, providing a basis for the context-specific, evidence-informed decision-making which is needed to make theoretical possibilities into practical realities.

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The Global Charter for the Public's Health

The more recent research has led to the creation of an "implementation tool", The "Global Charter for the Public's Health", that focuses on health promotion, diseases prevention and protection of the public's health. This Charter is the result of a literature and Delphi study conducted with experts around the world under the auspices of the WFPHA and the WHO. The Charter was launched at the WHA 2016 and is now in the process of being adopted. "Early adopters" were the Australian Public Health Association, the Commonwealth group of Health Ministers and the Finish and Norwegian Health Politics.

The main enabler functions of the Charter are: information, governance, capacity and advocacy. The four functions are now under way to become each a project on its own. For the capacity aspect, teaching at all levels will be in the focus (done together with ASPHER and the WHO EURO), and a study on the relationship of political systems will be conducted to support the governance function – in collaboration with Prof Yeatman, Wollogong University, Australia. Information will be dealt by a collaboration of the main public health journals worldwide, and the advocacy function is an overarching topic of the work of the group.



Public and oral health: bridging the gap

A part of the research work regards the interface of oral and global public health, in close collaboration with Prof R. Bedi, from King's College, London. The well-perceived chasm between oral and public health is a well-known fact. With the

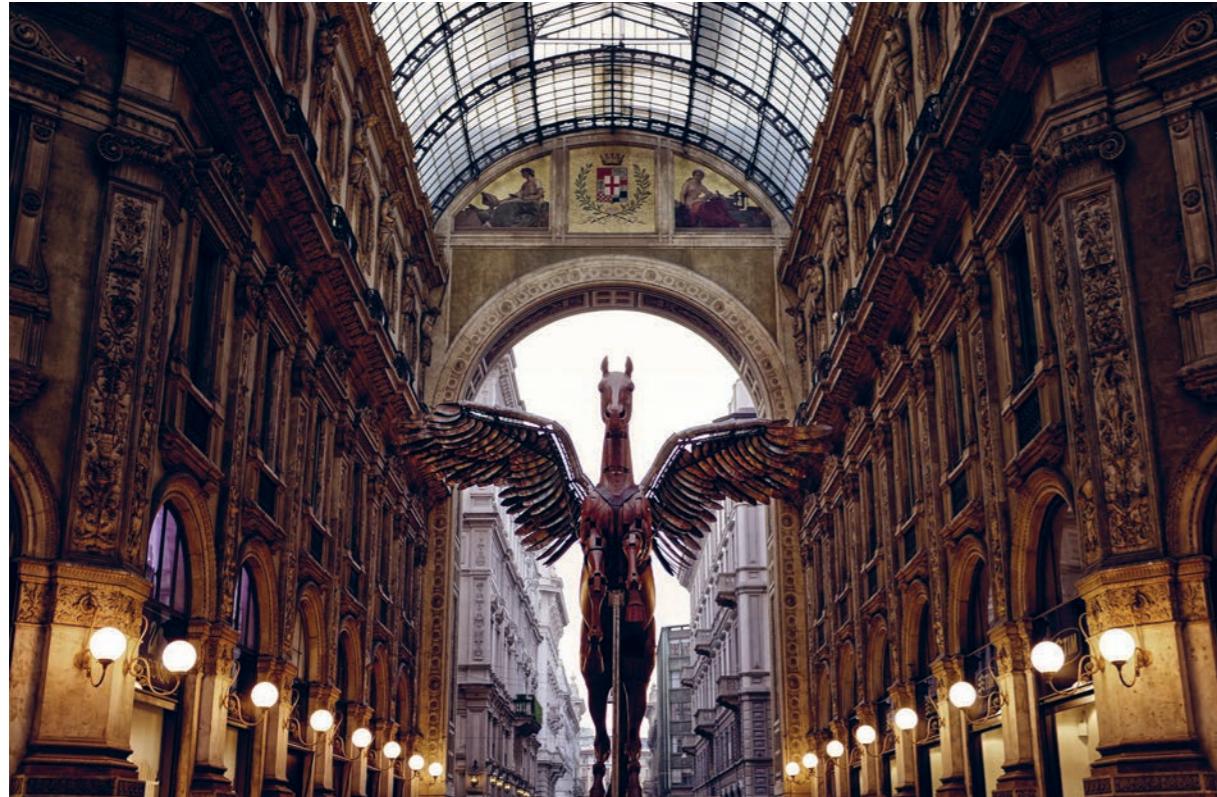
creation of an international group on global oral health, we focus on bringing the two areas closer together. The research results are to be found in several statements approved by the WFPHA as well as presented to the World Health Assembly.

Knowledge transfer and dissemination

The group takes part in all main global public health congresses with keynote lectures and workshops. The group also links up with the next generation of public health professionals by working closely with the International Federation of Medical Students (IFMSA) and related organizations. Prof Borisch teaches basic biology of inflammation (1st year medical students); Cancer and inflammation for second year medical students; and both Prof Borisch and Dr Lomazzi teach at the immersion in

community and the "cours à option" for 2nd and 3rd year medical students. Teaching also extends to postgraduate studies, where both Prof Borisch and Dr Lomazzi teach in the Master of Global Health of the University of Geneva, and supervise Master thesis and interns. Prof Borisch intervenes occasionally at the Swiss School of PH (German section), and gives courses for insurance medicine. In addition, she teaches broadly in advocacy courses in Milan and Augsburg.

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— National collaborations

ERSP

The Institute of Global Health of the Faculty of Medicine at the University of Geneva is a founding member of École Romande de Santé Publique (ERSP).

It was created and launched simultaneously with the IGH, in 2014. Prof Fred Paccaud was its founding director up to 2017, and initiated a new and friendly dynamic between Institutes in Lausanne, Neuchâtel and Geneva. The ERSP started to have discussions on improving our

common training programs. We have monthly meetings, participate in jointly organized seminars and conferences, and build a common vision on the Pôle Romand de Santé Publique of the Swiss School of Public Health (SSPH+).

SSPH+

The University of Geneva is also a founding member of SSPH+, which was created 12 years ago, funded by the federal government to foster joint academic public health in Switzerland.

IGH contributed largely in its development, support and benefits from its professorships (Prof E. Kabengele and Prof E. Albanese), and its PhD programs (Winter School of Epidemiology, Spring School of Global Health and Summer School of Health Economics and Policy). The SSPH+ created a unique momentum in academic public health in Switzerland, offering an opportunity to

share various experiences, skills and competencies between our respective Institutes from Basel (who played a leading role), Bern, Zürich, Lugano, Neuchâtel, Lausanne and Geneva. We participate in SSPH+ retreat every year, the Swiss Public Health Conference (organized in Geneva in 2015), and various other joint meetings and research programs.

— Major publications: 2014-2017

66

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3. Wernli D, Tanner M, Kickbusch I, Escher G, Paccaud F, Flahault A.
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Bull World Health Organ. 2016 Dec 1;94(12):863.
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6. Chi YL, Krishnakumar J, Maurer J, Loncar D, Flahault A.
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7. Flahault A, Schütte S, Guégan JF, Pascal M, Barouki R.
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8. Ataya N, Aluttis C, Flahault A, Atun R, Haines A.
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DOI: 10.1016/S0140-6736(14)60791-1.

