University of Basel

Faculty of Medicine

ECPM – European Center of Pharmaceutical Medicine

Institute of Pharmaceutical Medicine

Annual Report 2018.

ECPM®

European Center of Pharmaceutical Medicine

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ECPM at a glance

In 2018 ECPM

- The 14th ECPM course cycle with 115 participants (1925 participants since 1991) is ongoing
- Collaborated with 150 faculty members from different affiliations
- Developed and offered special modules and lecture series
- Conducted a summer institute at the George Washington University and a study trip to Denmark
- Was involved in graduate and postgraduate teaching of 10 different programmes
- Acquired about 750,000 Swiss Francs in third-party research funding
- Was working on 16 research projects
- Completed 3 research projects
- Authored and co-authored 17 published peer-reviewed articles and multiple conference abstracts
- Gave multiple scientific presentations to external audiences
- Employed 12 people

Activities in a nutshell

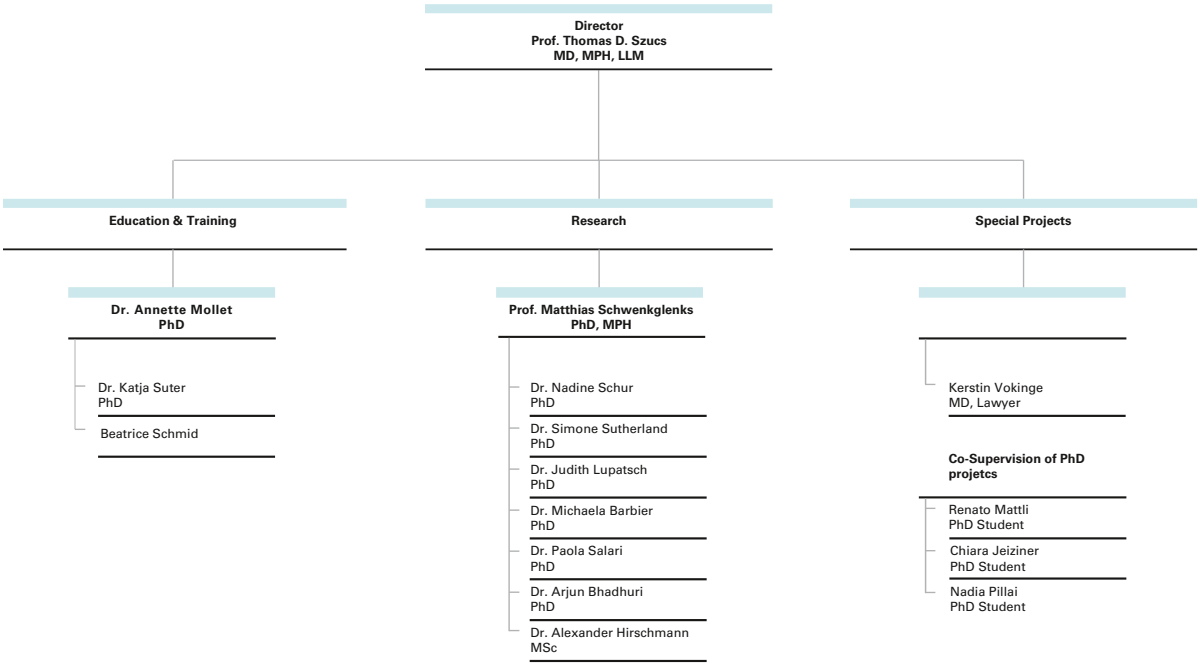
Research

- Health Technology Assessment
- Health economics and pharmaco-economics
- Decision-analytic modelling
- Health Services Research
- Epidemiology; observational study and clinical trial design
- Biostatistics

Education and Training

- Undergraduate and graduate training of medical, pharmacy, human biology, public health and nursing students
- Supervision of PhD, Master and Master of Advanced Study theses
- Master theses: 8
- PhD theses: 3
- MPH MAS theses: 6
- MMD MAS thesis: 6
- postgraduate training: CAS, DAS, MAS in Pharmaceutical Medicine/Medicines Development
- Online e-learning courses
- Summer institute and study trip
- public health and nursing
- Specialist examination for board certification FMH in Pharmaceutical Medicine
- Federal Training Center for MDs in Pharmaceutical Medicine and Public Health

Organisational chart



The ECPM team at the chocolate factory.

Director

Thomas D. Szucs, MD MBA MPH LLM, heads the unit and is Professor in Pharmaceutical Medicine and Director of ECPM at the University of Basel.

Previously he was Chief Medical Officer of Hirslanden Holding, the largest group of private hospitals in Switzerland. From 1998 to 2001 he was head of the Department of Medical Economics, a joint venture of the University Hospital in Zurich and the Institute of Social and Preventive Medicine of the University of Zurich. Professor Szucs' former appointments include head of research and founder of the Center of Pharmacoeconomics of the University of Milan, head of the working group for clinical economics at the University of Munich, senior consultant at Arthur D. Little Inc. and head of the Department of Health Economics at F. Hoffmann-La Roche Ltd. in Basel. Professor Szucs was appointed professor of pharmacology/pharmacoeconomics at the School of Pharmacy of the University of Milan in 1996 and associate professor for medical economics at the University of Zurich in 2002. He holds a medical degree from the University of Basel, a Master in Business Administration from the University of St. Gallen, Switzerland, a Master of Public Health degree from Harvard University, and is board certified in Pharmaceutical Medicine as well as in Prevention and Public Health. He has also received a LL.M in International Business Law with a specialisation in Information- and Technology Law from the University of Zurich. He serves as a member of the editorial board of several scientific journals and has published more than 400 scientific articles, book chapters and monographs. In 2010 he was appointed Honorary Professor at Peking University. In June 2012, Prof. Szucs was elected to direct the Faculty Assembly of the Medical Faculty of the University of Basel. He was elected to represent the Swiss Society of Pharmaceutical Medicine in the Senate of the Swiss Academy of Medical Sciences. Currently, Prof. Szucs is Chair of the Master of Public Health Programme of the Universities of Basel, Berne and Zurich; additionally, he chairs the examination committee of the Swiss Association of Pharmaceutical Medicine.

In the fall academic semester of 2013/2014 Prof. Szucs went on a sabbatical in order to practice clinical medicine at the Hirslanden Clinic in Zurich. Apart from clinical duties and rotations, he conducted research on drug safety by analyzing in-house prescriptions and initiated a personalized medicine clinic focusing on pharmacogenetics.

In October 2014, Prof. Szucs received the Annual Prize of the Swiss Society of Health Economics, in recognition of his service as a president to this society as well as his endeavors to broaden and strengthen the field of health economics in the Switzerland.

In November 2014, Prof. Szucs received a lifetime honorary professorship at the Peking University's Health Science Center in recognition for his past and ongoing support of the Chinese Course on Drug Development and Regulatory Sciences.

Finally, the Board of the International Health Economics Association awarded the University of Basel the honour of hosting the 2019 World Congress of Health Economics. This congress will welcome around 1,000 participants from around the globe. Prof. Szucs and Prof. Felder are members of the local Steering Committee and are representing the Faculties of Medicine and Economics, respectively.

Thomas is board certified in Pharmaceutical Medicine as well as in Prevention and Public Health. He has published more than 400 articles, book chapters and monographies. He has worked extensively in the field of pharmaceutical economics and epidemiology. In 2013 he started to practice in personalised medicine with special emphasis on pharmacogenomics at the Klinik Hirslanden in Zurich. In 2016 he was rated among the 20 most influential economists in Switzerland.

Education & Training
Personnel.

The ECPM training platform offers undergraduate and postgraduate training in the field of pharmaceutical medicine/drug development sciences at different levels. The structure includes an undergraduate/graduate level for medical and life sciences students and three postgraduate levels. The first postgraduate level represents the ECPM Course (Diploma of Advanced Studies Course, DAS, 30 ECTS), which then can be complemented by master modules plus a thesis to achieve the MAS title of MMD (Master of Advanced Studies in Medicines Development, 60 ECTS). The third level offers courses for continuing professional career development, which are also accredited by the Swiss Medical Society (FMH) for board certification, the Swiss Association of Pharmaceutical Professionals (SwAPP) Diploma and IMI PharmaTrain specialisation in Pharmaceutical Medicine/Medicines Development. Specific courses are accredited by the Swiss Association of Public Health Administration and Hospital Pharmacists (GSASA) for education in hospital pharmacy and/or clinical pharmacy.

We are collaborating locally with the Clinical Trial Unit of the Department of Clinical Research at the University Hospital in Basel, as well as Europe wide with Universities in the PharmaTrain network, e.g. Semmelweis University in Budapest (Hungary), and internationally with Peking University, Clinical Rsearch Institute (China), University of San Francisco and George Washington University (USA).

Head of Education & Training, Managing Director

Annette Mollet, PhD, dipl. Pharm. Med. SwAPP is managing director of ECPM and head of education & training of ECPM at the University of Basel since 1997.

Annette Mollet worked subsequently at F. Hoffmann-La Roche in the Clinical R&D department where she conducted clinical trials in the field of AIDS and Anticoagulation therapeutics and worked as a Medical and Product Manager responsible for oncology products at the Swiss affiliate of Roche Pharma. She is chairing the Federal Expert Committee for the Evaluation of Radioactive Drugs at Swissmedic (Swiss Agency for Therapeutic Products) and the BAG (Swiss Federal Office of Public Health) since 2007, being a member since 1994. She is a member of the board of SwAPP (Swiss Association of Pharmaceutical Professionals) and is active in SwAPP's commission for specialty training and continuous education (CPD) since 1999). She was also involved as a programme manager in the creation of a European Specialist title in Pharmaceutical Medicine and Master title in Medicines Development within IMI (Innovative Medicines Initiative) from 2009 until 2014. She chairs the PharmaTrain Federation (successor project after termination of the PharmaTrain project in 2014) working group of course providers in pharmaceutical medicine. In 2015 Annette started an MBA in International Health at Swiss TPH. She teaches drug development both at the University of Basel and Zurich with emphasis on regulatory affairs. In 2016 Annette was elected board member of AGRE global (Association of Graduate Regulatory Educators) based in the US. Annette is the co-author of the "Dictionary of Pharmaceutical Medicine" by Springer (fourth edition, 2017) and was member of the working party on the "PharmaTrain Syllabus for Pharmaceutical Medicine" lead by the Royal College of Physician. In July 2018 she was elected as an external examiner at the Trinity College/University of Dublin for the curriculum in pharmaceutical medicine.

