University of Zurich[UZH]

Department of Banking and Finance

Launch of the UZH Center of Competence for Sustainable Finance (CCSF)

Introduction: Prof. Dr. Marc Chesney, Dept. of Banking and Finance
Moderation: Prof. Dr. Stefano Battiston, Dept. of Banking and Finance

Speakers:
Prof. Dr. Kern Alexander, Faculty of Law
Dr. Annette Krauss, Dept. of Banking and Finance
Prof. Dr. Markus Leippold, Dept. of Banking and Finance
Prof. Dr. Michael Schaepman, Dept. of Geography
Prof. Dr. Alexander Wagner, Dept. of Banking and Finance

University of Zurich[UZH]

Center of Competence for Sustainable Finance

16 January 2020

CCSF ambition: to make UZH a worldwide leader in the field of Sustainable Finance (SF)

Research

Top-level academic knowledge through cutting-edge research across and within disciplines in all areas of SF

Teaching

Develop a curriculum in SF (e.g. minor) for our students.
Contribute to shaping the vision of the next generation of finance scholars and professionals in line with sustainability objectives of Switzerland and the global community

Knowledge Exchange

Executive programs and (digital) tools to transfer insights from research to finance professionals, investors, advisors and other practitioners to enable real world impact

CCSF builds upon three existing research centers at DBF

Center for Responsibility in Finance
(Prof. Carmen Tanner)
Investigates responsibility in finance at the intersection of psychology, economics, finance, and ethics; develops digital tools to promote personal integrity as well as measures and strategies to promote responsible corporate culture.

Center for Sustainable Finance and Private Wealth
(Prof. Marc Chesney; Dr. Falko Paetzold; Dr. Annette Krauss)
Investigates the different approaches in SF and investing to meet sustainable development targets, and how private wealth can be leveraged to contribute to meeting these targets.

FINEXUS Center for Financial Networks and Sustainability
(Prof. Stefano Battiston)
Investigates financial risks and opportunities arising from the transition to a low-carbon and sustainable economy from the unique perspective of financial networks, big data science and complexity; it addresses fundamental questions about systemic risk, financial stability and long term sustainability.

Interdisciplinary initiative -- connecting researchers across Faculties

List of CCSF founding members (some tbc)

Faculty of Business, Economics, and Informatics (WWF)

Banking and Finance (DBF)
Prof. Stefano Battiston (Banking)
Prof. Marc Chesney (Quantitative Finance)
Prof. Pablo Koch (Insurance)
Prof. Steven Ongena (Banking)
Dr. Falko Paetzold, Dr. Julian Kölbel, Dr. Annette Krauss
Dr. Julia Meyer
Prof. Carmen Tanner (Econ.Psych., Behavioral Ethics)
Prof. Alexander Wagner (Corporate Finance)

Informatics (IFI)
Prof. Davide Scaramuzza (tbc)
Prof. Lorenz Hilty

Business Administration (IBW)
Prof. Dieter Pfaff (tbc)
Prof. Andreas Scherer
Prof. Claudio Tessone (tbc)

Economics (IVW)
Prof. Lorenzo Casaburi (tbc)
Prof. Armin Schmutzler (tbc)

Faculty of Law (RWF)

Prof. Kern Alexander
Prof. Marco Dell'Erba
Prof. Christine Kaufmann (tbc)
Prof. Christian Schwarzenegger
Prof. Rolf Sethe
Prof. em. Rolf Weber