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1. Bauer, Susanne; Rentetzi, Maria; Schlünder, Martina (editors).
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2. Gonçalves Martín, J. 2016.
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3. Gonçalves Martín, J. 2016.
Reproductive health care and indigenous peoples in Venezuela. Gender and Health Handbook.
Edited by Jasmine Gideon. Cheltenham: Edward Elgar Publishing.
4. Gonçalves Martín, J. 2015.
Healing in the hospital. The caring sensorium and the containing of Yanomami bodies.
Tipití Journal of the Society for the Anthropology of Lowland South America. Invited contribution to special issue on "The alchemical person". 13(2): 120-136
5. Gonçalves Martín, J. 2015.
Leben geben. Geburten in Amazonia und in Westen.
Polar. Politik, Theorie, Alltag. 18. http://www.polarzeitschrift.de/polar_18.php?id=804#804

Implementation Science

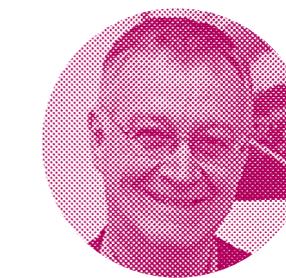
1. Moore M, McKee M, Borisch B, Ricciardi W.
The Global Charter for the Public's Health.
European Journal of Public Health. 2016 Apr;26(2):207.
2. Lomazzi M.
A Global Charter for the Public's Health—the public health system: role, functions, competencies and education requirements.
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3. Lomazzi M, Jenkins C, Borisch B.
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4. Jenkins C, Lomazzi M, Yeatman H, Borisch B.
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5. Lomazzi M, Laaser U, Theisling M, Tapia L, Borisch B.
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69 IV — Undergraduate training programmes

Coordination of the programme:

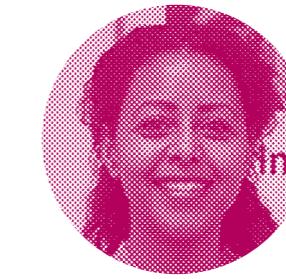
Prof. Antoine Flahault
Director of the programme



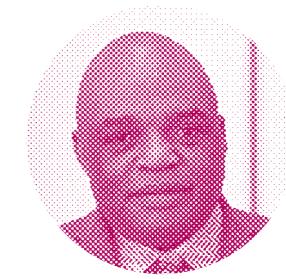
PD, Dr. Beat Stoll
Deputy director/Coordinator
/Academic advisor



Lemlem Girmatsion
Coordinator



Prof. Emmanuel Kabengele Mpinga
Co-director of the programme



Bogomil Kohlbrenner
Student advisor

— Global Health during Medical Studies

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In French Bachelor level

Global health is taught in the medical curriculum starting from the Bachelor in medicine. During the first year, students follow a module entitled "people, health and society". This module introduces psychosocial dimensions of medicine as well as anthropological, behavioural, epidemiological and psychological perspectives on health and medicine. During the second year (BA2), Community medicine and health is taught through several courses:

- 1 Health economics and health systems
- 2 Primary health care
- 3 Ethics



Immersion in community medicine and health

Coordination team: Prof. Emmanuel Kabengele (ISG), PD Dr Beat Stoll (ISG), Prof. François Chappuis and Corinne Zonta, both from the Service of International and Humanitarian Medicine at HUG.

During the third year (BA3), the students are prepared by a series of lunch-meetings for a one-month field experience in community health and medicine. The students form groups of two to five members, identify a health topic of which the community perspective has to be investigated during the last month of the academic year, concluded by a report corresponding to the bachelor-thesis. A tutor we recruit and train, among faculty members with an international health background, are selected to supervise each group. Most groups chose to go to a developing or emerging country in South-America, South-East Asia or Africa. A smaller part conducts their investigation in vulnerable groups in the area of Geneva. Finally, in the beginning of the first year of the Master in Medicine (MA1), we organise several open sessions where the groups present and discuss their work. This unit is extremely appreciated by students, due to their invaluable experiences.

Master level

At the master level, the Faculty of medicine offers a series of courses in global health and humanitarian medicine, which can be followed within the main medical curriculum. These course concentrations include a Master thesis on a global health or humanitarian medicine topic (MA1 and 2).

Recently, an optional one month, introductory course in tropical medicine and global health was introduced during the third and last year of the medical curriculum (MA3). The course was established with the Service of International and Humanitarian Medicine at HUG. The main objective is to prepare the future medical doctors for clinical work in the tropical context. We recruited teachers among faculty members, international organisations (WHO, ICRC), and partner academic institutions (SWISS TPH, EPFL) and NGO's (MSF, ASP, Terre des hommes, etc.). Within the second phase (MA3), the course also includes a two-month's internship in hospitals of our partner countries (Cameroon, Nepal, Senegal, Cuba, India, Bolivia, etc.).

The institute continues with its long-lasting international cooperation in the domain of health in developing countries (Burkina Faso, Cameroon, Mali) and as well in emerging countries in Europe (Albania) and Asia (Philippines). We coordinate a 40-year-old cooperation in Cameroon bringing together projects from the medical faculty and the HUG. The following list presents project with direct involvement of ISG, and potential projects for current and prospect students to participate in:

Epidemiological surveillance:

— Meningitis incidence post introduction of pneumococcal vaccine by GAVI in Cameroon ([in collaboration with paediatric service at HUG and GAVI](#))

— Determinants of the tuberculosis mortality in a specific regional context ([Cameroon](#))

Mental health:

— Psycho-social care program for teenager-mothers, empowerment of teenage-mother by a participative movie project in Cameroon ([in collaboration with the NGO ASP in Geneva](#))

Mother and child health:

— Training for child care by a e-learning version of IMCI in Burkina Faso, Cameroon, Mali and Philippines ([in collaboration with WHO and Novartis Foundation](#))

— Integrate innovative community approaches in training of health personnel promoting medical delivery by a movie "at the frontier of live" in Burkina Faso

Quality of care model

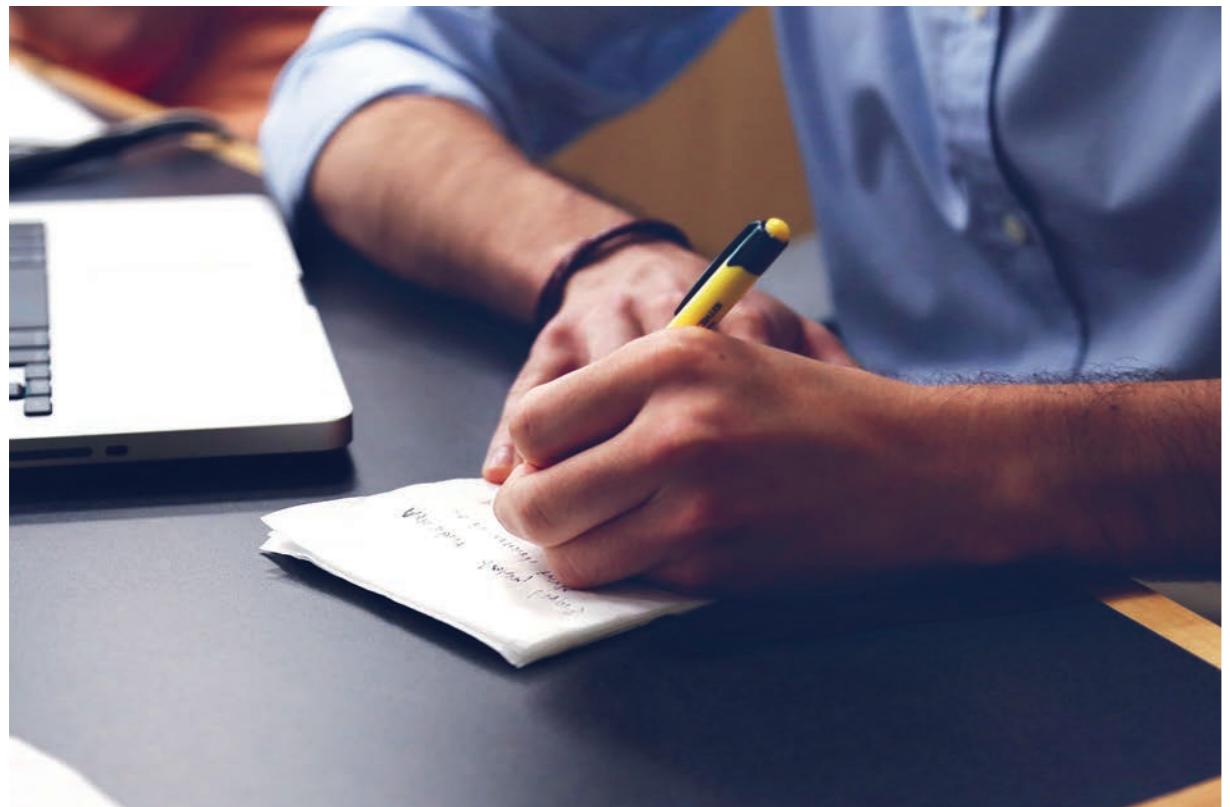
— SMS to improve adherence of TBC treatment in Cameroon ([in collaboration with the service of medical informatics at HUG](#))