Course Director

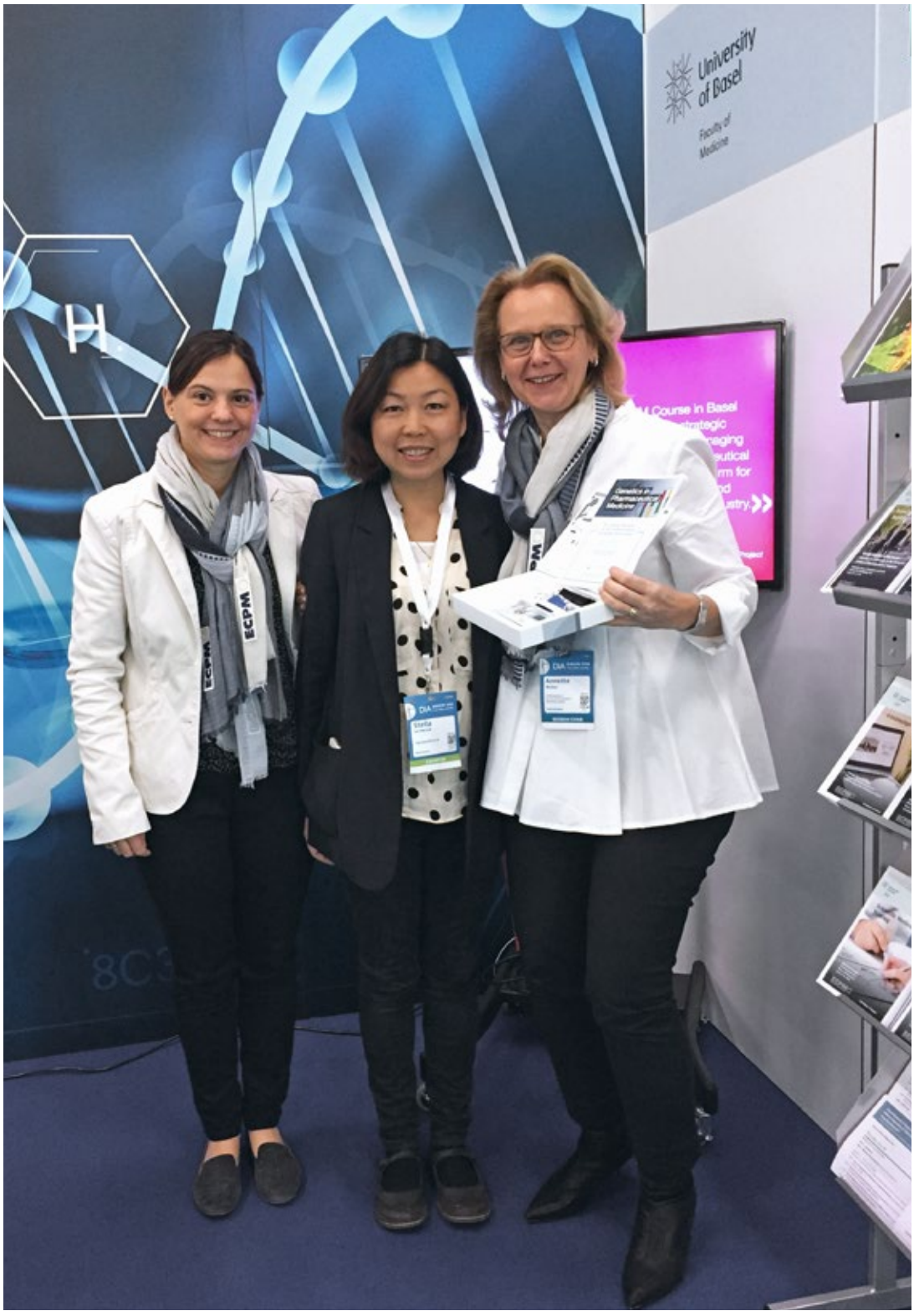
Katja Suter, PhD is Course Director in Training and Education of ECPM at the University of Basel since 2017. She received her MSc in Pharmacy in 2003 and her Ph.D. in 2007 from the University of Basel. During her thesis she studied the pharmacokinetics of nasally delivered drugs.

She joined the Basel Institute for Clinical Epidemiology and Biostatistics (Ceb) as a research scientist and was involved in performing health technology assessments and systematic reviews. From 2009 to 2016 she worked in the hospital pharmacy of the University Hospital Basel and completed her specialization in Hospital Pharmacy FPH in 2010. Since 2007 Katja is involved in the undergraduate education at the Faculty of Medicine and since 2016 she teaches the basics of evidence-based pharmacy at the Department of Pharmacy of the University of Basel.

She joined the European Center of Pharmaceutical Medicine in 2017 as course director. Katja became also the ECPM webmaster and takes care of the linkedIn activities.

Administrator and Course Organiser

Beatrice Schmid is responsible for the course organisation and administration as of March 2013. Since 1996 Beatrice was responsible for the management of different administrative secretariats. She started her career in a facility management company where she was manager and responsible of the human resource matters of more than 300 employees. In 2000 she joined Novartis where she held different positions such as head of the IT secretariat of Switzerland and management of the division secretariat and later as human resource assistant of the technical operations department. From 2002 until 2013 she worked for Helvetia, a Swiss insurance company. At that time, she was head of the IT secretariat of the divisional of the whole Switzerland and later head of the sales management secretariat, a member of management board of Switzerland. In March 2013 she joined ECPM where she manages the course organisation and the administration of the secretariat of the institute. She also works as an assistant to Prof. Thomas D. Szucs, Director of the ECPM.



Winner of the pharmaco-genetic test in the ECPM competition at the DIA Europe conference in Basel

Research.
Personnel.

ECPM's research activities focus on the health economic characteristics, cost-benefit implications and efficient use (e.g. guided by predictive testing or risk stratification models) of pharmaceuticals and other health-care interventions in Switzerland and internationally. They have a close relationship with modern Health Technology Assessment and imply the use and integration of health economic and pharmacoeconomic evaluation methodology (cost effectiveness, cost utility, application of advanced modelling techniques), outcomes and clinical research (i.e., randomised clinical trial and observational study) methodology and biostatistics. Complementary activities occur in related fields such as health systems research, health services research, clinical epidemiology and pharmacoepidemiology.

Health economic evaluation studies, which are a mainstay of ECPM's research activities, integrate clinical evidence with medical resource use and cost data to analyse the value for money provided by new or long-used drugs and other healthcare interventions. The overarching question is how scarce health care resources can be optimally used to maximise patient benefit and support the sustainability of healthcare systems. The results of this type of research complement comparative effectiveness research and are an important prerequisite of informed and transparent health policy decision making.

Clinical fields addressed by ECPM studies include oncology and haematology, cardiovascular disease and heart failure, geriatrics, postoperative pain management, infectious diseases and vaccinations, amongst others.

Head of Research

Matthias Schwenkglenks, PhD, MPH has been Head of Research at ECPM since 2003. He also leads the Medical Economics Unit at the Epidemiology, Biostatistics and Prevention Institute of the University of Zürich, Switzerland, since 2010.

He obtained a Master of Arts in Sociology and Political Sciences from the University of Tübingen, Germany, a Master of Public Health from the Universities of Basel, Bern and Zürich, and a PhD in Epidemiology from the University of Basel.

In 2009, he received the Venia legendi in "Health Economics and Public Health" from the University of Zürich, and was subsequently appointed professor (Titularprofessor) in 2016. Current research interests and teaching activities are in the fields of health economics, health economic evaluation and modelling, Health technology Assessment, health services research, epidemiology, observational study and trial design, and biostatistics. He previously headed the Department of Medical Economics at the Hirslanden Group of Private Clinics, Zürich, and worked as a research fellow at the Department of Medical Economics of the University of Zürich. He also has extensive professional experience in internal intensive care nursing.

Senior Research Scientist

Nadine Schur, PhD studied Biomathematics at the University of Applied Science Zittau/Görlitz, Germany, before obtaining a Master of Science in Epidemiology at the University of Basel in 2008. Afterwards, she worked on her PhD thesis "Geostatistical modelling of schistosomiasis transmission in Africa" at the Department of Epidemiology and Public Health, Swiss Tropical and Public Health Institute (Swiss TPH), Basel, that she published in 2011.

She continued her work at the Swiss TPH on the spatial distribution of neglected tropical diseases in Africa for another year where she was also involved in teaching. Then, she started a new position as Research Associate at the Department of Infectious Disease Epidemiology, Imperial College London, UK, analysing demographic and behaviour-related factors as well as temporal trends associated with the HIV epidemic in Zimbabwe. She also gained knowledge on the conception and implementation of epidemiological field studies in the framework of the Manicaland Project.

Since 2015, she is employed as Research Scientist at the Institute of Pharmaceutical Medicine (ECPM, University of Basel, Switzerland). During her years of research, she has had the opportunity to develop various techniques in health research methodology from systematic reviews to disease modelling. Her current research interests are in the field of epidemiology and biostatistics focused on multivariable regression analysis, epidemiological modelling in relation to the prevention of diseases, and cost-effectiveness analysis.

Senior Research Scientist

C. Simone Sutherland, PhD worked as a clinical research professional for many years in Canada prior to developing an interest in health economics. In 2013, after working as a Research Associate at the Programs for Assessment of Technology in Health (PATH) Research Institute, she pursued a Master in Health Economics and Decision Modelling at the University of Sheffield. Upon graduating with merit, she returned to the PATH Research Institute, where she continued assessing the clinical and cost outcomes of new technologies for projects with Health Quality Ontario (HQO). In order to expand on her knowledge of diseases and modelling, she came to Switzerland in 2014 to complete a PhD in Epidemiology at the Swiss Tropical and Public Health Institute, with a combined focus on dynamical modelling and economic evaluation for interventions related to eliminating human African trypanosomiasis. Upon completion of her PhD in 2016, Simone joined ECPM as a Research Scientist.

