College of Management of Technology
Annual Report 2021
Dear readers,

It is my pleasure to present you with this annual report which contains various important information regarding the academic activities of the College of Management of Technology (CDM) during the year 2021.

The year 2021 has seen our activities slowly return to normal after 2020, a year largely disrupted by the pandemic. Our courses were held face-to-face again, allowing the campus to come back to life and our employees to physically meet after months of mandatory remote work.

This report once again allows us to appreciate the relevance of our activities and the impact of the CDM within EPFL. By focusing on our strengths — innovation and entrepreneurship, operations research and data science, finance — we manage to distinguish ourselves internationally in terms of research; this despite the small size of our College. This focus also allows us to be active and dynamic on campus by developing innovative programs and courses at the interface between our focus areas and EPFL's basic and applied science fields.

In terms of education, our portfolio of teaching programs at all levels (bachelor, master and doctorate) is very diverse and responds to a large demand for such courses on campus: Our MTE and MFE masters as well as the minors have been successful for years. Our management and technology courses at the bachelor's level are always full, most of them reaching maximum capacity. One of the milestones of the Enterprise for Society (E4S) Center was reached in 2021 by welcoming the first cohort of students of the new Master in Sustainable Management & Technology, offered jointly between EPFL, HEC–UNIL and IMD and administratively managed within the MTE section.

In addition to this, we are also involved in innovation and transfer activities — notably symbolized by the flourishing development of our continuing education programs. Our Executive Education unit is expanding its range of programs, including new Certificates of Advanced Studies in Sustainable Value Chain, to meet the educational needs of professionals and companies.

Finally, this year we were also pleased to welcome Andreas Fuster as an associate professor of finance within the CDM faculty at the Swiss Finance Institute. After finishing his PhD in Economics at Harvard in 2011, Andreas Fuster had worked for the Federal Reserve Bank of New York before joining in 2018 the Swiss National Bank as an economic advisor.

Since I will be leaving the position of director of the CDM during the summer of 2022, it is the last time I write this foreword. I would like to thank all the CDM researchers and staff for the rich and fruitful collaboration we had over the years to bring together CDM to where it is today.

I wish you all a good reading.

Prof. Dominique Foray,
Director
Key numbers 2021

- 16 Faculty members
- 27% female researchers
- 1/4 employees paid from third party funds
- 61 Organized seminars
- 63 Master's graduates
- 46 Executive Master's graduates
- 9 PhD graduates
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January

EPFL student creates a new language-analysis program

Jonathan Besomi, an IC Master student supervised by Prof. Younge, has developed a program called Texthero that lets users generate representations of textual data with just a few lines of code, thereby simplifying the analysis of natural languages.

March

Fourteen faculty members highly rated in the Forschungsmonitoring rankings

The Forschungsmonitoring rankings in Business Administration and Economics established by the Swiss Economic Institute (KOF) at ETH Zurich has listed 14 professors of the College of Management of Technology among the top 300 researchers worldwide.

April

Rethinking supply chains to cut carbon and sulfur oxide emissions

The in-company projects performed by participants of the Executive Master in Global Supply Chain Management show that their novel ideas could considerably reduce the companies’ carbon footprints and sulfur oxide emissions.

April

Linking EPFL schools via interdisciplinary projects

With the idea to promote and encourage collaboration among scientists, the College of Management of Technology has initiated new Interdisciplinary Grants to seed new collaborative research between the College and other research domains at EPFL. Three projects were selected and launched.
May

**Are patents a barrier to the adoption of Covid vaccines?**

Prof. Gaétan de Rassenfosse appeared on several media outlets as an expert on patents and IP Policy to defend the utility of lifting patents barriers to get Covid vaccines in the public domain and therefore improve access to vaccination, in particular in developing countries.

August

**SNB can reduce its carbon footprint**

Prof. Rüdiger Fahlenbrach (Swiss Finance Institut) and Prof. Eric Jondeau (HEC Lausanne) analyse in E4S white paper the carbon footprint and emissions of the Swiss National Bank’s (SNB) U.S. equity portfolio and compare its carbon performance to those of the world’s.

September

**A new Master in Sustainable Management and Technology (SMT)**

The new joint Master program in Sustainable Management and Technology, offered jointly between EPFL, HEC-UNIL and IMD, was launched and welcomed its first cohort, composed of a combination of engineering and economic backgrounds. The Master program, initiated by the Enterprise for Society Center (E4S), aims to prepare the next generation to spearhead the transition towards a more resilient, sustainable and inclusive economy and which is hosted by the multi-institutional initiative.

October

**SFI@EPFL and Unigestion create Women in Finance Scholarship**

The Swiss Finance Institute at EPFL and Unigestion have extended their relationship by creating the Women in Finance scholarship to support talented women in their studies. A scholarship will be awarded every year to a female Masters student in the field of financial engineering who demonstrated outstanding academic performance during her bachelor studies.