— Clinical trial to improve ARV treatment in Cameroon ([in collaboration with infectious disease division at HUG](#))
Promotion of Kangaroo care in neonatology in Cameroon ([in collaboration with the service of neonatology at HUG](#))

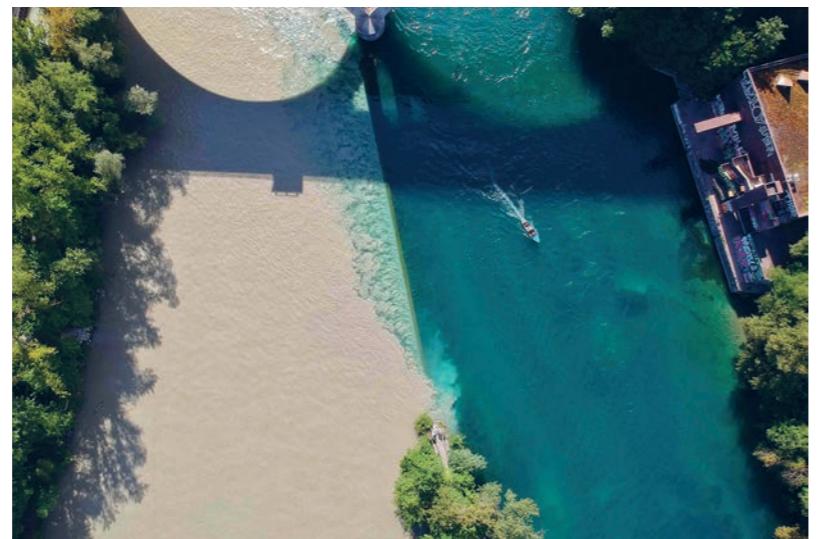
— Prevention of chronic renal failure in Cameroon ([in collaboration with the service of nephrology at HUG](#))
Promotion of oral health in schools in Cameroon ([in collaboration with the dentist school at HUG](#))

— Training for medical imaging in the domains of diagnostic, communication, radioprotection and technical maintenance in Cameroon ([in collaboration with the service of medical informatics at HUG](#))

— Improvement of the quality of care in general medicine by the introduction of "quality circles" in Albania ([in collaboration with Swiss TPH](#))



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— Master of Science in Global Health

Run, in English, at the Global Studies Institute
MSGH Class of 2015

The University of Geneva's Master of Science in Global Health (MSGH) is a two-year full time programme, which aims to study contemporary health issues from interdisciplinary and international perspectives. The MSGH mission is to provide students with the toolbox to understand and analyse health issues whose determinants are interlinked, and whose complexity transcends borders and sectors of activity.

The MSGH seeks to combine the most relevant approaches in global health drawing on the perspectives of all relevant academic disciplines and global health actors based in Geneva. The MSGH is specifically designed to take advantage of the rich international environment of Geneva. To this end, the programme is housed at the Global Studies Institute. The programme provides an opportunity to study where many health issues are discussed at the global level, and to accomplish practical training in different setting such as NGOs and international organizations. The MSGH aims to prepare students to work in organizations

such as international organizations (e.g. WHO, UNICEF, GAVI,OIM ICR), civil society such as non-governmental organization (e.g. Find, Care, Oxfam, MSF), public sector at national (e.g. Ministry of health or foreign affairs, development agency) or local level (e.g. public health authorities), public private partnerships, and the private sector (e.g. pharmaceutical industry, medical devices).

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"To be honest, I didn't have such high expectations about this Master before I started, but now I can confidently say it has the potential to be (or it already is) a leading world class Global health program. The diverse background of participants both in origin and education level truly nurtured our experience and opened up our views on the pressing Global health topics."

Ibrahim Seleim
Class of 2016 of the MSGH

"I am working in innovative financing in Global Health and the masters programme has given me a superb broad base of knowledge across many areas of financial need around the world and in different disease groups. The open doors in academia and in the international world in Geneva plus the network of experts that the programme has introduced have been invaluable in developing my professional life in this field. The ability to tailor your learning to your professional focus in the second year has also been very helpful."