Simone has been involved in teaching health economics to students at a master's level since 2015, and during her years of research, has had the opportunity to develop various techniques in health research methodology from systematic reviews to disease modelling. In addition, she has acquired knowledge of a wide range of diseases and interventions including diabetes, cardiovascular disease, COPD, schizophrenia, chronic kidney disease and diagnostic testing. Her current interests remain in health decision-making methods for ailments that are prevalent in the western hemisphere, but also expand to concerns in developing economies with a focus on neglected tropical diseases.

Senior Research Scientist

Judith Lupatsch, PhD is a research scientist and lecturer at ECPM. Her research interests focus on health economics, epidemiology and health service research. She has a degree in Social Sciences from the University of Mannheim, Germany, where she focused on judgment and decision models as well as behavioural psychology. After working in several projects, she continued with a master's degree in Economics at the University of Bern, Switzerland, where she became interested in econometrics and health economics. Her thesis was on further developing and better modelling of preference-based utility measures for health economic evaluations. She perused with a PhD in Epidemiology and Biostatistics at the ISPM (Institute of Social and Preventive Medicine) in Bern where she had the chance to deepen her modelling and data analyses skills, especially in cancer epidemiology. After the PhD she went for a post-doctoral fellowship to the INSERM (Institute national de la santé et de la recherche médicale) in Paris, France. She joined the ECPM in 2017, where she is mainly responsible for health economic and health service research projects in cooperation with the SAKK (Swiss Group for Clinical Cancer Research).

Senior Research Scientist

Michaela Barbier, PhD, is an experienced biostatistician with more than 13 years' expertise in healthcare across academia, the Pharmaceutical industry and consulting with her work spanning Health Economics and Outcomes Research, Health Technology Assessments, Market Access, Clinical Development and Real World Evidence.

Michaela holds a Master in mathematics and economics ("Wirtschaftsmathematik") and a PhD in biostatistics, both from the University of Ulm in Germany. Alongside her PhD, she already worked on industry-funded projects in biostatistics but was also involved in teaching activities.

Michaela has a vast experience of drug development and clinical trials after working for many years as a (senior) statistician at Novartis. As a later consultant, she expanded her knowledge in health economics with projects ranging from health technology assessments, health economic evaluations and modelling, real-world database analyses but also market access. She acquired knowledge of a wide range of indications including among others cardiovascular, respiratory and ophthalmology. In February 2018, Michaela has joined ECPM. Her current research interests remain in health economic decision modelling as well as in biostatistical modelling.

Research Scientist

Dr Arjun Bhadhuri is a health economist at the ECPM. He completed his PhD at the University of Birmingham in Health Economics in 2017. Subsequently he worked as a postdoctoral researcher in health economics at the University of Sheffield for 9 months. He then moved to the ECPM, where he has been working as a postdoctoral researcher since August 2018. His current research interests are in systematic reviews, economic evaluations, psychometrics research, medical writing and informal care. He also undertakes teaching in elementary health economics for postgraduate students at the University of Basel.

Research Scientist

Paola Salari, PhD is an economist with research experience in health systems of high and low income countries. She pursued both a BSc and a MSc degree in Economics and Social Sciences at Bocconi University, in Milan. In March 2015 she obtained a Ph.D. in Economics with a specialization in Health Economics and Policy at the University of Lugano, (Switzerland), where she focused on the functioning of the Swiss health care system and had the chance to deepen her quantitative research and analytics skills. After her PhD, she joined the Swiss Tropical and Public Health (Swiss TPH) Institute in Basel, as postdoctoral scientific collaborator, where she has been conducting research in the field of global health. In particular, she carried out socio-economic analyses of the health systems of Ghana and Tanzania and she also collaborated in costing studies of schistosomiasis' elimination in Zanzibar and Côte d'Ivoire. Her areas of expertise include health inequalities, health financing, access to health care, economic evaluations and program evaluation. In October 2018 she joined the Institute of Pharmaceutical Medicine (ECPM), as research scientist. At ECPM she is currently working on a cost-effectiveness analysis alongside a cluster randomized clinical trial conducted in a particular category of elderly people.

Master Student and Research Scientist

Alexander Hirschmann, MsC studied Management, Technology and Economics at the ETH in Zürich. Thereafter, he obtained a master in Pharmaceutical Sciences at the University of Basel. During this time, he worked as a research scientist at the ECPM, writing his master thesis on the topic of cost effectiveness analysis in cancer therapy. Additionally, he worked as a teaching assistant and supported the courses in drug development, personalized medicine and health economics

Special Projects

Kerstin Noëlle Vokinger, MD studied in parallel law and medicine at the University of Zurich. She obtained her Master in Law 2012 and passed the medical board examination 2015. Already during her studies, she was a fast track candidate in the PhD-program Biomedical Ethics and Law at the University of Zurich. She received her PhD degree 2015, which was funded by the Swiss National Foundation (SNF). From 2010 to 2015 she was a researcher at the Chair for Constitutional Law at the University of Zurich. Dr. Vokinger sat for the bar after clerking at the prosecutor's office and at a law firm in Zurich and was admitted to the Swiss bar as an Attorney 2014. Subsequently, she worked as an Attorney at a law firm in Zurich focusing on the areas of pharmaceutical law, medical law, patents, regulation and litigation. Dr. Vokinger obtained her LL.M. (Master of Laws) degree from Harvard Law School in 2016 and worked from 2015 to 2016 as an editor of the Harvard Journal of Law and Technology and as a Visiting Researcher at Harvard Law School focusing on the research project "Global Access to Medicines". This position was supported by the SNF. She is Assistant Professor at the University of Zurich and an Affiliated Faculty/ Researcher at Harvard Medical School. Dr. Vokinger has published numerous papers and has given presentations, among other places, at Harvard Medical School and the UN/WIPO in Geneva.

Co-Supervision of PhD projects
PhD Candidate

Renato Mattli, MSc ETH, MAS BA studied Human Movement Sciences at the ETH in Zurich. After working several years as a Clinical Research Associate in the medical device industry he acquired a MAS in Business Administration. Thereafter, he worked as a Health Economics and Market Access Manager EMEA for the same medical device company. Since 2012, Renato is working as a Research Associate at the Winterthur Institute of Health Economics (WIG) that belongs to the Zurich University of Applied Sciences (ZHAW). Since 2014, he is also the deputy head of the Health Economics Research Group within the WIG. His main research interests and teaching activities are in the fields of health economic evaluation and health technology assessment. Renato joined the ECPM in 2016 as a part time PhD student. The title of his thesis is "scaling up cost-effective physical activity interventions in a culturally diverse setting".

PhD Candidate

Nadia Pillai is a PhD student (defending in October 2019) at the Center for Primary Care and Public Health (Unisanté), University of Lausanne, Switzerland and collaborating with the ECPM on economic modelling methods related to her PhD work. After completing a Bachelors in Psychology at the University of St Andrews, UK, Nadia pursued a Masters in Public Health from Imperial College London, UK, where she received training in health economics and decision modelling. Her PhD evaluates the cost and cost-effectiveness of new interventions for inflammatory bowel disease using patient-level real world data from Switzerland. Prior to starting the PhD, Nadia worked at the Swiss Tropical and Public Health Institute, Basel, Switzerland, on projects related to health care costing in low- and middle-income countries. In addition, she gained consulting experience leading studies using real world data and supporting evidence generation for health technology assessments. Her main research interests lie in the application of economic modelling to chronic and infectious diseases in various health care settings.

PhD Candidate

Chiara Jeiziner, MSc, BSc pharm, studied at the University of Fribourg and Basel in Switzerland. In 2017, she graduated and received the federal diploma as a pharmacist in Basel. After working one year in a community pharmacy, she joined the Pharmaceutical Care Research Group (PCRG) at the University of Basel in August 2018. Her PhD thesis is focusing on the "implementation of pharmacogenotyping in pharmaceutical care". In collaboration with Katja Suter from ECPM, she analyses pharmacogenetic relevant information and instructions about pharmacogenetic management in all summaries of product characteristics of drugs registered in Switzerland.

Education & Training.
Current Status.

ECPM, founded in 1991, has established a reputation as one of the premier European training centres in pharmaceutical medicine. Training is offered on undergraduate, graduate and post-graduate levels. On a postgraduate and continuing education level, courses provide expert knowledge in drug development, pharmaceutical medicine, clinical research, and regulatory sciences. The ECPM Diploma Course (ECPM Course) represents the core of the postgraduate training platform. It covers the training need of specialists working in one or the other phase in drug development to provide a holistic view of the process and comprehensive instructions for integrating cutting-edge concepts and best practices in medical product development and regulatory sciences. The focus of the ECPM training platform is to teach integrated medicines development with emphasis on requirements for rational and rapid development of a new product for the global market. The course programmes cover all aspects of pharmaceutical medicine and drug development and regulatory sciences as defined by the IMI PharmaTrain syllabus.

Undergraduate / Graduate Teaching

ECPM employees teach a variety of graduate-targeted courses in pharmaceutical medicine, health economics and health policy. Courses are offered within the Medical Faculty and the Pharmacenter of the University of Basel, as well as at the Medical/Science faculty of the University of Zurich. Lectures are given in English and German, please see respective title on the list below.

Postgraduate Training

Since January 2012 (re-evaluated in 2018) ECPM is recognised as IMI PharmaTrain Training Centre of Excellence. This certifies that ECPM adheres to the IMI Education & Training Quality Standards as well as to the PharmaTrain Syllabus, Learning Outcomes and Curriculum for training in pharmaceutical medicine. Within the lap of PharmaTrain 12 Universities in Europe were recognized as Centres of Excellence allowing now a mutual acceptance of trainees and credit points.

The following postgraduate courses were offered in 2018:

Diploma Course (DAS) in Pharmaceutical Medicine
The 14th cycle started in September 2017 and ends with the examination in August 2019.

Project Management in Medicines Development
In collaboration with the CTU (Clinical Trial Unit) of the University Hospital Basel
This course is based on the PMBOK guide and includes 6 days of face to face teaching, a pre-assignment and a homework on project management in drug development and management of clinical trials.

Scientific Medical Writing
In collaboration with Mediwrite
This course provides an introduction to the field of strategic scientific and medical writing and offers hands on training in writing and analysing scientific texts.