November

**E4S Annual summit bringing together researchers, educators, policymakers and practitioners**

The Enterprise for Society Center (E4S) held its summit in Lausanne to discuss key aspects of the transition to a more sustainable, resilient, and inclusive economy. The 2021 Summit was the first opportunity to gather the E4S stakeholders in person, bringing together over 40 business leaders and 200 participants from academia, business, NGOs and Government.

November

**Finance and Technology Conference 2021**

The 2021 Finance and Technology Conference on “Crypto-assets and asset tokenization” was jointly organized by the Swiss Finance Institute (SFI@EPFL) and the Center for Digital Trust (C4DT). The event featured latest research and insights on crypto-assets and asset tokenization, and their impact on banking and financial market infrastructures.
As professionals continually need to stay abreast of latest developments, the newly established Executive Education unit at CDM (April 2020) responds to an important educational demand in lifelong learning. The EXED unit brings together and leverages key educational competences of the CDM and the wider EPFL professorial network in order to offer a variety of programs at the intersection of management and technology. In particular, the range of programs offered by CDM-EXED allows professionals to upgrade their knowledge and skills in courses that are tailored to their very needs — from short courses designed as “learning sprints” to a full-fledged EMBA program with the tagline “Harnessing Innovation”.

**Focus areas**

- Innovation
- Digital transformation
- Management of technology
- Sustainability
- End to end value chain
- Management of life science
- Technology domains (IoT, ML, blockchain etc.)

Executive Education is strongly supported and aligned with EPFL's Associate Vice Presidency for Postgraduate Education (led by Prof. Luisa Lambertini), which is committed to meet current and future educational challenges as well as answer to the needs of the postgraduate community.
The Enterprise for Society Center, a joint venture of IMD, EPFL and UNIL-HEC created in 2020 and hosted at CDM, is on a mission to spearhead the transition to a sustainable, inclusive and resilient economy through education, innovation and research. In its first year of activity, the Center laid the foundations of this ambitious yet crucial mission. Over 15 partnerships have been established with leading businesses and foundations, allowing to deepen and widen the E4S footprint. The appointment of a new co-managing director, Prof. Jean-Philippe Bonardi (UNIL-HEC), joining founding director, emeritus Prof. Jean-Pierre Danthine, consolidates this venture in order to drive the much-needed transformation of the economy.

**Education pillar**
2021 marked an important milestone in E4S’ history as the Center welcomed the first cohort of its Master in Sustainable Management and Technology, composed of 32 students representing 17 nationalities.

**Innovation pillar**
The Center launched its first innovation program, dedicated to supporting impact-driven fintech entrepreneurs on their path to growth. The “Fintech for Society” program selected 14 fintech startups for a 2-day workshop, which will most likely be repeated in the future with other industries such as energy, health and mobility.

**Research pillar**
The Center’s academic studies, supported now by over 80 professors from all three institutions, received wide attention amongst media and policy-makers, and focused on topics such as carbon taxation, negative emission technologies, the green domestic product, the impact of carbon divesting strategies in investment portfolios.
Faculty
News

Arrivals

✓

July 2021
Prof. Andreas Fuster has joined the Swiss Finance Institute @EPFL as Associate Professor

Appointments

✓

February 2021
Prof. Pierre Collin-Dufresne was appointed Director of the Doctoral Program in Finance (EDFI)

February 2021
Prof. Marc Gruber’s appointment as Vice President for Innovation ended after more than four years holding this role

January 2021
Prof. Luisa Lambertini was appointed Associate Vice President for Postgraduate Education, under the new Vice Presidency for Academic Affairs

Invited Professors

✓

July—August 2021
Prof. Alberto Mokak Teguia, University of British Columbia, Canada, invited by Prof. Semyon Malamud

August—December 2021
Prof. Andrei Levchenko, University of Michigan, USA, invited by the E4S Center

September—December 2021
Prof. Hanno Lustig, Stanford University, USA, invited by Prof. Pierre Collin-Dufresne
Faculty members and expertise

Management of Technology and Entrepreneurship Institute

**Focal Areas**
- Business analytics
- Economic analysis
- Entrepreneurial strategies
- Management of innovation
- Operations & supply chain management
- Optimization
- Technology commercialization
- Technology & IP policy

**Dominique Foray**
Full Professor & Director | Chair of Economics and Management of Innovation (CEMI)

*Key words:* Economics of innovation | Science and technology indicators | Technology policy | Knowledge-based economy | Innovation & development | Smart specialization

**Marc Gruber**
Full Professor | Chair of Entrepreneurship and Technology Commercialization (ENTC)

*Key words:* Entrepreneurship | Technology commercialization | Innovation | Strategic management | Public policy

**Negar Kiyavash**
Associate Professor | Chair of Business Analytics (BAN)

*Key words:* Machine learning | Statistical decision making | Causal interference

**Daniel Kuhn**
Full Professor | Chair of Risk Analytics and Optimization (RAO)

*Key words:* Decision-making under uncertainty | Stochastic programming & robust optimization

**Gaétan de Rassenfosse**
Assistant Professor (Tenure Track) | Chair of Innovation and IP Policy (IIPP)

*Key words:* Applied econometrics | Economics of innovation | Intellectual property policy | Science of science