Nadya Wells
Class of 2015 of the MSGH

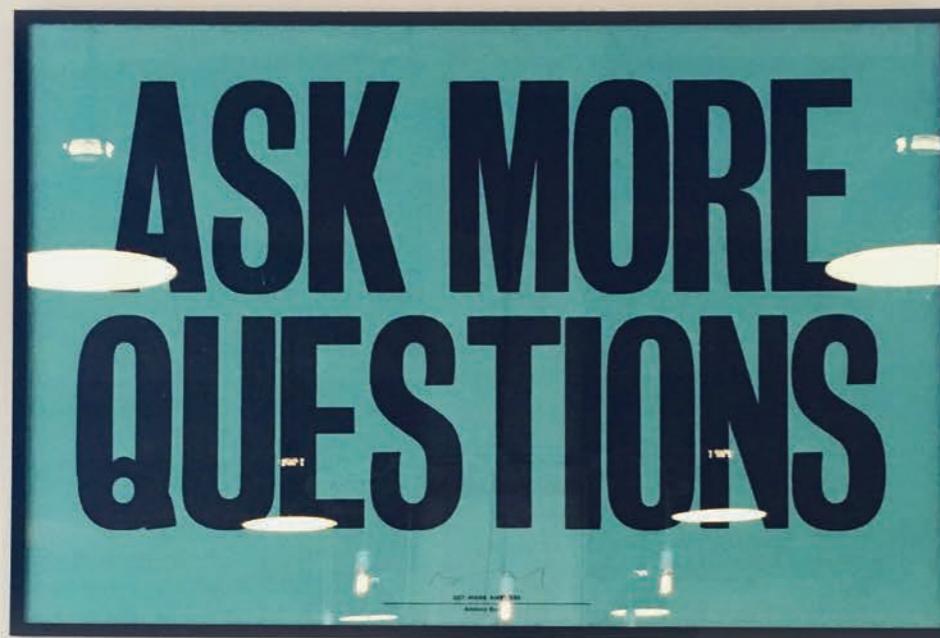


78

79

— Major publications: 14 — 15 — 16 — 17

1. **Magnin M, Stoll B, Voahangy R, Jeannot E.**
Most children who took part in a comprehensive malnutrition programme in Madagascar reached and maintained the recovery threshold.
Acta Paediatrica 2017; Feb 23. DOI:10.1111/apa.13796
<http://onlinelibrary.wiley.com/doi/10.1111/apa.13796/abstract;jsessionid=63D40622E0FDB7F9CADC58C403CD77F8.f04t03>
2. **Rougemont M, Nchotu Ngang P, Stoll B, Delhumeau C, Hill A, Ciaffi L, Bonnet F, Menga G, Fampou J-C, Calmy A.**
Safety of zidovudine dose reduction in treatment-naïve HIV infected patients. A randomized controlled study (MiniZID).
HIV Medicine 2015.
DOI: 10.1111/hiv.12303
<http://onlinelibrary.wiley.com/doi/10.1111/hiv.12303/epdf> [IF 3.988]
3. **Maillefer F, DeLabrusse C, Cardia-Vonèche L, Hohlfeld P, Stoll B.**
Women and healthcare providers' perceptions of a midwife-led unit in a Swiss university hospital: a qualitative study.
BMC Pregnancy and Childbirth 2015, 15:56
doi 10.1186/s12884-015-0477-4.
<http://www.biomedcentral.com/1471-2393/15/56> [IF 2.15]
4. **Ateudjieu J, Stoll B, Nguefack-Tsaguee G, Tchangouf C, Genton B.**
Vaccines safety; effect of supervision or SMS on reporting rates of adverse events following immunization (AEFI) with meningitis vaccine (MenAfriVacTM): A randomized controlled trial.
Vaccine 2014; 32:5662–5668.
DOI:10.1016/j.vaccine.2014.08.012
<http://www.sciencedirect.com/science/article/pii/S0264410X14011256> [IF 3.49]
5. **G Bediang, B Stoll, N Elia, J-L Abena, D Nolna, Ph Chastonay, A Geissbuhler.**
SMS reminders to improve the tuberculosis cure rate in developing countries (TB-SMS Cameroon): a protocol of a randomised control study.
BMC Trials 2014; 15:35.
<http://www.trialsjournal.com/content/15/1/35> [IF 2.21]

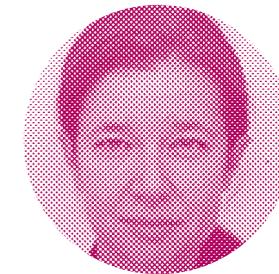
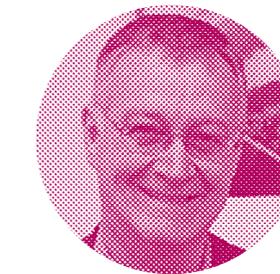


V — Post-graduate programmes and continuing education

Coordination of the programme:

Prof. Antoine Flahault
Chair of the steering committee

Dr. Nadia Elia
Coordinator



Dr. Nathalie Bot
Coordinator

Lemlem Girmatsion
Coordinator



The Institute of Global Health, Faculty of Medicine, University of Geneva, in collaboration with the Swiss School of Public Health presents the first PhD track in Global Health created as a partly online distance program.

— Doctoral programme in Global Health (in English)

Medicine, the IGH was founded by Prof. Antoine Flahault in January 2014. Under his leadership, this innovative doctoral program was founded as a response to the urgent need of developing implementation research in the field of public and global health, utilizing a trans-disciplinary approach. The primary goal of the PhD in Global Health program is to train students to be able to bridge existing gaps between practical knowledge and academic and research skills in the field of global health. The PhD program combines both onsite and distance learning approaches allowing candidates to work in their respective countries.

This PhD track includes research in global health leading to the delivery of an outline or proposal for the thesis, followed by the final thesis. In addition, the PhD student must successfully complete courses in global health. The program mainly aims to develop scientific competencies in the science of global health implementation.

The research work can be undertaken within a research group at the University of Geneva, or in another University (in Switzerland or abroad), or within the context of a position held in an international organisation, an NGO, or in a company from the public or the private sector. In the

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latter case, it is expected that the PhD research work be directly related to the occupation.

This innovative, hybrid programme, which combines distance learning (e-supervision), and residential-weeks organized by the Swiss School of Public Health+, requires a high level of interaction and commitment from PhD students.

A Professor from the Faculty of Medicine of the University of Geneva supervises the PhD research work. There is also the possibility for joint supervision by any other competent Faculty or professional belonging to another Faculty at the University of Geneva or from elsewhere.

Accreditation

This programme complies with accreditation criteria of the Association of Schools of Public Health in the European Region (ASPER, Brussels)

Some PhD thesis in Global Health

Using Human Papilloma Virus Self-Sampling for Cervical Cancer Screening in Switzerland and Burkina Faso and monitoring the Earlier Impact of HPV-Vaccination Program in Switzerland

— *Emilien Jeannot, Suisse*

Improving clinical care of patients with persistent fever in Nepal

— *Kanika Deshpande Koirala, Nepal*

International health regulations (2005) and global health security: implementation and benefits

— *Dalia Samhouri, Egypt*

Vaccinating under the shadow of boko-haram. Insurgency on immunization activities and polio mass vaccination programmes in North-eastern Nigeria

— *Ibrahim Mohammed, Nigeria*

Chronic political instability and the implementation of the HIV/AIDS response in Guinea-Bissau from 200 to 2015: a case study of the intersections of politics and epidemiology

— *Joshua Galjour, USA*

From heterogeneous data to smart data: a framework to personalize the reuse of medical information in patient decision support

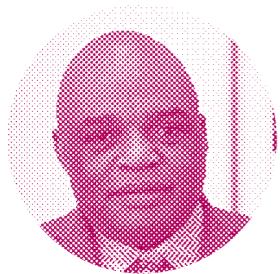
— *David-Zacharie Issom, Switzerland*

— Master of Advanced Studies (MAS) in Public Health (in French)

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Coordination of the programme:

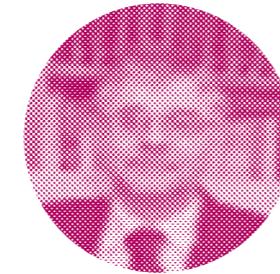
Prof. Emmanuel Kabengele Mpinga
Director and Coordinator
of the programme



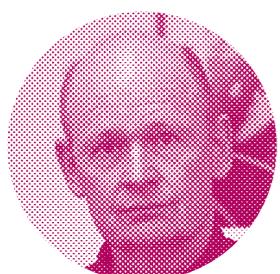
Dr. Jennifer Hasselgard-Rowe



Dr. Roberto Moretti



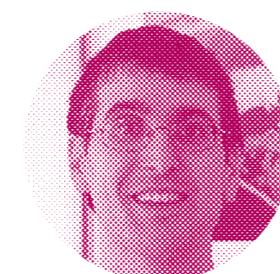
Dr. Beat Stoll



Dr. Olivier Duperrex



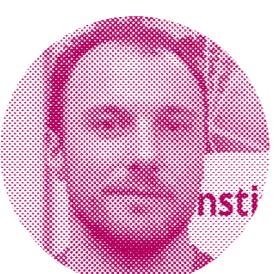
Dr. Pablo Medina



Dr. Paula Brum-Schaepi



Emilien Jeannot



Florence Walker
Administrative Assistant



Eva Bieronski
Coordinator

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This programme is built on interdisciplinary expertise. It intends to create, implement and assess public health projects within the frame of the students' professional area of activity (hospital, pharmacy, international organisation, etc). It also aims to improve the theoretical knowledge and practical skills of students in health planning, assessment, negotiation, communication, epidemiology, social sciences, health economy, environmental sciences, human Rights and international health.

Students are able to analyse cases of best practice in public health projects, building on the experience of professionals working in the field (WHO, Federal Office for Public Health, University Hospitals of Geneva). The MAS seeks to help students build a collaborative network between public health actors at an international level, as well as establish an individual development plan and a follow-up plan by experts enabling the student to find his or her professional orientation towards new objectives.