Issues and Trends in Regulatory Sciences
In collaboration with the George Washington University
This one-week programme on regulatory science includes a visit to the FDA and the NIH hospital the National Library and the Congress.

Study Trip to Denmark
In collaboration with the Swiss Society of Health Economics and Health Sciences
Denmark has launched a new concept including «SuperHospitals» which change the basis of their health system fundamentally. This happens on the basis of digitalisation, not only regarding the patient records but also the management of the hospitals and the whole health system.

Participants of the study trip on the Danish healthcare systemin the garden of the Swiss Embassy in Copenhagen.

Education & Training.
Objectives for the coming years.

The backbone of ECPM Education and Training remains the ECPM Diploma Course with 115 participants running over two years. The current cycle started in September 2017 and will run until August 2019. In January 2012 ECPM received the "Centre of Excellence" accreditation by PharmaTrain and adapted the learning outcomes and examination mode to the Europe wide accepted standards. Re-accreditation was received in 2018.

The aim is to maintain the high quality, to implement up-to-date trends to retain our leading role in the training of medicines development. The ECPM Course is recognised by the Swiss Association of Pharmaceutical Medicine (www.sgpm.ch), by the Swiss Medical Association (www.fmh.ch) and the Swiss Association of Pharmaceutical Professionals (www.swapp.ch) to cover the theoretical training and the examination for specialisation and board certification. Collaboration with professional associations and our customers from pharmaceutical industry, academia and regulatory authorities are key. Through the PharmaTrain collaboration we can offer the master course participants to acquire courses and credit points à la carte and tailored to their needs.

The first Master candidate finished in September 2015 and three others until December 2018 2017. Several students are in the process of attending master module courses and writing their master thesis. Through the Bologna system it is possible to acquire credit points at other Universities. The rule is that at least 50% of the training and the master thesis must be completed at the University where the candidate is enrolled. The syllabus for education and training in pharmaceutical medicine was revised by a working group of PharmaTrain under the lead of the Royal College of Physicians and in collaboration of ECPM.

ECPM collaborates internationally with partner courses based on the on the same training syllabus. Namely the University of Beijing and the University of San Francisco to exchange knowledge and enhance training competencies and standards. Several students have already switched between the programmes due to their changing employment in the global industry. Through the collaboration with the School of Medicine and Health Sciences at the George Washington University, ECPM offers a yearly one-week summer institute on "Issues and Trends in Regulatory Sciences" including a visit at the FDA, the NIH hospital and the Senate. This course reveals ECTS credits which can be used for achieving the MAS title. A study trip to Canada Scandinavia to learn how they organise their health system is offered together with the Swiss association of health economics.

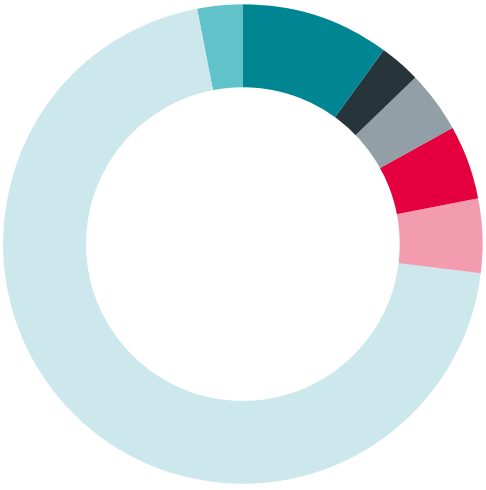
In May 2019 the last module on "Follow-on Drugs: Generic, Biosimilar & Non-Biological Similar Medicinal Products" which is offered in collaboration with the Semmelweis University in Budapest will take place. The idea of offering a joint PharmaTrain course for the former eastern countries in Europe is coming to an end since the local pharma companies (mainly generic companies) and academic as well as governmental institutions are not able to support their employees in performing continuing education.A certificate course in "Clinical Genomic Medicine and Genetic Counselling" was co-developed by Thomas Szucs and will be offered by the private University of the principality of Liechtenstein and ECPM.The course language is German.

Participants of the 14th ECPM Course Cycle (2017–2019).

Education & Training.
Overview of activities.

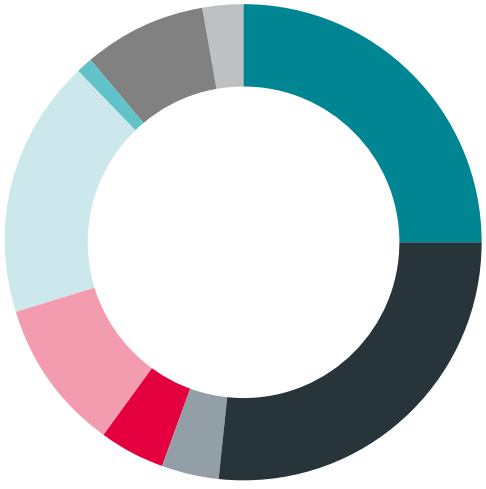
Overview of 2017–2019 Figures

Affiliations of Course Participants



Workplace of students	
Academia / University hospital	10%
Biotech	3%
Consultancy	4%
CRO	5%
Other	5%
Pharmaceutical company	70%
Regulatory agency	3%
Total	**100%**

Educational Background

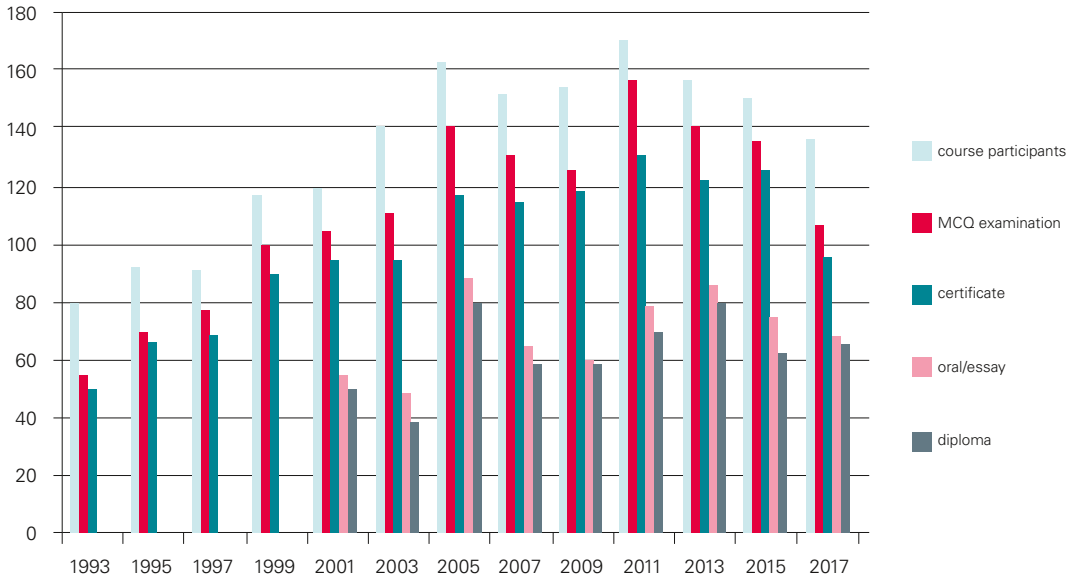


Educational background of students (2017 – 2019)	
MD	25%
PhD	26.9%
MD, PhD	3.7%
MBA, Business	4.6%
MSc Pharm. Sciences	10.2%
MSc Life Sciences	17.6%
MA Linguistics	0.93%
BSc Life Science	8.3%
others	2.8%
Total	100%
Totel no of students	108

Age groups

2017 – 2019	
25– 30 years	6
30– 35 years	18
35– 40 years	28
40– 45 years	32
45– 50 years	16
50– 55 years	6
55– 60 years	2
Total	108

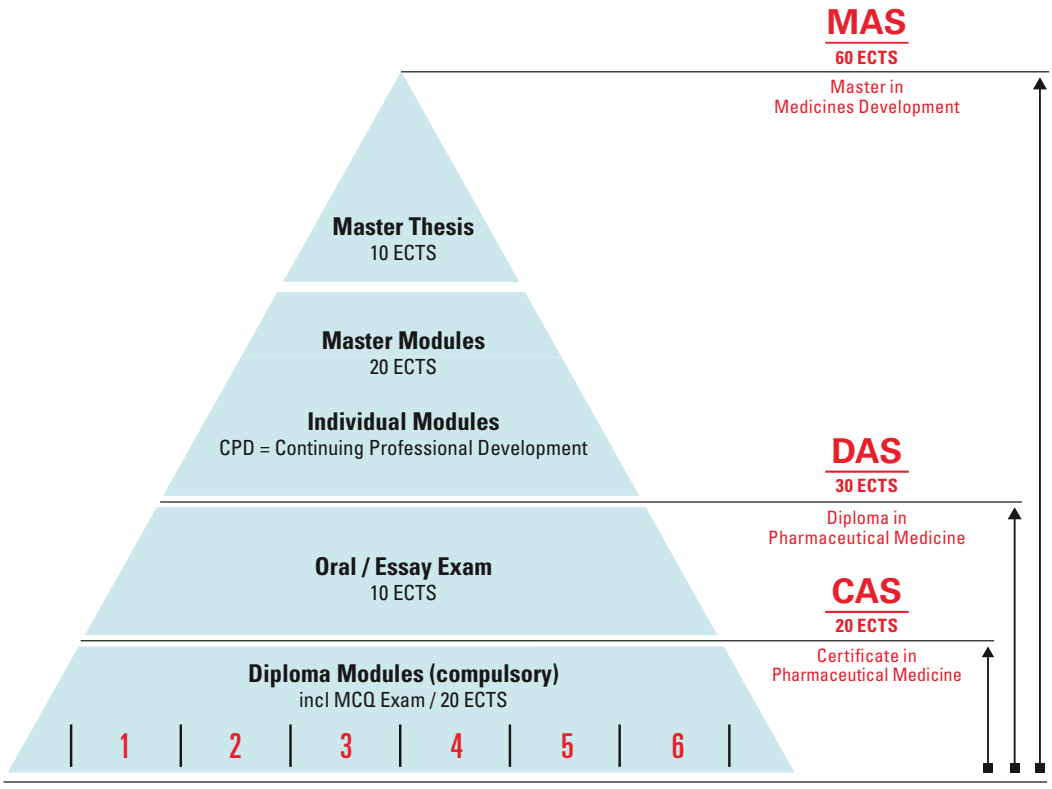
Examination



ECPM Platform

The ECPM training platform is conceived to provide profound training for scientists, regulators and managers in different areas and phases of drug development. As such, its primary targets are to provide up-to-date knowledge on current trends in drug development and to train the leaders in drug development for their next career step. Additionally, it offers a platform not only to learn but also to share knowledge with colleagues and to discuss with experts face-to-face.