**Ralf Seifert**
Full Professor | Chair of Technology and Operations Management (TOM)

*Key words:* Supply chain strategy and modeling | Digital supply chain initiatives | Inventory optimization

**Thomas Weber**
Full Professor | Chair of Operations, Economics and Strategy (OES)

*Key words:* Economics of risk and uncertainty | Engineering economy and investment criteria | Nonlinear systems and optimal control | Robust decision making | Stochastic production systems

**Kenneth Younge**
Associate Professor | Chair of Technology and Innovation Strategy (TIS)

*Key words:* Data science | Data-driven strategy | Economics of AI

**Emeritus Professors**

**Jean-Pierre Danthine**
Co-director, E4S Center

*Key words:* Macroeconomics | Financial economics | Monetary policy

**Matthias Finger**
Professor Emeritus

*Key words:* De- and regulation of networks industries | Governance of large socio-technical systems | Infrastructure policy, business-government relations
Swiss Finance Institute

Focal Areas
• Asset pricing
• Behavioral economics
• Corporate finance
• Financial economics
• Financial engineering
• International finance
• Macroeconomics
• Risk management

Pierre Collin-Dufresne
Full Professor | Professor of finance
Key words: Credit & liquidity risk | Optimal asset allocation | Pricing & hedging

Rüdiger Fahlenbrach
Full Professor | Professor of finance
Key words: Corporate finance & governance | Venture capital | Causes and consequences of financial crises | Banking regulation

Damir Filipovic
Full Professor | Swissquote Chair in Quantitative Finance
Key words: Quantitative finance | Machine learning in finance | Quantitative risk management

Andreas Fuster
Associate Professor | Professor of finance
Key words: Household & real estate finance | Financial intermediation | FinTech | Macroeconomics

Julien Hugonnier
Full Professor | Professor of finance
Key words: Asset pricing theory | Dynamic corporate finance | Decision making under uncertainty

Luisa Lambertini
Full Professor & Associate Vice President for Postgraduate Education | Chair of International Finance (CFI)
Key words: Macroeconomics | International finance | Monetary & fiscal policy

Semyon Malamud
Associate Professor | Professor of finance
Key words: Portfolio selection | Non-linear filtering | Liquidity and asset prices

Erwan Morellec
Full Professor | Professor of finance
Key words: Corporate Finance | Corporate governance | Banking and financial regulation | Economics of innovation

Philippe Wieser
Professor Emeritus
Key words: Supply chain strategies | Digital supply chain | Supply chain innovation | Flows and resources optimization | Management of hospital systems | Project management


PhD theses


White papers by the E4S Center


New grants & awards

Grants obtained in 2021

<table>
<thead>
<tr>
<th>Principal investigator</th>
<th>Funding agency or company</th>
<th>Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negar Kiyavash</td>
<td>NCCR Automation</td>
<td>Fundamental limits &amp; algorithms for imitation learning in autonomous driving</td>
</tr>
<tr>
<td>Negar Kiyavash</td>
<td>NCCR Automation</td>
<td>Trustworthy automation with causal interpretability</td>
</tr>
<tr>
<td>Negar Kiyavash</td>
<td>Swiss National Science Foundation</td>
<td>Casual reasoning beyond Markov</td>
</tr>
<tr>
<td>EPFL contract, collab. between CDM (D. Foray), LEARN &amp; CAPE</td>
<td>LEGO Foundation</td>
<td>Playfull learning of management</td>
</tr>
<tr>
<td>Jean-Pierre Danthine</td>
<td>Fondation Leenaards</td>
<td>Institutional support for research</td>
</tr>
<tr>
<td>Jean-Pierre Danthine</td>
<td>Banque cantonale vaudoise</td>
<td>Contribution to the Master program SMT</td>
</tr>
<tr>
<td>Jean-Pierre Danthine</td>
<td>Richemont</td>
<td>Contribution to the Master program SMT</td>
</tr>
<tr>
<td>Damir Filipovic</td>
<td>Unigestion</td>
<td>Support for the organization of the &quot;Finance research seminar in finance&quot;</td>
</tr>
<tr>
<td>Gaétan de Rassenfosse</td>
<td>Sloan Fondation, Cornell University</td>
<td>Project IPRoduct</td>
</tr>
</tbody>
</table>

Awards

March 2021 | L. Zhou Awarded 1st Prize in the 4iP Council Research Competition
Ling Zhou, a PhD student at the Chair of Innovation and IP Policy (IIPP), has been awarded 1st Prize by the 2020 4iP Council for the paper “Patents and Supra-Competitive Prices: Evidence from Consumer Products”, which she coauthored with Prof. de Rassenfosse.

August 2021 | M. Couvert winner of the Engelbert Dockner Memorial prize
Dr Maxime Couvert, former PhD Student with Prof. Rüdiger Fahlenbrach, won the prestigious Engelbert Dockner Memorial prize for the Best Paper by Young Researchers at the European Finance Association.