It is organized in 15 one-week modules taken on site in Geneva over a period of three years. In between, students put together and work on real-life projects. This structure guarantees that learning remains active and ensures that teaching is adapted to the healthcare needs of populations.

The Association of Schools of Public Health in the European Region (ASPER) evaluated the programme favourably.

Certificate of Advanced Studies (CAS) in Discrimination, Health and Human rights (in French)

The CAS in Discrimination, Health and Human rights set up in collaboration with the Office, for the fight against discriminations of the Swiss Department of Interior and the University of Geneva, enables the deepening of knowledge and the acquiring of instruments necessary for the prevention of discriminating

behaviours in the field of health. It also leads to the development, implementation and evaluation of projects of the fight against discriminations and assistance to the victims. This programme is intended for health professionals, political leaders, teachers and communication professionals active in the field of health.

National collaborations

The Swiss Health Promotion (PSS) is a private law foundation supported by the Cantons and the insurers on the basis of article 19 of the Health Insurance Act (LAMAL). Its mission is to "stimulate, coordinate and evaluate measures to promote health and prevent disease" in Switzerland. Since 2012, our University has developed a partnership with PSS around two basic projects:

- 1 The knowledge management and initiation of a process towards a university promoting health (Convention of 27 March 2012).
- 2 The development of a CAS in Health Promotion and Community Health in French-speaking Switzerland (Convention of 11 December 2012).

Renewed annually, the Convention of March 2012 (which has just been renewed for a period of three years), pursues the following objectives, which include carrying out collaborative projects in particular regarding research or services relating to the field of health promotion, and the integration of the competencies of Swiss Health Promotion staff at the Faculty of Medicine of the UniGE, in order to strengthen the teaching health promotion.

Prof. Thomas Mattig and Emmanuel Kabengele Mpinga are responsible for the implementation of this Convention

Since 2008, the programme is given in a "distance learning" format with teleconferences, case studies and work led in collaboration with the WHO.

Certificate of Advanced Studies (CAS) in Health Promotion and Community Health (in French)

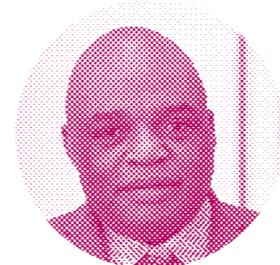
The programme is intended for everyone facing health issues in her/his professional activity. It leads to the conception, the implementation and the evaluation of a community health project at a local, national and/or international level. The formation gives the basis of a multidisciplinary and multi-professional approach of community health, along the academic year (October to June), at the pace of one day every two weeks, as well as thematic and methodological workshops on various subjects like planning, epidemiology and communication.

The main objectives are to provide the basis of a multidisciplinary and multi-professional approach of health promotion and community health, as well as to define and illustrate the notions of public health, health promotion and community health in a global perspective. The participants are required to develop a common methodology for the running and the managing of health prevention and promotion, and to adopt participative process around community health. Finally the programme aims at promoting networking with actors of the community.

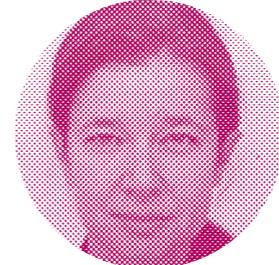
“Very enriching besides a professional activity that ends up shaping us anyway. Very interesting to meet professionals from other fields. A very nice team. Positive impact on every levels!”

A student in the CAS in Health Promotion and Community Health

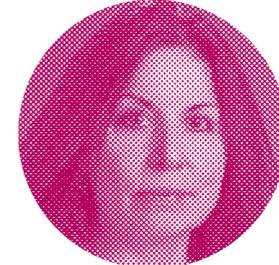
Prof. Emmanuel Kabengele Mpinga
Coordinator of the programme



Dr. Nadia Elia
Coordinator



Christine Lehmann
Administrator



Dr. Nathalie Bot
Assistant coordinator



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**One Week
Medical School**
March 6th-10th, 2017



— Spring school of Global Health

The Spring School programme is designed to enable international students and working professionals with interest and focus in global health to study various subjects, and also to join the international global health community in Geneva, the "Public Health Capital of the World".

The unique and flexible structure of the one-week program allows participants to gain comprehensive knowledge based in global health, while providing a strong global health focused platform to engage and strengthen professional networks.

This programme is made in collaboration with the Graduate Institute Geneva, Swiss School of Public Health+ (SSPH+), Ecole Romande de Santé Publique and the World Federation of Academic Institutions for Global Health.

Lemlem Girmatsion
Coordinator

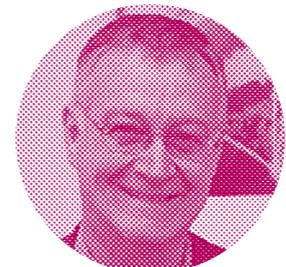


— One week medical school, March 6-10 2017

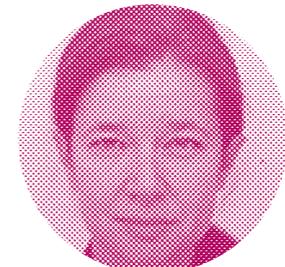
The One Week Medical School is an innovative, one week, full-time training in medicine developed by the Institute of Global Health.

In close collaboration with the HUG, this full time intensive medical course took place at the CIS Geneva (Centre interprofessionnel de simulation, 76B av de la Roseraie, close to HUG), during the week of March 6th-10th, 2017.

Prof. Antoine Flahault
Director



Dr. Nadia Elia
Coordinator



The One week Medical School programme is a short but intensive medical training program, designed for postgraduate students, and for all professionals, with an interest and involvement in the field of health (except for medical doctors). The course allowed participants to gain a better grasp of the main issues and challenges faced by doctors.

Dr. Nathalie Bot
Coordinator

Sonya Harding
Medical Intern

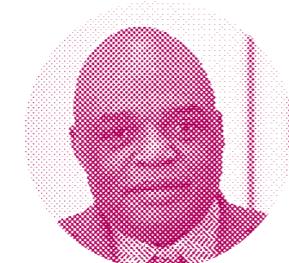
— Geneva Summer Schools Global Health and Human Rights

Global Health and Human Rights will define the theoretical foundations of human rights and their links to global health; introduce students to the existing human rights protection mechanisms; explore the organisation and functioning of health systems at the local and global levels; and address various public health issues where global health and human rights collide.

The course will also include visits to or teaching by professionals from WHO (World Health Organization), UN-OHCHR (United Nations Office of the High Commissioner for Human Rights), IOM (International Organization for Migration), and ICRC (International Committee of the Red Cross), among other organizations.