The ECPM training platform offers undergraduate and postgraduate training in the field of pharmaceutical medicine/drug development sciences at different levels. The structure includes the undergraduate and graduate level for students in medicine, human biology, epidemiology, public health and pharmacy. and the three postgraduate levels where the ECPM Course forms the basis with a Certificate/Diploma of Advanced Studies in Pharmaceutical Medicine (30 ECTS) The diploma can be complemented with master modules plus a thesis to achieve a MAS title in Medicines Development (MMD) (60 ECTS). The third level includes all diploma and master modules, many elective modules and short courses, which are accredited by the University of Basel and several professional associations for continuing professional development, please see www.ecpm.ch. ECPM collaborates with a science-driven and highly experienced international faculty including a network of experts in academia, pharmaceutical industry and regulatory agencies and bodies of the health care system. Within this network ECPM was the coordinating entity of the European IMI PharmaTrain project (2009–2014), which aimed at fostering the overall understanding and competence for successful execution of integrated drug development and life-cycle management of medicines by identifying training gaps and by harmonising the teaching programmes. This initiative is maintained through the PharmaTrain Federation.



ECPM Diploma Course (DAS) in Pharmaceutical Medicine

The ECPM Course is a well-established postgraduate education and training programme targeted at representatives from industry, service industry, academic and government decision- and policy-makers who already have a good grounding in the basics and will benefit from a more in-depth, comprehensive and systematic immersion into modern medical product development, regulation and market introduction. Participants are involved in lectures, panel discussions, team-oriented case studies and interactive learning. Participation in the ECPM Course provides the opportunity to integrate work and education, to discuss with experts face-to-face or online, to gain in-depth knowledge while building an international network, and to put this into perspective with their own career plan.

A faculty network of experts from academia, pharmaceutical and biotechnology companies and regulatory authorities (including the EMA, FDA, Japan and Emerging Markets regulatory agencies) carry the teaching responsibility. A successful completion of the course and the final examination provides the title "Diploma of Advanced Studies (DAS) in Pharmaceutical Medicine" and includes 30 ECTS credits.

MMD-Master Course (MAS) in Medicines Development

The Master Course in Medicines Development is a postgraduate master course (Master of Advanced Studies, MAS). This programme extends the Diploma Course in Pharmaceutical Medicine. Master modules can be chosen according to the needs of the candidates to be able to cope with the challenges of drug development. Training and skills provide the basis to critically assess and improve challenges in the drug development process.

The programme is designed to be completed while working and through the IMI PharmaTrain network the course and ECTS credit points are mutually recognised between the participating Universities to offer the opportunity of mobility and availability.

Continuing Education

Back to back with the modules of the Diploma course, ECPM offers one-day seminars called "Frontiers in Drug Development" on current trends and hot topics. These seminars are open to the public and are accredited for continuing education by different professional organisations, such as the Swiss Medical Association (FMH). Topics covered in the past included. The complete list can be viewed on http://web.ecpm.ch/frontiers-in-drug-development.

Examination

The diploma and specialist examinations are offered once a year. In the intermediate years, i.e. during an ECPM course cycle, only few participants register for the examination. These are candidates who missed the examination in 2017 or come for a retake. 8 candidates participated in the multiple choice test (June 2018) and 5 passed it successfully. 2 candidates took the oral/essay examination and achieved the diploma.

For the second time the MCQ test and the essay examinations were performed on an i-pad with the system of BeAxi (a spin-off company of the medical faculty of the University of Basel). The institute for examination research IML at the University in Berne performed the analysis of the data. The execution of the examination and the evaluation went very well although the small cohort of 8 candidates does not allow a statistical meaningful result and was matched for this purpose with the examination in 2017.

E-learning

To cope with the limited time resources and reduced budgets of specialists working in the health care environment, ECPM has produced three e-learning programmes. E-learning modules can be used for different teaching purposes.

First they can be used as a self-learning tool for preparation or repetition of course material, second they can replace selected face-to-face modules required to achieve the Master in Medicines Development or to collect credits for continuing professional education:

- Basics in Health Economics (launched 2013)
- Drug Safety and Pharmacovigilance (launched 2014)
- Personalised Healthcare (launched 2015)

A Certificate of Attendance from the University of Basel will be awarded after successful completion of each e-learning programme (1 ECTS).

Projects in 2018

- Session on Health Economics of Future Therapeutic Concepts at DIA meeting in Basel, April 18, 2018
- Short Course in GENOMICS IN CLINICAL DEVELOPMENT at DIA meeting in Basel, April 17, 2018
- Module on „Project Management in Medicines Development" (third edition)
- Module on "Ethical and Legal Aspects of Clinical Trials"
- Module on "Medical and Scientific Writing"
- Module on „Project Management in Medicines Development" (fourth third edition)
- Summer Institute at George Washington University (third edition)
- Master thesis in medicine's development supervised and awarded
- Additional master module: a survey among the ECPM alumni revealed that the following topics are highest interest: market access, safety, bioinformatics, genomics
- Summer institute together with the School of Medicine and Health Sciences at the George Washington University on "Issues and Trends in Regulatory Science" (third edition)
- Study Trip to Israel jointly with the Swiss society of health economics and health sciences "The Israel Healthcare Story"
- Scientific programme of the joint annual meeting 2018 of the Swiss Association of pharmaceutical professionals and physicians (SwAPP and SGPM)

Planned Projects

ECPM is working on several new training and teaching programmes:

- Module on „Leadership and Business Development" will be offered in a updated version in 2019
- Study Trip to Canada jointly with the Swiss society of health economics and health sciences "The Canadian Health System"
- Final ECPM Course and medical specialist board examination
- Fundamentals in Health Economics
- Scientific programme of the joint annual meeting 2019 of the Swiss Association of pharmaceutical professionals and physicians (SwAPP and SGPM)

Expertise for Approval of Radioactive Diagnostics and Therapeutics

Annette Mollet chairs the Federal Expert Committee for radioactive drugs consulting Swissmedic and the Federal Office of Public Health regarding the approval of new diagnostic and therapeutic drugs and tools for nuclear medicine.

Postgraduate Training Activities[1]

ECPM has been provisionally recognized as a training centre for the board certification for physicians in Prevention and Public Health. For the board certification for physicians in pharmaceutical medicine ECPM is partnering with the SAKK (Swiss Group for Clinical Cancer Research) to create a joint centre for continuing education in this field. Currently both positions are open.

Undergraduate Teaching at the University of Basel Medical School

1. Szucs TD. Tutorate im Wissenschaftsmonat (WiMo) für Medizinstudenten, 4./5. Studienjahr Medizin Master
2. Szucs TD, Mollet A,. Interprofessionelles Modul Medikamentenentwicklung. Major Clinical Medicine, 2. Studienjahr Medizin Bachelor
3. Szucs TD. Interprofessionelles Modul Pharmakogenomik und personalisierte/individualisierte Medizin. Major Clinical Medicine, 2. Studienjahr Medizin Bachelor
4. Schwenkglenks M, Lupatsch JE. Interprofessionelles Modul Medizinische Ökonomie. Major Clinical Medicine, 3. Studienjahr Medizin Bachelor
5. Schwenkglenks M. Interprofessionelles Modul Gesundheitspolitik. Major Clinical Medicine, 3. Studienjahr Medizin Bachelor
6. Schwenkglenks M, Lupatsch JE, Schur N. Kleingruppenseminare im Themenblock Körper, Subjekt, Umwelt, 1. Studienjahr Medizin Bachelor. (Themen: Soll man Statine in der Prävention der koronaren Herzkrankheit einsetzen? Stehen Kosten und Nutzen im Verhältnis bei der Homöopathie?) Wieso so teuer? Die medikamentöse Behandlung der chronischen Hepatitis C)
7. C. Simone Sutherland, JE. Lupatsch, A. Bhadhuri. 41127 Advanced Research Methods – Health Economics. 3. Master and PhD students
8. Suter K. Tutorate im POEM (Patienten-orientierte evidenzbasierte Medizin), clinical Epidemiology I: critical appraisal (treatment); 3. Studienjahr Medizin (3 x 2 lessons = 6 lessons), responsible Prof. Heiner C Bucher

Undergraduate Teaching at the University Basel, Faculty of Science

9. Suter K. 44826-01 Evidence Based Pharmacy I- Basics (12 lessons), Master Pharmazie
10. Suter K. Lectures forming part of 48174-01 Evidence Based Pharmacy II – Research Methods, Master Pharmazie (3 lessons) (responsible Prof. Kurt Hersberger)
11. Schwenkglenks M. Lectures forming part of 20458-01 – Essentials in Drug Development & Clinical Trials.

Undergraduate Teaching at the University of Zurich

12. Szucs TD, Mollet A. Mantelstudium Arzneimittelentwicklung. 2.–4. Studienjahr Medizin Bachelor, Universität Zürich.

[1] In Switzerland this is considered „Weiterbildung" according to the „Weiterbildungsordnung" of the Swiss Medical Association (FMH www.fmh.ch).

13. Schwenkglenks M, Szucs TD, Mollet A. BME310 – Research methodology for studies on human health and disease. 3. Studienjahr Biomedicine Master
14. Szucs TD,Schwenkglenks M, Mollet A. BME329 – Developing New Medicines: An Introduction. 3. Studienjahr Biomedicine Master (responsible PD Dr. Patricia Blank).
15. Schwenkglenks M, Szucs TD. BME18 – Clinical epidemiology and quantitative research in health care. 3. Studienjahr Biomedicine Master.