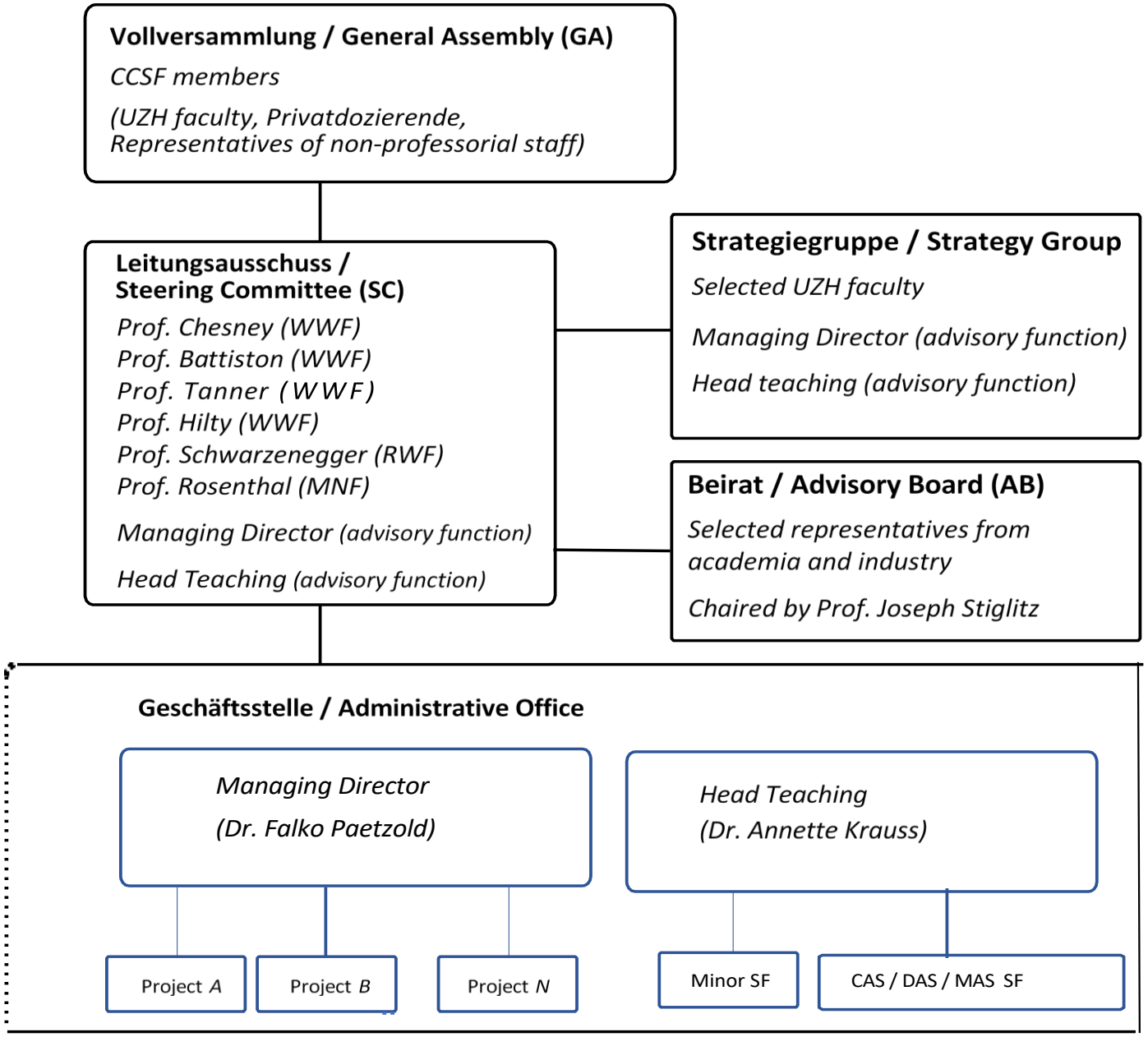
Faculty of Arts and Social Sciences (PF)

Dr. Markus Christen (Ethics, Neuroinformatics)
Prof. Francis Cheneval (Philosophy)
Prof. Katharina Michaelowa (Political Science, tbc)
Prof. Johannes Ullrich (Social Psychology, tbc)
Prof. Mike Schäfer (Science Communication, tbc)

Faculty of Science (MNF)