September 2021 | E. Morellec winner of the ACA Award for Financial Management
Prof. Erwan Morellec receives the ACA Award for Financial Management 2021 from the Institute of Accounting, Controlling and Auditing of the University of St. Gallen.

October 2021 | Swiss Life Award and BCV Award for Academic Excellence
Johannes Schwab and Darius Nik Nejad, both graduating Master students from the Financial Engineering program received an Award for Academic Excellence.

October 2021 | R. Lacroix wins the 2nd Kilian Schindler Award
Dr Rachel Lacroix who graduated with her PhD thesis entitled “Industry 4.0 Technologies and Customer-Centricity for Digital Supply Chains” won the award created to honor the life and memory of Kilian Schindler, a doctoral student in Management of Technology.

November 2021 | M. Couvert winner of the Thesis Distinction for EDFI
Dr Maxime Couvert, former PhD Student with Prof. Rüdiger Fahlenbrach, was awarded the 2021 Doctoral Program Thesis Distinction for the Doctoral Program in Finance (EDFI).
Rankings & bibliometrics

**Ranking**

The College of Management of Technology appears in very good position in the Forschungsmonitoring, a Faculty research impact ranking in Business Administration and Economics domains established by the Swiss Economic Institute (KOF) at ETH Zurich. In the last five years, 13 professors of the College are listed amongst top 10% researchers in the German speaking countries Germany, Austria, and Switzerland for their publications in leading academic journals, reflecting the excellence and strong academic impact of the research carried out at the College.

Based on publications only in the top journals of the Business Administration field, the EPFL ranks 4th within the best universities in the German speaking countries Germany, Austria, and Switzerland.

**Bibliometrics**

**Publications**

Total CDM publications 2017–2021: 262 out of which 58 are in FT-50 journals

**Category Normalized Citation Impact: EPFL’s standing in CDM’s research domains**

World-class research impact (Category Normalized Citation Impact)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Institution</th>
<th>2017–2021 Category Normalized Citation Impact</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>MIT</td>
<td>2.43</td>
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<tr>
<td>2</td>
<td>Stanford</td>
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<tr>
<td>3</td>
<td>LBS</td>
<td>2.24</td>
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<tr>
<td>4</td>
<td>Berkley</td>
<td>2.17</td>
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<td>5</td>
<td>UCLA</td>
<td>1.84</td>
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<tr>
<td>6</td>
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<td>1.82</td>
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<tr>
<td>7</td>
<td>ETH Zurich</td>
<td>1.77</td>
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<tr>
<td>8</td>
<td>Oxford</td>
<td>1.68</td>
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<tr>
<td>9</td>
<td>Caltech</td>
<td>1.60</td>
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<td>10</td>
<td>Imperial</td>
<td>1.57</td>
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<td>11</td>
<td>Cambridge</td>
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</table>

EPFL’s score of 1.77 indicates that EPFL’s papers are cited 77% more than the typical papers (considering the document type, year of publication and subject area).

World-class research impact (% documents in Top 10%)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Institution</th>
<th>% of Top 10%</th>
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<tbody>
<tr>
<td>1</td>
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<tr>
<td>3</td>
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<td>5</td>
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<td>ETH Zurich</td>
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<td>13</td>
<td>Caltech</td>
<td>16</td>
</tr>
</tbody>
</table>

EPFL’s score of 24 indicates that 24% of EPFL’s papers are in the top 10% most cited papers (considering the document type, year of publication and subject area).
21.09 **Krzysztof Postek**, Delft Institute of Applied Mathematics
An adaptive robust optimization model for parallel machine scheduling.

21.09 **Nathan Kallus**, Cornell University
Statistical learning and contextual stochastic optimization: Separate or integrate?

19.11 **Adrian Esteban Pérez**, University of Malaga
Distributionally robust optimal power flow with contextual information.

22.11 **Carolin Bock**, TU Darmstadt
Hope this e-mail finds you well — An empirical investigation on the ambiguous influence of empathy on entrepreneurial success.

EPFL Virtual Innovation Seminar
EVIS 2021

14.01 **Alex Xi HE**, University of Maryland
The color of money: Federal versus industry funding of university research.

28.01 **Gauri SUBRAMNI**, UC Berkeley
Try, try, try again? Persistence and the gender innovation gap.

25.03 **Sarah Balachandran**, London Business School
Innovation via inter-firm collaboration: The role of partner organizational design.

08.04 **Yun Hou & Xi Xiong**, National University of Singapore
Strategic patenting: Evidence from the U.S. court of appeals for the federal circuit.

22.04 **Lia Sheer**, Duke University, Fuqua School of Business
Sitting on the fence: Integrating the two worlds of scientific discovery and invention within the firm.

60.05 **Aldona Kapacinkaite**, London Business School
Inter-firm relationships and trade secrets: Evidence from the defend trade secrets act.

20.05 **Danny Kim**, Wharton School, University of Pennsylvania
Startup acquisitions as a hiring strategy: Worker choice and turnover.

03.06 **Felix Pöge**, Max Planck Institute for Innovation and Competition
Competition and innovation: Dissolving IG farben.