Undergraduate Teaching at the University of Bern

16. Schwenkglenks M. Lectures on Health economic evaluation and Health Technology Assessment in Switzerland and Europe. Master Biomedical Engineering.

Postgraduate Teaching at the University of Basel

17. Mollet A, Szucs TD, Schwenkglenks M. Lectures forming part of the ECPM Course in Pharmaceutical Medicine.
18. Schwenkglenks M, Mattli M. Gesundheitsökonomische Modellierung – Hands-on. Course forming part of the Postgraduate Master Programme in Public Health.
19. Katja Suter. Lecture “Patient Protection in Clinical Trials – The Role of Swiss Regulatory Authorities during ECPM MAS Module Ethical and Legal Aspects of Clinical Trials, (1 lesson)
20. Sutherland CS. Lecture “Priority setting for health management: The role of economic evaluation in decision making”. Module 8 form the MBA in International Health Management, Swiss TPH (responsible Patrick Hanlon, Swiss TPH).
21. Schwenkglenks M, Sutherland CS. Lecture “Basics in Health Economics” in Essentials in Health Research Methodology course forming part of the PhD Program Health Sciences (PPHS), Department of Clinical Research
22. Sutherland CS, Lupatsch JE Bhadhuri A. 41127 Advanced Research Methods - Health Economics. Master and PhD students, Institute of Nursing Sciences

Postgraduate Teaching at the University of Zurich

23. Mollet A, Schwenkglenks M, Szucs TD. Courses forming part of the Postgraduate Master Programme in Public Health.

Research.
Current Status.

ECPM has been active in research since 2003. In the early days, a majority of studies were run with industrial partners, as there was (and is) only limited public funding for pharmaceutical-related health economic evaluation and Health Technology Assessment in Switzerland. In 2018, our group has been one of the most active health economic groups in Switzerland in terms of publication activity, and project scope and scale. Based on 6 fulltime equivalents of scientific staff, we pursued a broad range of research activities, including participation in EU-funded international projects.

In a European Union HORIZON 2020-funded project addressing pharmacotherapy optimisation in elderly patients. ECPM is responsible for the health economics work packages. We also take responsibility, since 2007, for the outcomes research and health economic evaluation activities of the Swiss Group for Clinical Cancer Research (SAKK), the leading Swiss collaborative study group in the field of oncology and haematology. In a growing atmosphere of reform of the national approach to Health Technology Assessment (HTA), we are engaged in discussion and are developing cooperation with relevant academic and non-academic players in the field, including health insurance companies. In cooperation with a partner institution at the University of Zürich, we perform HTAs for the Swiss Medical Board (SMB), a non-profit institution funded by e.g. the Swiss cantons and the Swiss Academy of Medical Sciences (SAMW), and perform HTA activities for the Swiss Federal Office of Public Health. Projects with industrial partners continue to also play a relevant role, which gives us opportunities to work with raw data from large, multinational randomized controlled trials and to be involved in Health Technology Assessment activities abroad, e.g. in the UK. In cooperation with the Basel Pharmacoepidemiology Unit (BPU; Prof. Christoph Meier), and the Helsana Group, we have, for the fifth time, published a report on medication utilisation in Switzerland, based on health insurance claims data covering about 15% of the Swiss population (Helsana Arzneimittelreport). Projects and resulting publications are listed in section Overview of Activities, below.

It is a strategic goal to intensify our cooperation with other units at the University of Basel pursuing related research activities, e.g. the Basel Institute for Clinical Epidemiology & Biostatistics, Institute of Nursing Sciences, Swiss Tropical and Public Health Institute, Department of Health Economics at the Faculty of Business and Economics (DHE), Basel Pharmacoepidemiology Unit. The aforementioned units and ECPM have joined forces to establish an interdisciplinary network of excellence for comparative effectiveness and health economic research, S-CORE. S-CORE has achieved formal recognition as a Research Network of the University of Basel.

Research staff is also involved in undergraduate and postgraduate university teaching.

Key Areas of Expertise

- Pharmacoeconomics
- Health economics
- Decision-analytic modelling
- Epidemiology
- Outcomes research
- Clinical and observational study designs
- Biostatistics

Main Areas of Activity

- Oncology and haematology
- Cardiovascular disease and heart failure
- Influenza and other infectious diseases
- Geriatrics, specifically pharmacotherapy optimisation in the elderly
- Medication utilisation in Switzerland
- Variation in healthcare utilisation
- Approaches to health technology assessment and valuation of health service

Research.
Objectives for the coming years.

ECPM's situation and achievements in 2018 indicate the successful development of a small research unit. One main aim for the coming years is continued contribution to the shaping of new Swiss approaches to Health Technology Assessment and to the reimbursement of drugs and other health care services. In the future, Swiss authorities will commission more related tasks from academia. We continue to seek involvement in related, publicly funded projects.

Additional scientific aims are to expand research using administrative datasets provided by health insurance companies, and research on methodological topics in health economic evaluation.

Another important aim is to further strengthen collaboration and use potential for synergies with local partners from the Department of Public Health of the Medical Faculty and beyond, most importantly in the context of the S-CORE network.

Establishing new grants from non-industry sponsors (cooperative study groups, non-profit organisations) and competitive grant givers remains important. However, as third-party funding of Health Technology Assessment-related and health economic evaluation-related research remains structurally uncertain, we also need to gain substantially more long-term university funding for our research group to ensure sustainability.

Research.
Overview of activities.

Sources of project funding in 2018

SAKK	20 %
Health insurance companies	8 %
University	10 %
Swiss Federal Office of Public Health and semi public sources	11 %
EU (HORIZON 2020)	5 %
Commision of Technology and Innovation	5 %
Industry and health care providers	41 %

Note: numbers are appproximate

Local academic collaborations

- Prof. Stefan Felder, Health Economics, Faculty of Business and Economics, University of Basel
- Basel Institute for Clinical Epidemiology and Biostatistics (ceb), University Hospital Basel
- Prof. Christoph Meier, Pharmacoepidemiology Unit, University of Basel, and Hospital Pharmacy Basel, University Hospital Basel
- Prof. Kurt Hersberger, Pharmaceutical Care Research Group, Faculty of Science, University of Basel
- Institute of Nursing Sciences, University of Basel
- Swiss Tropical and Public Health Institute

Collaborations with national and international academic and public entities

- Epidemiology, Biostatistics and Prevention Institute, University of Zürich
- University Hospital Zürich
- Institute of Social and Preventive Medicine, University of Bern
- Swiss Group for Clinical Cancer Research (SAKK)
- Swiss Federal Office of Public Health (BAG)
- INC-EU Study Group, Switzerland/UK
- Harvard School of Public Health, USA
- St. George's Hospital, London, UK

Collaborations with private entities:

- Helsana Group of health insurance companies
- Germany Breast Group, Neu-Isenburg, Germany
- Pharmaceutical companies

Research.
Current Projects.

The following list comprises projects that have been started and are still on-going.

New

Title:	Cost-effectiveness of novel multiple sclerosis drug
Project lead & contributors:	NSch, CSS, AB, MS
Hypothesis / Objectives:	Assessment of health economic characteristics and cost-effectiveness of a novel multiple sclerosis drug in Switzerland
Start date:	12/2018
Partner(s):	Industry
Output:	Pending
Source of funding:	Industry

New

Title:	Cost-effectiveness of novel ophthalmology drugs
Project lead & contributors:	CSS, MB, PS, MS
Hypothesis / Objectives:	Assessment of health economic characteristics and cost-effectiveness of novel ophthalmology drugs in Switzerland
Start date:	12/2018
Partner(s):	Industry
Output:	Pending
Source of funding:	Industry

New

Title:	Regulierungsfolgenabschätzung zur Einführung eines Referenzpreissystems in der Schweiz
Project lead & contributors:	MS
Hypothesis / Objectives:	Estimation of impact of a possible reference pricing system for pharmaceuticals in Switzerland
Start date:	05/2018
Partner(s):	Polynomics AG, INTERFACE Politikstudien Forschung Beratung GmbH
Output:	Report, publication
Source of funding:	Swiss Federal Office of Public Health

New

Title:	Aktualisierung der PCG-Liste für den Schweizer Risikoausgleich
Project lead & contributors:	CSS, AB, KS, MS
Hypothesis / Objectives:	Update of list of Pharmaceutical Cost Groups for use with the risk adjustment scheme of the Swiss statutory health insurance
Start date:	05/2018
Partner(s):	Polynomics AG; Pharmaceutical Care Research Group, University of Basel
Output:	Report
Source of funding:	Swiss Federal Office of Public Health

New

Title:	Health Technology Assessment (HTA) activities for the Swiss Federal Office of Public Health
Project lead & contributors:	CSS, AB, KS, MS
Hypothesis / Objectives:	HTA activities for the Swiss Federal Office of Public Health
Start date:	01/2018
Partner(s):	Epidemiology, Biostatistics and Prevention Institute, University of Zürich
Output:	Reports
Source of funding:	Swiss Federal Office of Public Health

New

Title:	Impact of targeted therapy in patients with metastatic lung cancer
Project lead & contributors:	AB, MS
Hypothesis / Objectives:	Assessment of health economic characteristics and cost-effectiveness of targeted therapy in patients with metastatic lung cancer
Start date:	01/2018
Partner(s):	Industry
Output:	Abstract, peer-reviewed publication in preparation
Source of funding:	Industry

Ongoing

Title:	Pill Protect®: health-economic performance characteristics and implications for health care financing
Project lead & contributors:	CSS, ML, NSch, ZA, MS
Hypothesis / Objectives:	Pill Protect: health-economic performance characteristics and implications for health care funding
Start date:	01.08.16
Partner(s):	Industry
Output:	Peer-reviewed publication, abstract
Source of funding:	Commission for Technology and Innovation (CTI), industry

Ongoing

Title:	Cost-effectiveness of hyperkalemia treatment
Project lead & contributors:	CSS, ZA, MS
Hypothesis / Objectives:	Cost-effectiveness of hyperkalemia treatment
Start date:	01.05.16
Partner(s):	Industry
Output:	Abstracts, peer-reviewed publication in preparation
Source of funding:	Industry