Prof. Jordi Bascompte (Evolutionary Biology and Environmental Studies)
PD Dr. Christian Huggel (Geography, tbc)
Prof. Michael W.I. Schmidt (Geography, Soil Science and Biogeochemistry, tbc)
Prof. Joachim Rosenthal (Applied Mathematics)
Prof. Ashkan Nikeghbali (Financial Mathematics)

CCSF organisational structure



Preliminary pending GA approval; January 2020

Center of Competence for Sustainable Finance

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Contact us directly for more information

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About

The Center of Competence for Sustainable Finance of the University of Zurich is a key player in the field of sustainable finance. We consolidate critical streams of academic research and teaching in order to effectively inform sustainable development and growth.

The canton of Zurich is known as an international finance hub and as a pioneer for innovations in sustainable finance. The Center of Competence for Sustainable Finance (CCSF) brings these regional specialties together and leverages them through the research and teaching excellence of the University of Zurich. The CCSF is located in the Faculty of Business, Economics, and Informatics of the University enabling outstanding interdisciplinary research. The CCSF is a joint force of more than 30 experts making the center one of the biggest research centers worldwide dedicated to sustainable finance.

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Center of Competence for Sustainable Finance

Excellence and interdisciplinarity in Sustainable Finance.

Conference on Climate change and financial risk

Sustainable Finance Panel
16 January 2020, University of Zurich
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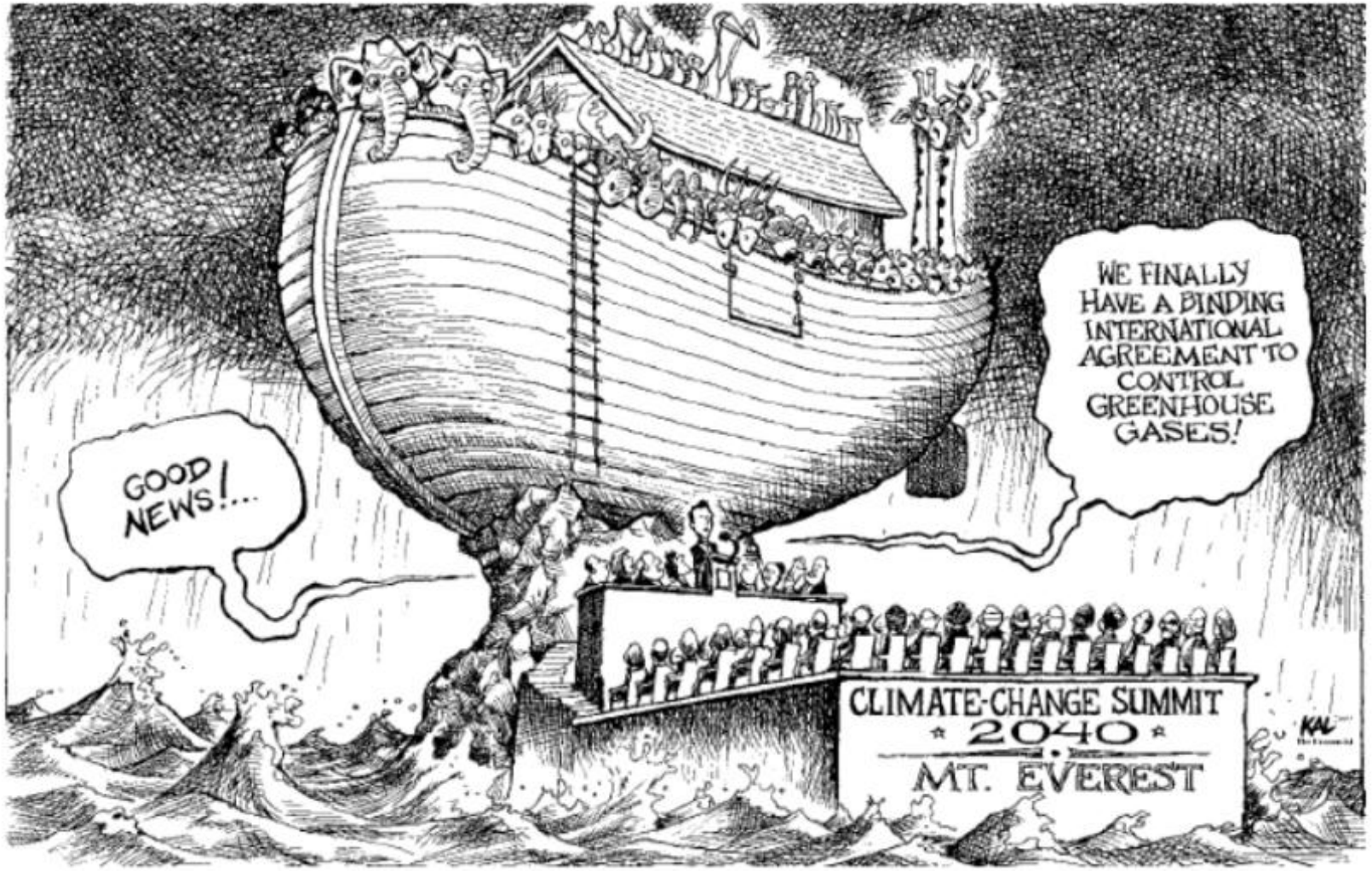
Professor Kern Alexander
Chair for Law & Finance and Professor of Banking Regulation
Faculty of Law, University of Zurich
www.rnsfin.com