17.06 **William Matchman**, London School of Economics and Political Science
The patent Bazaar: Incentives, bargaining and screening in the patent system.

Reading Group for Innovation Studies
REGIS seminars 2021

25.02 **Britta Glennon**, Wharton School, University of Pennsylvania
Does offshoring production harm innovation? Evidence from Taiwan.

11.03 **Tatiana Rosa**, CEMFI
Cooperation, competition and patents: Understanding innovation in the telecommunication sector.

25.03 **Matthias van den Heuvel**, EPFL
Certification or cash prize: The heterogeneous effect of venture competitions.

01.10 **Matthias van den Heuvel**, EPFL
Policy uncertainty and innovation: Evidence from initial public offering interventions in China.

15.10 **Julia Mazzei**, Scuola Superiore Sant’Anna
How antitrust enforcement can spur innovation: Bell labs and the 1956 consent decree.
29.10 Benjamin Buettner, Eindhoven University of Technology
Inventing the endless frontier: The effects of the World War II research effort on post-war innovation.

12.11 Antoine Collin, KU Leuven
Start-up subsidies: Does the policy instrument matter.

26.11 Bastian Krieger, University of Luxembourg and Zentrum für Europäische Wirtschaftsforschung
Public procurement of innovation: Evidence from a German legislative reform.

10.12 Cecilia Maronero, Université de Bordeaux
Roadblock to innovation: The role of patent litigation in corporate R&D.

12.02 Xavier Giroud, Columbia University
Knowledge sharing within firms across space.

19.02 Dmitry Kramkov, Carnegie Mellon University
An optimal transport problem with backward martingale constraints motivated by insider trading.

05.03 Maryam Farboodi, MIT
Rational sentiments and economic cycles.

12.03 Mariano Croce, Bocconi University
Uncertainty-induced reallocations and growth.

26.03 Ansgar Walther, Imperial College London, Centre for Economic Policy Research (CEPR)
Prudential policy with distorted beliefs.

23.04 Lorenzo Garlappi, University of British Columbia
Group-managed real options.

30.04 Gregor Matvos, Kellogg School of Management
Banking without deposits: Evidence from shadow bank call reports.

07.05 Mark Aguilar, Princeton University
Sovereign swaps and sovereign default: Fundamental versus confidence risk.

21.05 Alex Edmans, London Business School, CEPR, and ECGI
CEO compensation: Evidence from the field.

25.05 Philip Bond, University of Washington
Measuring the amount and value of the representative agent's private information.

04.06 Andrew W. Lo, MIT
Can financial engineering cure cancer?

11.06 Hongda Zhong, London School of Economics and Political Science
The market structure of intermediation.

18.06 Cecilia Parlatore, NYU
Designing stress scenarios.
25.06 Rebecca De Simone, London Business School
   The effect of ETF trading on benchmark securities: Evidence from adoption of ETF creation in Israel.

17.09 Xavier Vives, IESE Business School, University of Navarra
   Information technology and bank competition.

24.09 Francesco D'Acunto, Boston College
   How costly are cultural biases?

01.10 Yueran Ma, Chicago Booth
   Expectations and bank lending.

12.11 Samuel Antill, Harvard Business School
   Financing the litigation arms race.

26.11 Anastassia Fedyk, UC Berkeley, Haas School of Business
   Artificial intelligence, firm growth and product innovation.

03.12 Lauren Cohen, Harvard Business School
   Hidden alpha.

10.12 Thierry Foucault, HEC Paris
   Equilibrium data mining.

MFE Practitioner seminars 2021

13.10 Robert Abboud & Robin Kempczynski, Quaero Capital Private Equity Infrastructure

27.10 The Quantitative Analysis and Technology team, Credit Suisse

03.11 Gilles Zumbach, EdgeLab

10.11 Natalie Sigrist, Unigestion & Marco Perfetto, Unigestion & MFE alumnus

Enterprise for Society Center
E4S

20.04 Philippe Thalmann, EPFL, Jean-Marc Thévenaz, EasyJet, Blaise Matthey, Fédérations des entreprises romandes, Gisou Van der Goot, EPFL, Adrien Legrain, Zero Emission Group
   The airline ticket tax: Too much or not enough? (roundtable)

25.05 Florence Hugard, E4S, Fabio Alessandri, HEC-UNIL & Eric Jondeau, HEC-UNIL
   Towards sustainable finance — How to make a difference? (E4S Seminar Series)

31.08 Frédéric Dalsace, IMD, Eugenio Simioni, Nestlé, Sophie Michaud Gigon, Green National Councillor VD
   Responsible consumption: Shall we change the model?