More information available at:
<https://genevasummerschools.ch/programme/courses-2017/global-health-human-rights>

Emmanuel Kabengele Mpinga
Course director

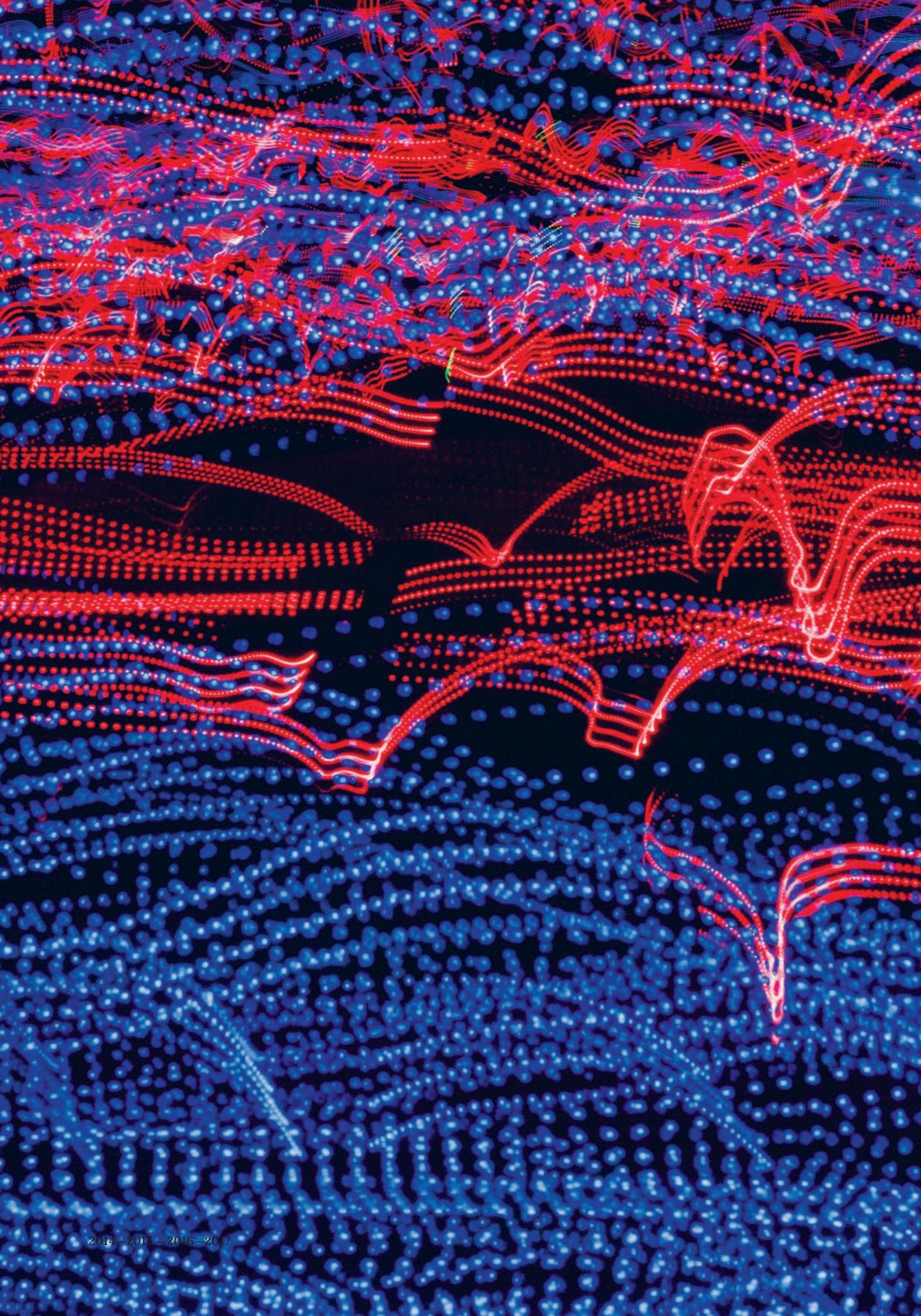


Dr. Jennifer Hasselgard-Rowe
Course coordinator



— Major publications: 14 – 15 – 16 – 17

1. **Magnin M, Stoll B, Voahangy R, Jeannot E.**
Most children who took part in a comprehensive malnutrition programme in Madagascar reached and maintained the recovery threshold.
Acta Paediatrica 2017; Feb 23. DOI:10.1111/apa.13796 http://onlinelibrary.wiley.com/doi/10.1111/apa.13796/abstract;jsessionid=63D40622E0FDB7F9CADC58C403CD77F8.f04t03
2. **Marco C , Moretti R, Valoti M & al.**
Ricerca di consenso Delphi sugli strumenti per il monitoraggio da parte del medico competente dei principali fattori di rischio individuali per malattie croniche .
Med Lav 2017; 108, 1: 24-32
3. **Viviano M, Catarino R, Jeannot E, Boulvain M, Malinverno MU, Vassilakos P, & al.**
Self-sampling to improve cervical cancer screening coverage in Switzerland: a randomised controlled trial.
British journal of cancer. 2017. Epub 2017/04/21.
4. **Thorens-Gaud E, Bottarelli H, Talon C, Dupenloup F, Duperrex O.**
Vaud et Genève, deux contextes en mouvement: défis et réalisations.
In: Le droit de l'enfant et de l'adolescent à son orientation sexuelle et à son identité de genre Actes du Colloque de 2013.
Sion, Suisse: Institut universitaire Kurt Bösch; 2014. p. 75 91. Disponible sur: http://www.iukb.ch/accueil/publications/
5. **Schaeppi PB.**
Arguments sanitaires, actions autoritaires : le cas de la contestation d'une politique municipale "néo-hygiéniste" dans la ville de Rio de Janeiro.
In : Lien social et politiques, 2017, n° 78, p. 234-253.



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VI — Innovative education

MOOCs

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IHR Simulator 3.0

96

Team-based learning, flipped classroom

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MOOCs

Since 2013, the Institute of Global Health has developed 3 Massive Open Online Courses (MOOCs) intended for their doctoral students, but also the general public. A fourth one on One-Health is in preparation and should be available in Spring 2017. The first of those 3 MOOCs "Global Health: A General Overview" is meant to draw a comprehensive picture of Global Health according to the School of Geneva, and are as follows:

Ebola: vaincre ensemble! (in French) – in collaboration with Centre Virchow-Villermé, Paris Descartes and UNF3S – was designed to assist and inform people during the outbreak of Ebola in West Africa about the disease, but also about how it was addressed medically and politically.

To Screen or not to Screen? Methods and health policies through case studies in collaboration with the Ecole Romande de Santé Publique (ERSP) and IUMSP is a pure public health course about the process of screening for non-communicable diseases.

In the footsteps of Zika... approaching the unknown – developed in collaboration with the Institut Pasteur, Centre Virchow-Villermé, Paris Descartes and UQAM – explores the recent Zika phenomenon, a previously rare benign virus that unexpectedly turned into the limelight, when declared as Public Health Emergency of International Concern, by WHO on the 1st of February 2016.

The One Health / Eco-Health Unit produced an interdisciplinary and multi-expert MOOC Global Health at the Human-Animal-Ecosystem Interface in partnership with Institut Pasteur and its global network, Centre Virchow-Villermé for Public Health Paris-Berlin/Université Paris Descartes, University of Montreal, and thanks to the excellent contribution by a large number of experts from other research and international institutions based in Geneva and beyond (to be launched March 2017). This MOOC is fully aligned with the strategic priorities of the UNIGE reinforcing the links with UNIGE's strategic partners, both in Geneva and internationally (OIs, NGOs, University of Montreal).

The Violence Against Healthcare MOOC, is a collaborative project between the ICRC and IGH whose aim is to give a proper perspective and the right tools for all actors concerned with violence against healthcare, be they decision makers or field actors. This MOOC regroups the key messages and lessons learned of 5 years of the Healthcare in Dangers project of the ICRC with the support of the organization's members of the Community of Concern, through 6 modules, that go from the healthcare worker's mental health, to proper research; from working with armed parties be they from the army or non-state armed groups, to ensuring passage for first aiders; from hospital crisis preparation to working with communities. These essential and timely lessons aim for a large public, be they actors of the

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red cross/red-crescent, NGO's, governments, armed groups or anyone in healthcare who may need to prepare for situations of violence and crisis. The MOOC is developed by Bogomil Kohlbrenner, anthropologist – scientific collaborator, ISG-UNIGE, PD

Dr Beat Stoll, MPH, Coordinator of MSc in Global Health, ISG-UNIGE, Dr. Bruce Eshaya-Chauvin, scientific collaborator, ICRC, Sophie Inglin, sociologist – scientific collaborator, ISG-UNIGE.