Ongoing

Title:	Effect of the Swiss human research legislation on the costs associated with randomized clinical trials in Switzerland
Project lead & contributors:	NSch, MS
Hypothesis / Objectives:	Assessment of impact of Swiss human research legislation on clinical trial costs and application timelines
Start date:	01.08.15
Partner(s):	Clinical Trial Unit at University Hospital Basel
Output:	Reports, peer-reviewed publications
Source of funding:	Swiss Federal Office of Public Health

Ongoing

Title:	OPERAM: Optimising PharmacothERApy in the Multimorbid elderly
Project lead & contributors:	MS, PS, AB, ZA
Hypothesis / Objectives:	Most older adults have multiple chronic diseases (multimorbidity) and multiple medications (polypharmacy). However, multimorbid patients are often excluded from clinical trials and most guidelines address diseases in isolation. Inappropriate drug prescription and poor drug compliance are common and contribute to up to 30% of hospital admissions. OPERAM investigators developed STOPP/START criteria to detect inappropriate drug use, both over- and underuse. Applying these criteria limits unnecessary polypharmacy and reduces underuse of indicated medications, but it remains uncertain whether systematic pharmacotherapy optimisation can improve clinical outcomes and reduce costs. We propose a multicentre randomised controlled trial to assess the impact of a userfriendly software-assisted intervention to optimise pharmacotherapy and to enhance compliance in 1900 multimorbid patients aged ≥75 years. Outcomes will include drug-related hospital admissions, health care utilisation, quality of life, patient preferences and cost-effectiveness. We will also perform several network meta-analyses (NMA) to provide new comparative evidence on the most effective and safest pharmacological and non-pharmacological interventions to reduce common causes of preventable hospital admissions (e.g. falls, fractures, bleeding). Therapy optimisation in the multimorbid elderly, enhanced compliance and discontinuation of less effective interventions have the potential to improve clinical, quality of life and safety outcomes, while reducing costs. We will provide a structured method with practical software solutions for optimal prescribing and new comparative evidence from NMAs for addressing multimorbidity and polypharmacy by means of customised, patient-centred guidelines. OPERAM ultimately aims at better healthcare delivery in primary and hospital care, based on effective, safe, personalised and cost-effective interventions that can be applied to the rapidly growing older population in Europe
Start date:	01.05.15
Partner(s):	OPERAM Consortium: Universität Bern, University Catholique de Louvain, Universiteit Utrecht, University College Cork, Panepistimio Ioanninon, Università degli Studi Gabriele d' Annunzio di Chieti-Pescara, TP21 GmbH
Output:	Pending
Source of funding:	EU (HORIZON 2020, proposal 634238) and Swiss State Secretariat for Education, Research and Innovation (SERI; contract number 15.0137)

Ongoing

Title:	Health Technology Assessments (HTAs) for the SwissMedical Board
Project lead & contributors:	MB, NSch, MS
Hypothesis / Objectives:	Performance of health economic parts of HTAs for the Swiss Medical Board
Start date:	01.06.14
Partner(s):	Basel Institute for Clinical Epidemiology and Biostatistics (CEB), Basel; Institut für Sozial- und Präventivmedizin (ISPM), Universität Bern; Institut Ethique Histoire Humanités (iEH2), Universität Genf; Institut für Epidemiologie, Biostatistik und Prävention (EBPI), Universität Zürich
Output:	Health Technology Assessment reports, peer-reviewed publications
Source of funding:	Swiss Medical Board

Ongoing

Title:	Drug reports based on Swiss health insurance claims data
Project lead & contributors:	NSch, MS
Hypothesis / Objectives:	Analysis of drug use in Switzerland and related medical and economic aspects, based on Swiss health insurance data
Start date:	01.09.13
Partner(s):	Basel Pharmacoepidemiology Unit and Hospital Pharmacy, University Hospital Basel
Output:	Publicly available reports published in 2014-2018. Peer-reviewed publications of sub-topics
Source of funding:	Health insurance provider

Ongoing

Title:	Health economic analysis of PENELOPE trial
Project lead & contributors:	MS
Hypothesis / Objectives:	Health economic evaluation alongside the randomised controlled PENELOPE trial. PENELOPE is a phase III trial of palbociclib (PD-0332991) in patients with hormon receptor positive, HER2 negative patients with primary breast cancer and a high risk of recurrence after neoadjuvant chemotherapy.
Start date:	01.09.13
Partner(s):	GBG Forschungs GmbH, Neu-Isenburg, Germany
Output:	Pending
Source of funding:	Private entity, non-industry

Ongoing

Title:	Health economics of bronchitol dry powder
Project lead & contributors:	MS
Hypothesis / Objectives:	Assessment of health economic characteristics and cost-effectiveness of mannitol dry powder in the treatment of cystic fibrosis, for different countries
Start date:	02/2013
Partner(s):	Industry
Output:	Abstract, peer-reviewed publication in preparation
Source of funding:	Industry

Ongoing

Title:	Co-operative projects in the field of health economics and outcomes research in oncology
Project lead & contributors:	JL, MB, MS
Hypothesis / Objectives:	Outcomes research, health services research and health economic evaluation projects in cooperation with Swiss Group for Clinical Cancer Research (SAKK) and hospitals
Start date:	11/2007
Partner(s):	SAKK, University Hospital Basel, other hospitals
Output:	Abstracts, peer-reviewed publications.
Source of funding:	SAKK

Ongoing

Title:	Health economic analysis alongside SAKK clinical oncology trials
Project lead & contributors:	JL, MB, MS
Hypothesis / Objectives:	The treatment of patients with cancer with new drugs may not only increase overall survival but may also increase or decrease overall treatment costs. Therefore, a comparison of incurred costs with achieved benefit in the form of increased overall survival by way of a cost-effectiveness analysis is undertaken. Prospective health economic data collection is still ongoing in two randomised clinical trials. For two other clinical trials data collection was finalised by the end of 2014 and analysis started 2015. Tree new studies including health economic evaluations were initialised in 2014, one more in 2015
Start date:	11/2007
Partner(s):	Swiss Group for Clinical Cancer Research (SAKK)
Output:	Abstracts, peer-reviewed publications
Source of funding:	Industry

Research.
Completed projects.

The following list comprises projects that were completed during 2018.

Completed	
Title:	Pricing and budget impact of biosimilars
Project lead & contributors:	ML, MS
Hypothesis / Objectives:	Estimation of impact of biosimilars on healthcare costs
Start date:	11/2017
Partner(s):	Industry, University Hospital Basel
Output:	Report, abstract
Source of funding:	Industry

Completed	
Title:	Health economic properties of targeted cancer therapies
Project lead & contributors:	MS, CSS
Hypothesis / Objectives:	Early health economic assessment of targeted cancer therapies
Start date:	12/2015
Partner(s):	Industry
Output:	Abstracts
Source of funding:	Industry

Completed	
Title:	Scientific Office for INC-EU Study Group
Project lead & contributors:	AH, NSch, MS
Hypothesis / Objectives:	Continuous monitoring of state of knowledge in the field of chemotherapy-induced neutropenia, content management for INC-EU website.
Start date:	01/2011
Partner(s):	INC-EU Study Group; St. Georges Hospital, London, UK
Output:	Web content
Source of funding:	Industry

Publications, presentations and teaching activities of ECPM collaborators in 2018.

1. Romanens M, **Szucs T**, Sudano I, Adams A. Agreement of PROCAM and SCORE to assess cardiovascular risk in two different low risk European populations. Prev Med Rep. 2018 Dec 1;13:113-117

2. **Hirschmann A, Lupatsch JE, Schwenkglenks M**, Panje CM, Matter-Walstra K, Espeli V, Dedes KJ, Siano M; Swiss Group of Clinical Cancer Research (SAKK). Cost-effectiveness of nivolumab in the treatment of head and neck cancer. Oral Oncol. 2018 Dec;87:104-110

3. Schmidt H, Caldwell B, **Mollet A**, Leimer HG, **Szucs T**. An Industry Experience with Data Sharing. N Engl J Med. 2018 Nov 22;379(21):2081-2082

4. Wei W, Gruebner O, von Wyl V, Brüngger B, Dressel H, Ulyte A, Blozik E, Bähler C, **Schwenkglenks M.** Variation of preoperative chest radiography utilization in Switzerland and its influencing factors: a multilevel study with claims data. Sci Rep. 2018 Nov 30;8(1):17475

5. Kreis C, Doessegger E, **Lupatsch JE**, Spycher BD. Space-time clustering of childhood cancers: a systematic review and pooled analysis. Eur J Epidemiol. 2019 Jan;34(1):9-21

6. Griese-Mammen N, Hersberger KE, **Messerli M**, Leikola S, Horvat N, van Mil JWF, Kos M. PCNE definition of medication review: reaching agreement. Int J Clin Pharm. 2018 Oct;40(5):1199-1208

7. Mazzonna F, **Salari P**. Can a smoking ban save your heart? Health Econ. 2018 Oct;27(10):1435-1449

8. Tlhajoane M, Masoka T, Mpandaguta E, Rhead R, Church K, Wringe A, Kadzura N, Arinaminpathy N, Nyamukapa C**, Schur N**, Mugurungi O, Skovdal M, Eaton JW, Gregson S. A longitudinal review of national HIV policy and progress made in health facility implementation in Eastern Zimbabwe. Health Res Policy Syst. 2018 Sep 21;16(1):92

9. **Mattli R**, Wieser S, Probst-Hensch N, Schmidt-Trucksäss A, **Schwenkglenks M.** Physical inactivity caused economic burden depends on regional cultural differences. Scand J Med Sci Sports. 2019 Jan;29(1):95-104.