24.09 Jean-Pierre Danthine, E4S, Bruno ROCHE, Economics of Mutuality, Benoit Greindl, Resilience Institute, Frédéric Herman, UNIL, Margo Stuart, OriginAll, Leo Daguet, Richemont, Nicolas Cudré-Mauroux, Solvay, Vincent Eckert, SwissRe, David Bach, IMD, Bertrand Piccard, Solar Impulse, Cesla Amarelle, State Councillor, Martin Vetterli, EPFL
   Sustainable Management & Technology – Master Program Inaugural Event

21–22.10 Simon Scheidegger, UNIL, Doris Folini, ETH Zurich, Felix Kübler, UZH (organizers)
   Can economic policy mitigate climate change? (workshop)

11.11 Pascaline Dupas, Stanford University
   E4S Talks on Sustainable Development

12.11 E4S Annual Summit 2021
   Shifting from a broken economic system to a more inclusive and ecologically sustainable world

08.12 Conference FinTech for Society
   Meeting with Fintech startups with a sustainability agenda

09.12 Poster conference jointly organized with Climact
   Key aspects and current issues of climate change
Education
Overview

Master programs

- MTE Master in Management, Technology & Entrepreneurship
- MFE Master in Financial Engineering
- SMT Master in Sustainable Management & Technology (32 students enrolled in the first cohort, starting September 2021)
- Minors MTE and MFE

Doctoral programs

- EDMT Doctoral program in Management of Technology
- EDFI Doctoral program in Finance

Executive Master programs

- EPFL EMBA
- Executive Master in Global Supply Chain Management

Certificate of Advanced Studies

- Management of Biotech, MedTech and Pharma Ventures
- Healthcare Supply Chain Management (HSCA)
- Global Supply Chain Management

Short Executive programs

- Data Science for Managers
- Transform Tech – joint program IMD and EPFL

Other

- Bachelor SHS-MGT courses
- MOOCs
Master programs

MTE • Master in Management, Technology and Entrepreneurship

Academic year 2020–2021

- 205 Applications
- 77 Admissions
- 46 Enrollments
- 29 with an EPFL degree

Gender:
- 20 (43%) Female
- 26 (57%) Male

Nationality:
- 8 (17%) Switzerland
- 25 (54%) Europe
- 10 (22%) Asia
- 1 (2%) Africa
- 2 (4%) Americas

Educational background:
- 4 (9%) Physics
- 1 (2%) Chemistry & chemical engineering
- 1 (2%) Architecture
- 7 (15%) Civil engineering
- 13 (28%) Mechanical engineering
- 6 (13%) Microengineering
- 1 (2%) Materials science
- 1 (2%) Computer science
- 4 (9%) Communication systems
- 5 (11%) Life sciences & technology
- 3 (6%) Other

MFE • Master in Financial Engineering

Academic year 2020–2021

- 198 Applications
- 70 Admissions
- 27 Enrollments
- 8 with an EPFL degree

Gender:
- 6 (22%) Female
- 21 (78%) Male

Nationality:
- 7 (28%) Switzerland
- 11 (41%) Europe
- 7 (26%) Asia
- 2 (7%) Africa

Educational background:
- 8 (30%) Mathematics
- 2 (7%) Physics
- 2 (7%) Civil engineering
- 3 (11%) Mechanical engineering
- 1 (4%) Computer science
- 2 (7%) Communication systems
- 6 (22%) Economics & finance
- 3 (11%) Other
Minors

MTE • Minor

Academic year 2020—2021

253 students enrolled

- 2 MA Mathematics
- 7 PH Physics
- 10 CGC Chemistry & chemical engineering
- 3 AR Architecture
- 18 GC Civil engineering
- 6 SIE Environmental science & engineering
- 89 GM Mechanical engineering
- 6 EL Electrical engineering
- 40 MT Microengineering
- 14 MX Materials science
- 7 IN Computer science
- 35 SC Communication systems
- 18 SV Life sciences & technology

MTE • Exchange students: 6

MFE • Minor

Academic year 2020—2021

42 students enrolled

- 12 MA Mathematics
- 5 PH Physics
- 1 CGC Chemistry & chemical engineering
- 3 GM Mechanical engineering
- 4 MT Microengineering
- 17 SC Communication systems
- 1 SV Life sciences & technology
- 1 MTE Management of technology

MFE • Exchange students: 3
Bachelor SHS-MGT courses

Academic year 2020–2021

BA3 course
Economic thinking
Fall semester
- 80 students

BA3 course
Introduction to entrepreneurship
Fall semester
- 78 students

BA4 course
Sustainable entrepreneurship
Spring semester
- 36 students

BA4 course
Technologie, économie et politique
Spring semester
- 60 students

BA5 course
Game theory and strategic decisions
Fall semester
- 77 students

BA5 course
Foundations in financial economics
Fall semester
- 80 students

BA6 course
Economics & applied econometrics of innovation
Spring semester
- 57 students

BA6 course
Data driven business analytics
Spring semester
- 68 students

Legend:
- 36 MA Mathematics
- 24 PH Physics
- 6 CGC Chemistry & chemical engineering
- 3 AR Architecture
- 13 GC Civil engineering
- 8 SIE Environmental science & engineering
- 98 GM Mechanical engineering
- 24 EL Electrical engineering
- 92 MT Microengineering
- 27 MX Materials science
- 94 IN Computer science
- 75 SC Communication systems
- 36 SV Life sciences & technology
Doctoral programs