"I have just completed the Global Health Course this week. Hereby I would like to thank you and all the lecturers, Field Experts who have helped to make this course a valuable and insightful one. The structure was well designed, the course module document for each week was well written with lots of interesting reading resources. With distance learning, one of the challenges is to keep participants engaged and interested and this course has more than achieved that. I hope there will be an extension of this course in the near future."

Elizabeth Chee

MOOCs developed by the Institute of Global Health

<i>Global Health: A General Overview</i>	https://www.coursera.org/learn/global-health-overview/
<i>Ebola: vaincre ensemble!</i>	https://www.coursera.org/learn/ebola-vaincre-ensemble
<i>To Screen or not to Screen? Methods and health policies through case studies</i>	https://www.coursera.org/learn/screening
<i>In the footsteps of Zika... approaching the unknown explores</i>	https://www.coursera.org/learn/zika
<i>Global Health at the Human-Animal-Ecosystem Interface</i>	https://www.coursera.org/learn/global-health-human-animal-ecosystem
<i>The Violence Against Healthcare, in collaboration with the ICRC</i> (upcoming)	

IHR Simulator 3.0

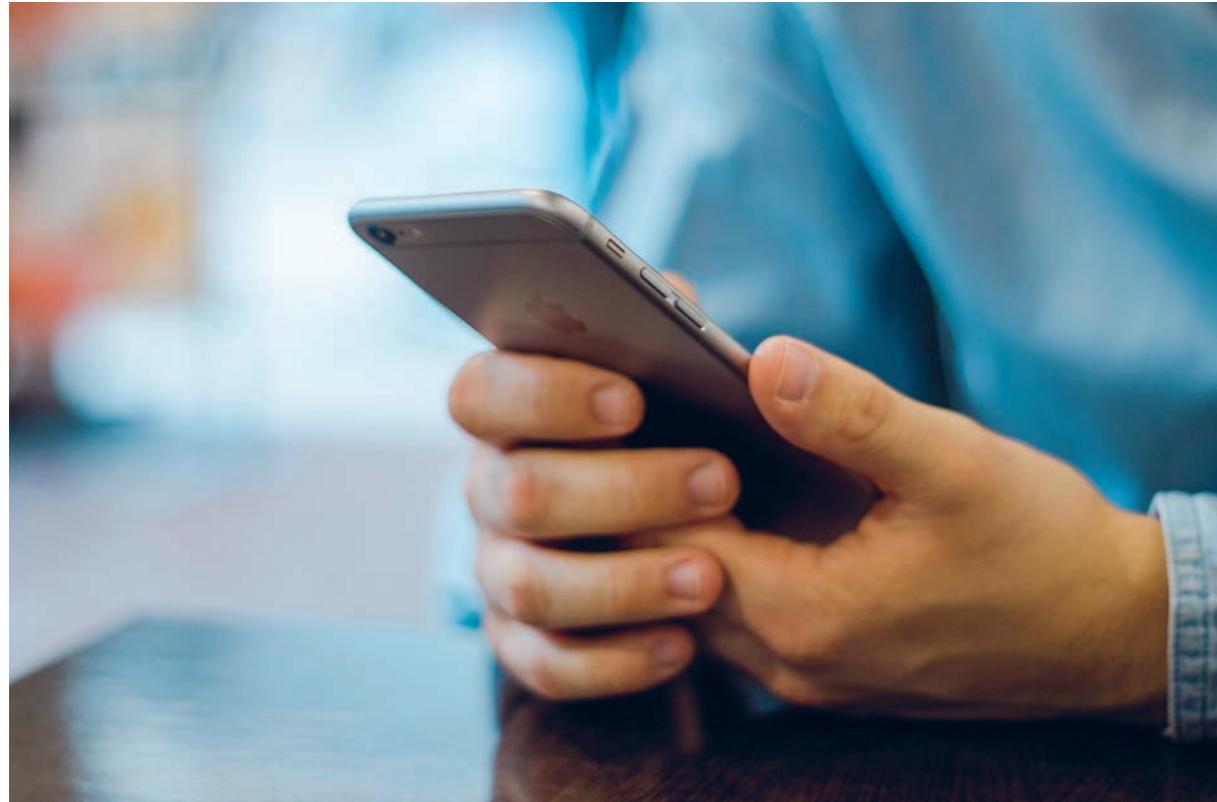
Health crises of multiple natures — infectious, chemical or nuclear — are growing worldwide. International Health Regulation (IHR) implemented by the WHO, allows States and the international community to respond to these challenges. Recently, the H1N1 virus, the resurgence of poliomyelitis, the Ebola virus, the Zika virus, were all declared “Public Health Emergency of International Concern”.

The IHR 3.0 Simulator was initiated by a consortium of European public universities in consultation with the WHO. Like a flight simulator for pilots, it aims at virtually training national focal points at distance. By analysing in real-time the responses and behaviours when participants are placed in a virtual crisis situation, it identifies the potential shortcomings in the

training of teams. It also reinforces learning outcomes concerning the implementation of the International Health Regulations.

In practice, the participants are placed within a management team in real-time for a simulated health crisis occurring in a given country. Each of them play a virtual role as a member of one of the following four teams: the ministry of health of the affected country; other ministries of the country; World Health Organization; or neighbouring countries. They follow a news thread displaying the information that allows them to take the decisions that are the most relevant to the crises within everyone's role.

Smartphone, iPad or laptop, can be platforms to answer to the multiple-choice quiz given by the simulator.



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Team-based learning, flipped classroom

Our institute recently introduced an innovative teaching approach for pre-graduate medical students: “team-based learning”, which is a variant of the “flipped classroom”. This method is used in our course on public and global health for 5th year medical students. Before each class, students spend 2 hours individually studying a 20-page document. Each class starts with a brief test (3 multiple-choice questions, MCQ) to ensure that all students actually read the preparation document. Then, during the class, the



students are divided into small groups and each group solves an application exercise under the supervision of the professor. Grades are determined by the students' results to the MCQ tests and answers to the application exercise. For pre-graduate medical students, this is the first time in our Faculty, that grades are based on the flipped classroom / team-based learning method.

Ablah E, Biberman DA, Weist EM, Buekens P, Bentley ME, Burke D, Finnegan JR Jr, Flahault A, Frenk J, Gotsch AR, Klag MJ, Rodriguez Lopez MH, Nasca P, Shortell S, Spencer HC.

Improving global health education: development of a Global Health Competency Model. Am J Trop Med Hyg. 2014 Mar;90(3):560-5.



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99 VII — Events organized with the Institute of Global Health

16.04.19/21	The Geneva Health Forum	100
15.09.07/09	33rd Annual Meeting of the International society for social paediatrics and child health (ISSOP)	101
15.09.17/18	Swiss Public Health Conference	101

01

The Geneva Health Forum

1201
Participants

80
Countries

59%
Academic and Public Sector

15%
International Organizations

12%
NGOs

12%
Private Sector

100

19—21
April

2016

01 The Geneva Health Forum

Since its first edition in 2006, the Geneva Health Forum (GHF) has become a space for dialogue and major exchanges between field practitioners, the university hospitals, the public and private sectors, the international organizations and the non-governmental organizations. In the April of 2016, the GHF - faithful to its spirit, offered the opportunity to have an open and constructive debate on innovation in healthcare that was accessible to all, and environment-friendly. The GHF 2016 was an influential voice on these issues, through contributions from the greatest experts in this field.