10. **Lupatsch JE**, Kreis C, Korten I, Latzin P, Frey U, Kuehni CE, Spycher BD. Neighbourhood child population density as a proxy measure for exposure to respiratory infections in the first year of life: A validation study. PLoS One. 2018 Sep 12;13(9):e0203743

11. Weber WP, Tausch C, Hayoz S, Fehr MK, Ribi K, Hawle H, **Lupatsch JE**, Matter-Walstra K, Chiesa F, Dedes KJ, Berclaz G, Lelièvre L, Hess T, Güth U, Pioch V, Sarlos D, Leo C, Canonica C, Gabriel N, Zeindler J, Cassoly E, Andrieu C, Soysal SD, Ruhstaller T, Fehr PM, Knauer M; Swiss Group for Clinical Cancer Research (SAKK). Impact of a Surgical Sealing Patch on Lymphatic Drainage After Axillary Dissection for Breast Cancer: The SAKK 23/13 Multicenter Randomized Phase III Trial. Ann Surg Oncol. 2018 Sep;25(9):2632-2640

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28. **Vokinger KN**, Kesselheim AS, Avorn J, Sarpatwari A. Strategies That Delay Market Entry of Generic Drugs. JAMA Intern Med. 2017 Nov 1;177(11):1665-1669

Scientific Presentations to External Audiences

Presenter (name, function)	Presentation title	Event (title, location, date)
Szucs TD, Director	Next generation sequencing kurs	Klinik Hirslanden, Zürich, 15.1.2018
Szucs TD, Director	Chairing a Health Insurance Board – Lessons and insights	IMD High Performance Board Programme, Lausanne, 13.3.2018
Szucs TD, Director	Die Macht der Gene – Das Gesundheitswesen im genomischen Zeitalter	Strategy Circle, Pfäffikon SZ, 6.3.2018
Szucs TD, Director	Apotheker werden «kleine Ärzte»: Die Zukunft der Grundversorgung und der Selbstdispensation	APA Generalversammlung, Zürich, 1.3.2018
Szucs TD, Director	Vorlesung Arzneimittelrecht	MPH Kurs Gesundheitsrecht, Zürich, 6.3.2018
Szucs TD, Director	Vorlesung Gen Recht	MPH Kurs Gesundheitsrecht, Zürich, 6.3.2018
Szucs TD, Director	Legal aspects of genetic testing	8th International Course for Genetic counsellors, St Gallen, 9.3.2018
Szucs TD, Director	History & Principles	CCDRS, Beijing, March 14, 2018
Szucs TD, Director	Trends in Drug Reimbursement and Market Access	CCDRS, Beijing, March 14, 2018
Szucs TD, Director	Pharmacogenomics in nursing	GENOMICS IN CLINICAL DEVELOPMENT; Short Course 5, Basel, 17 April 2018
Szucs TD, Director	Making Personalised Health Care Work	HEALTH ECONOMICS OF FUTURE THERAPEUTIC CONCEPTS; Session 0203, Basel, 18 April 2018
Szucs TD, Director	Von der Idee zum Projekt	Vorlesung 2. ba, unibas, Basel 18.4.18
Szucs TD, Director	Golden agers	Handelskammer Schweiz-Österreich, 23.4.18
Szucs TD, Director	GENE UND HERZ – GESTERN, HEUTE UND MORGEN	OEKG Jahrestagen, Salzburg, 7.6.2018
Szucs TD, Director	Using insurance (claims) data for drug development	PUCRI 10 years Symposium, Peking, 10.6.2018
Szucs TD, Director	The Art and Science of Making Better Decision	CCDRS, Beijing June 12, 2018
Szucs TD, Director	Life Science & Leadships–lessons for a career in medicines development	CCDRS, Beijing June 13, 2018
Szucs TD, Director	Decision for Full Development	CCDRS, Beijing June 14, 2018
Szucs TD, Director	The Blissful Enigma of Genes, Ian McPherson Lecture	IFHP Symposium, Lisbon June 24, 2018
Szucs TD, Director	Introducing Pharmaceutical Innovation into the Market – The Growing Role of Regulatory Science	Toyama 5th joint meeting, 24.8.18
Szucs TD, Director	The Blissful Enigma of Genes	PICC Beijing, 21.8.2018
Szucs TD, Director	The Economy of Value Based Health Care for the Payers	Symposium Value-Based Health Care, Basel, 20.9.2018
Szucs TD, Director	Economic Aspects of Personalised Health Care	4th European Summer School in Personalized Therapies, Geneva, 27.9.2018
Szucs TD, Director	Choice of Endpoints: Continuous, Dichotomous, Composite and Survival	CCDRS, Beijing, August 21, 2018
Szucs TD, Director	How to Deal with Missing Data	CCDRS, Beijing, August 20, 2018
Szucs TD, Director	Systematic Reviews and Meta Analysis. How to Get It Right	CCDRS, Beijing, August 22, 2018

Szucs TD, Director	Health Economic / Outcome Research Trials and Their Transferability	Chinese Course in Drug Development and Regulatory Sciences (CCDRS), Peking, August 25, 2018
Szucs TD, Director	Patient-Reported Outcomes and Quality of Life Measurements	Chinese Course in Drug Development and Regulatory Sciences (CCDRS), Peking, August 25, 2018
Szucs TD, Director	Improving human health with clinical resources	60th anniversary of third hospital of Peking University, Peking, 9.10.2018
Szucs TD, Director	Learning and Confirming in Pharmaforschung und -entwicklung – Von Sackgassen und Durchbrüchen	Universität Zürich, Ringvorlesung Senior Academics, Herbstsemester 2018 Irrtum und Erkenntnis, Zürich, 25.10.2018
Szucs TD, Director	How will we be able to pay for health care in the future?	Peking University International Symposium, Peking, 10.11.2018
Szucs TD, Director	Disruption oder Eruption? Die moderne Medizin am Scheideweg	Keynote Jahrestagung Schweizerische Gesellschaft für Kieferorthopädie, Interlaken, 1.11.2018
Szucs TD, Director	P4-Medizin: personalisiert, prädiktiv, präventiv und partizipativ	HCI Informationsanlass, Hotel St. Gotthard Zürich, Zürich, 28.10.2018
Mollet A, Head of Education & Training	Scientific and Regulatory Writing	Issues and Trends in Regulatory Science, George Washington University, Washington, 22.08.2018
Mollet A, Head of Education & Training	Pharmacogenomics and Personalized Medicine	Issues and Trends in Regulatory Science, George Washington University, Washington, 22.08.2018
Schwenkglenks M, Head of Research	Wie beeinflussen Richtlinien und Empfehlungen die medizinische Behandlung?	Tagung «Wie fördern wir eine smarte Medizin in der Schweiz?» Auditorium Careum, Zürich, Oktober 01
Schwenkglenks M, Head of Research	Geographic variation in the utilisation of health care interventions: what is the role of recommendations and other influences?	Fortbildung des Clinical Trials Center, UniversitätsSpital Zürich, November 15
Sutherland CS, Senior Research Scientist	A cost-effectiveness analysis of RAASi-enabling patiromer for the treatment of hyperkalemia in Sweden	ISPOR Europe 2018 conference, Barcelona, 10-14 November 2018
Sutherland CS, Senior Research Scientist	Evaluating the cost-effectiveness of screening for the genetic risk of thrombosis during the recommendation of combined hormonal contraception for first-time users in Switzerland	ISPOR Europe 2018 conference, Barcelona, 10-14 November 2018

Evaluation of Research Projects and Publications (peer review)

Thomas D. Szucs is a reviewer for a number of clinical and health economic journals including Annals of Oncology, Pharmacoeconomics, Lancet, Swiss Medical Weekly.

Annette Mollet is a reviewer for the journal Frontiers in Pharmacology.

Matthias Schwenkglenks is a reviewer for a number of clinical and health economic journals including The American Journal of Managed Care; Cardiovascular Drugs and Therapy; European Journal of Cardiovascular Prevention and Rehabilitation; Health Policy; HEART; Infection; Journal of the American Medical Association (JAMA); Journal of Clinical Oncology, Medical Decision Making; Osteoporosis International; PharmacoEconomics; Swiss Medical Weekly, Value in Health. He serves as a member of the Editorial Board of Medical Decision Making, a renowned health economic journal.

C. Simone Sutherland is a reviewer for a number of journals including International Journal of Technology Assessment in Health Care (IJTAHC), Infectious Diseases of Poverty, Parasites & Vectors, Public Library of Science (PLOS) Neglected Tropical Diseases (NTDs), BioMed Central (BMC) Health Services and Value in Health.

Theses Supervised by ECPM Collaborators in 2018

Belinda von Niederhäusern, REDUCING WASTE IN CLINICAL RESEARCH: A COST-CONSEQUENCE APPROACH (PhD in cooperation with Department of Clinical Research).

Tanja Kastien-Hilka, Health-related Quality of Life and its Association to Medication Adherence in Active Pulmonary Tuberculosis in South Africa – an Integrated Patient-centred Outcomes Approach (PhD in coperation with Swiss TPH and University of Capetown).

Martina Hahn, Preventing Cervical Cancer with HPV Testing. What can we learn for the Swiss health system from evidence collected for the health systems of other countries? A systematic review of current health economic evaluations (MPH thesis).

Thathya Venu Ariyaratne, Comparison of Long-term Outcomes and Cost Effectiveness of Coronary Bypass Surgery versus Percutaneous Coronary Interventions in the Australian context. Ongoing at Monash University, Co-supervising at Monash University the following PhD thesis.

Christos Pouskoulas, Anwendung eines Einzelrechnungsprüfungssystems für stationäre Spitalleistungen im Kanton Luzern – eine Evaluationsstudie (MPH thesis).

Renato Mattli, Scaling up cost-effective physical activity interventions in a culturally diverse setting (PhD thesis in cooperation with Swiss TPH, Department of Sports Science and ZHAW Winterthur).

Alessandro Crimi - Novel approaches in antiretroviral therapies retention and demand estimation for AIDS patients in Zimbabwe – Master in Business Administration (MBA) International Health Management (IHM) thesis with Swiss TPH. External expert for a MSc defence.

Latham N. Wer soll was (das) bezahlen? Ein Discrete Choice Experiment gesellschaftlicher Präferenzen in Deutschland zu Prävention und Therapie (MPH thesis).

Hendrik Schmidt, Creating and Adding Value in Medicines Development Through Enhanced Data Use (MMD thesis)

Jain Anand, A Comprehensive Study on Structural and Procedural Characteristics of Pharmaceutical Regulatory Authorities for Development, Evaluation and Filing of Drugs Globally (MMD thesis).

Chiara Jeiziner, Analysis of Pharmacogenetic Information in Summaries of Product Characteristics by Natural Language Processing (PhD thesis)

Nadia Pillai, An economic evaluation for the cost-effectiveness of innovative treatment strategies for adults diagnosed with inflammatory bowel disease using real world data in Switzerland (PhD thesis)

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