EDMT • Doctoral program in Management of Technology

- 144 Applications
- 7 Enrollments

Overall graduates since 2005: 101

- Gender: 65 (61%) Female, 42 (39%) Male
- Nationality: 19 (18%) Switzerland, 49 (46%) Europe, 4 (4%) Asia, 21 (19%) Africa, 12 (11%) Americas, 2 (2%) n/a
- Career: 51 (47%) Academic, 46 (43%) Industry, 6 (6%) Public organization, 4 (4%) n/a

EDFI • Doctoral program in Finance

- 201 Applications
- 4 Enrollments

Overall graduates since 2011: 29

- Gender: 5 (16%) Female, 27 (84%) Male
- Nationality: 10 (31%) Switzerland, 18 (57%) Europe, 3 (9%) Asia, 1 (3%) Americas
- Career: 16 (50%) Academic, 15 (47%) Industry, 1 (3%) Public organization

6 theses awarded in 2021

3 theses awarded in 2021
Executive Education

Executive Master programs

EPFL EMBA

**Director:** Dr Tilo Peters / Eugène de Groot (a.i. since April 2021)
**Academic Director:** Prof. Marc Gruber

Program given since 1998, with an average of 30+ participants per class:
- 85 ECTS credits
- 16 months (40 weekdays) duration
- 644 graduated students since inception

2021 cohort

- 58 Applications
- 44 Admissions
- 37 Enrollments

Global Supply Chain Management

**Director:** Elaine Moran
**Academic Director:** Prof. Marc Gruber (a.i.)

Program given since 1993, with an average of 20 participants per class:
- 90 ECTS credits
- 15 months (35 weekdays) duration
- 894 graduated students since inception

2021 cohort

- 50 Applications
- 19 Admissions
- 17 Enrollments

Certificate of Advanced Studies (CAS)

<table>
<thead>
<tr>
<th>Program name</th>
<th>Credits</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management of Biotech, MedTech and Pharma Ventures</td>
<td>10 ECTS</td>
<td>42</td>
</tr>
<tr>
<td>Various Global Supply Chain Management programs</td>
<td>14 ECTS</td>
<td>18</td>
</tr>
</tbody>
</table>
Short Executive programs

Data Science for Managers
- 5-day technical Boot Camp, two times a year
- 2-day executive Fast Track, once a year
- 13 sessions planned in total, but cancelled due to Covid-19

Transform Tech
Joint Executive Education program
IMD and EPFL
- 5-day course, twice a year

New programs in preparation

CAS
- Resilient Value Chain Management
- Technologies for Agility, Resilience and Sustainability
- Leading Sustainable Integration
- Circular Value Networks

Short executive courses
- FinTech: Leveraging new technologies in your organization
- Managing in a Digital Era: How to enact Digital Technologies
- Innovation Policies for Grand & Global Challenges
### MOOCs

<table>
<thead>
<tr>
<th>MOOC (massive open online course) name</th>
<th>Professor in charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart Specialization (English &amp; French versions)</td>
<td>Dominique Foray</td>
</tr>
<tr>
<td>Find the right markets for your innovation – A tool for entrepreneurs and innovators for choosing which markets to play in</td>
<td>Marc Gruber</td>
</tr>
<tr>
<td>Launching New Ventures</td>
<td>Marc Gruber</td>
</tr>
<tr>
<td>Interest Rate Models</td>
<td>Damir Filipovic</td>
</tr>
<tr>
<td>Innovative Governance of Large Urban Systems</td>
<td>Matthias Finger</td>
</tr>
<tr>
<td>Smart Cities, Management of Smart Urban Infrastructures</td>
<td>Matthias Finger</td>
</tr>
</tbody>
</table>
Media outreach

03.02 Rüdiger Fahlenbrach
Finanz Und Wirtschaft ▶ Die Tokenisierung hat erst begonnen

09.02 Dominique Foray
RTS La 1ère, Forum 18.00 ▶ Crise = Innovation ?

29.03 Jean-Pierre Danthine
RTS La 1ère ▶ Les plans de relance (5/5) : les opportunités des plans de relance par trois économistes

09.04 Jean-Pierre Danthine
Le Matin Dimanche ▶ Les zadistes de la colline du Mormont n’avaient pas tout tort !

18.05 Jean-Pierre Danthine
Le Temps ▶ Le président de l’EPFL peut-il tout dire ?

18.05 Jean-Pierre Danthine
Le Matin Dimanche ▶ Une taxe éminemment libérale

11.05 Gaétan de Rassenfosse
RTS La 1ère, Tout un monde ▶ Les brevets des vaccins anti-Covid

20.05 Gaétan de Rassenfosse
RTS ▶ Les Fribourgeois voteront le 13 juin prochain sur une nouvelle injection d’argent public dans le pôle technologique