Faced with the many challenges of access to health, the sixth edition of the GHF "Sustainable and Affordable Innovations in Healthcare" aimed at identifying innovative and affordable solutions, and to stress the need for a multi-sectorial approach to ensure better access to new drugs and technologies by developing concrete and viable solutions, as well as highlighting the innovations vectors.

The programme was divided into 5 tracks: public health challenges, improving clinical care and access, the field actors, and addressing specific needs. One track was devoted to the host of the GHF, the World Health Summit for its own programme. The "Sustainable and Affordable Innovations in Healthcare" theme was appreciated by both participants and stakeholders. It reflects the spirit of the Geneva Health Forum, and has opened many discussions concerning both the South and the North.

02 Swiss Public Health Conference

During this Swiss Public Health Conference celebrating the 10 years of the Swiss School of Public Health (SSPH+) organised by the Institute of Global Health at the Campus Biotech in Geneva, the relations between climate change and health were demonstrated in a convincing manner. An active climate policy and efficient prevention strategies are not only necessary in Switzerland, but they will also have a positive impact on health at a local level

03 33rd Annual Meeting of the International society for social paediatrics and child health (ISSOP)

Sustainable Development Goals (post-2015): A booster for Child health and Children's Rights

From September 7th to 9th 2015, the 33rd Annual Meeting of the International society for social paediatrics and child health (ISSOP) was co-organized with the University of Geneva (Institute of Global Health and Centre for Children's Rights), the Geneva University Hospitals and the Intercultural Network for Development and Peace (INDP), under the responsibility of Dr Olivier Duperrex. The meeting allowed the preparation of two position papers (global agenda for social paediatrics, migrant child health). Abstracts, presentations and position statements are available from www.issop.org and videos of stimulating plenary sessions from <https://mediaserver.unige.ch/collection/VN4-258b-2015-2016>.



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VIII — International collaborations and networks

W World Health Summit and M8 Alliance 104

W The “G3” Alliance for Global Health: Université libre de Bruxelles, Université de Montréal, and Université de Genève 105

W World Federation of Public Health Associations (WFPHA) 106

W World Federation of Academic Institutions for Global Health (WFAIGH) 108

E Association of Schools of Public Health in the European (ASPER) 109

E European Academic Global Health Alliance (EAGHA) 110

E Agency for Public Health Education Accreditation (APHEA) 111

W — World
E — Europe

W — Healthy Cities, The Theory, Policy and Practice of Value-Based Urban Planning, Evelyne de Leeuw, Jean Simos (eds.)

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The World Health Summit is the annual conference of the M8 Alliance of Academic Health Centers, Universities and National Academies. Through the Inter Academy Medical Panel (IAMP), it is organized in collaboration with national academies of science in more than 67 countries.

The vision behind the World Health Summit is to improve health all over the planet, catalysing that process through collaboration and open dialogue, and steering tomorrow's agenda to improve research, education, healthcare, and policy outcomes.

The University of Geneva is the only Swiss member in the Alliance. Professor Antoine Flahault, Director of Unige's Institute of Global Health, was head at the World Health Summit as president from 2016 on.

W — The “G3” Alliance for Global Health: Université libre de Bruxelles, Université de Montréal, and University of Geneva

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With the support of our respective universities, in 2015 we set up an Alliance for Global Health between our three institutions. Our first priorities were focused on non-communicable diseases (NCDs). We studied an integrated model of partnerships with patients with chronic conditions; we investigated equity issues regarding access to primary care; we discussed about various strategies of implementing preventive measures against NCDs in LMICs. We had a couple of meetings aimed to report on the work in progress, in each site, taking advantage of international events and collaboration (e.g. Entretien Jacques Cartier at Montreal, Geneva Health Forum in Switzerland).

W — World Federation of Public Health Associations (WFPHA)



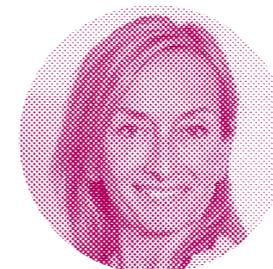
The World Federation of Public Health Associations (WFPHA), founded in 1967, is an international, nongovernmental organization (NGO) composed of over 100 associations member, mostly multidisciplinary national public health associations, and representing around 1 million public health professionals worldwide. It is the only worldwide professional society representing and serving the broad field of public health. WFPHA's mission is to promote and protect global public health. It does so by supporting the establishment and organizational development of public health associations and societies of public health, through facilitating and supporting the exchange of information, knowledge and the transfer of skills and resources. The WFPHA also promotes and undertakes advocacy for public policies, programs and practices that will result in a healthy and productive world.

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WFPHA has developed, in collaboration with WHO, "A Global Charter for the Public's Health". The intention of the Charter is to take the next step after the Declaration of Alma-Ata and the Ottawa Charter, in providing a succinct and practical implementation guidelines to public health associations to work with other NGOs, universities, civil society, governments, foundations and companies, to plan and implement strategies for better health outcomes across the globe. The WFPHA has several partners such as; the International Association of National Public Health Institutes (IANPHI), the International Federation of Environmental Health (IFEH), the International Epidemiological Association (IEA), Health Care Without Harm (HCWH) and the European Forum for Primary Care (EFPC). In 2007, the WFPHA signed a Memorandum of Understanding with the University of Geneva in order to pursue a closer collaboration on the international level.

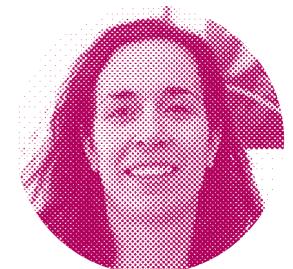
Prof. Bettina Borisch



Dr Marta Lomazzi



WFPHA staff at
the Institute of Global Health:
Dr. Eleonora De Cata



W — World Federation of Academic Institutions for Global Health (WFAIGH)

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WFAIGH is a global platform for an academic voice to influence policies on health and global governance mechanisms, to promote methodological development and research, and to share good practices in capacity building and educational innovations.

E — Association of Schools of Public Health in the European Region (ASPER)

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The Association of Schools of Public Health in the European Region (ASPER) is the key independent European organisation dedicated to strengthening the role of public health by improving education, and training of public health professionals for both practice and research. ASPHER is a membership organisation of institutions, spread across EU and wider across WHO European Region. ASPHER and affiliated organisations and institutions, are all concerned with the education and training, and professionalism, of those entering and working within the public health workforce. Founded in 1966, ASPHER currently has over 110 members in 43 countries in Europe.

E — European Academic Global Health Alliance (EAGHA)

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The Alliance's goal is to bring together International Health/Tropical Medicine and Public Health institutions. We aim to constitute a forum for interested academic institutions with involvement in Global Health to exchange views and ideas, so as to develop a European voice on Global Health issues and influence relevant policies.

E — Agency for Public Health Education Accreditation (APHEA)

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APHEA represents the five leading associations of public health in the European Region and is committed to assuring and improving the quality of educational activities throughout the European Region and the globe. Accreditation is aimed at supporting the continued amelioration of education and training for public health workforces throughout the world by providing international and transparent quality recognition. APHEA accreditation is available to any public health institution, programme or training course throughout the world.

The APHEA contributes to the development, transparency and convergence of Public Health education, provides an added sector based value to national quality assurance and accreditation, and also recognises a school's quality beyond the borders of its home country, allowing for transferability of qualifications and potentially providing graduates with better opportunities for employment internationally.



"In global health, transdisciplinarity is necessary to address complex health issues which cross borders, and to look for accessible and sustainable innovative solutions through systems thinking approaches."

Antoine Flahault
Director of the Institute
of Global Health