29.06 Dominique Foray

07.07 Jean-Pierre Danthine
Le Temps ▶ Les outils pour décarboner

13.08 Jean-Pierre Danthine
NZZ ▶ Unser Weg in die Kreislaufwirtschaft

16.08 Rüdiger Fahlenbrach
Le Temps ▶ La BNS peut réduire son emprunte carbone

27.08 Jean-Pierre Danthine
Le Temps ▶ Covid: L’économie suisse moins affectée qu’attendu

17.09 Jean-Pierre Danthine
Le Temps ▶ Le manager sera humain ou ne le sera pas

29.09 Rüdiger Fahlenbrach
Finanz Und Wirtschaft ▶ Private Equity hat seine Tücken

30.09 Jean-Pierre Danthine
Le Temps ▶ Il ne suffit plus de faire du profit pour justifier son existence

16.11 Gaétan de Rassenfosse
RTS ▶ Conflit autour du brevet sur le vaccin anti-Covid de Moderna
**Facts**

**Personnel**

<table>
<thead>
<tr>
<th>Category</th>
<th>Budgetary funds</th>
<th>Third party funds</th>
<th>Total</th>
<th>% women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total staff</td>
<td>81.23</td>
<td>25.77</td>
<td>107.00</td>
<td>38%</td>
</tr>
<tr>
<td>Professors</td>
<td>14.90</td>
<td>—</td>
<td>14.90</td>
<td>13%</td>
</tr>
<tr>
<td>Full professors</td>
<td>10.00</td>
<td>—</td>
<td>10.00</td>
<td>10%</td>
</tr>
<tr>
<td>Associate professors</td>
<td>3.90</td>
<td>—</td>
<td>3.90</td>
<td>26%</td>
</tr>
<tr>
<td>Assistant professors</td>
<td>1.00</td>
<td>—</td>
<td>1.00</td>
<td>0%</td>
</tr>
<tr>
<td>Scientific staff</td>
<td>51.93</td>
<td>19.07</td>
<td>71.00</td>
<td>30%</td>
</tr>
<tr>
<td>Senior scientists / postdocs</td>
<td>10.80</td>
<td>6.20</td>
<td>17.00</td>
<td>29%</td>
</tr>
<tr>
<td>PhD students</td>
<td>41.13</td>
<td>12.87</td>
<td>54.00</td>
<td>30%</td>
</tr>
<tr>
<td>Administrative &amp; technical staff</td>
<td>14.40</td>
<td>6.70</td>
<td>21.10</td>
<td>83%</td>
</tr>
<tr>
<td>Administrative staff</td>
<td>13.40</td>
<td>6.70</td>
<td>20.10</td>
<td>88%</td>
</tr>
<tr>
<td>Technical staff</td>
<td>1.00</td>
<td>—</td>
<td>1.00</td>
<td>0%</td>
</tr>
</tbody>
</table>

*9.3% Full professors
3.6% Associate professors
0.9% Assistant professors
0% Adjunct professors
15.9% Senior scientists / postdocs
50.5% PhD students
18.8% Administrative staff
0.9% Technical staff
0% Apprentices*
### Expenditures

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Amount</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal fund (dotation)</td>
<td>11,126,893 CHF</td>
<td>80.7%</td>
</tr>
<tr>
<td>Other pluriannual federal funds</td>
<td>148,752 CHF</td>
<td>1.1%</td>
</tr>
<tr>
<td>Education programs and seminars</td>
<td>1,058,444 CHF</td>
<td>7.7%</td>
</tr>
<tr>
<td>SNSF</td>
<td>583,315 CHF</td>
<td>4.2%</td>
</tr>
<tr>
<td>Sponsored Chairs</td>
<td>200,201 CHF</td>
<td>1.5%</td>
</tr>
<tr>
<td>Industry grants</td>
<td>396,252 CHF</td>
<td>2.9%</td>
</tr>
<tr>
<td>Other Confederation grants</td>
<td>61,117 CHF</td>
<td>0.4%</td>
</tr>
<tr>
<td>EPFL Innovation grants</td>
<td>31,140 CHF</td>
<td>0.2%</td>
</tr>
<tr>
<td>Donation</td>
<td>174,671 CHF</td>
<td>1.3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13,780,784 CHF</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Expenditures MCHF 13.8

- 80.7% Federal fund (dotation)
- 1.1% Other pluriannual federal funds
- 7.7% Education programs and seminars
- 4.2% SNSF
- 1.5% Sponsored Chairs
- 2.9% Industry and other grants
- 0.4% Other Confederation grants
- 0.2% EPFL Innovation grants
- 1.3% Donation
Organizational chart

CDM
College of Management of Technology
Dominique Foray

Direction Committee
- College director
- 2 institute directors
- 2 section directors

MTEI
Management of Technology & Entrepreneurship Institute
Ralf Seifert

EDMT
Doctoral program in Management, Technology & Entrepreneurship
Thomas Weber

MTE Section
Daniel Kuhn

EXED
Executive Education programs
Eugène De Groot

E4S
Enterprise for Society
Jean-Pierre Danthine

MTE
Master program in Management, Technology & Entrepreneurship
Daniel Kuhn

SMT
Master program in Sustainable Management and Technology
Negar Kiyavash
Contact

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Project: CDM

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