University of Zurich[UZH]
Institute of Law

Delayed action with irreversible consequences



© Kevin Kallaugher/*The Economist* (in World Development Report 2014)

Main areas of research

1. Green banking: Reshaping Business or Redesigning Regulation

2. Investment regulation, fiduciary duties and transition to low carbon economy

3. Financial inclusion through digital finance

4. Implementing taxonomies in banking and investment regulation

5. Research Network for Sustainable Finance – www.rnsfin.com

University of Zurich[UZH]

Institute of Law

STABILITY AND SUSTAINABILITY IN BANKING REFORM

Are environmental risks missing in Basel III?

UNIVERSITY OF CAMBRIDGE
INSTITUTE FOR SUSTAINABILITY LEADERSHIP

in association with

UNEP Finance Initiative
Changing finance, financing change

CAMBRIDGE-UNITED NATIONS REPORT: STABILITY AND SUSTAINABILITY IN BANKING REFORM (OCT 2014) *KERN ALEXANDER*

- History demonstrates links between systemic environmental risks and banking instability

- The Basel Capital Accord does not adequately address environmental systemic risks

- Empirical review of regulatory practices outside the Basel Committee that do address systemic environmental risks

- Changing the focus of the Basel Accord through risk governance (pillar 2) and market disclosure (pillar 3) will more effectively mitigate systemic environmental risks in the banking sector

https://www.cisl.cam.ac.uk/resources/sustainable-finance-publications/banking-regulation

University of Zurich[UZH]

Institute of Law

GREEN BANKING: RESHAPING BUSINESS OR REDESIGNING REGULATION

GFSG Green Finance Study Group

G20 2016 CHINA

PARTICIPANTS

Brazil, China, EU, France, India, Indonesia, Italy, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Spain, Switzerland, Turkey, UK, BIS, OECD and the WBG.

OBJECTIVE

1. **REVIEW EXPERIENCE** with green banking

2. **IDENTIFY INSTITUTIONAL & MARKET BARRIERS** to mobilizing banking for green investment & mainstreaming environmental factors

3. **ANALYSE OPTIONS** on how to enhance the ability of banking sector to support global economy in green transformation

INPUTS

Green banking practice: (UNEP Secretariat)

Experiences from Sustainability Banking Network (IFC)

Green Banking Policy (Kern Alexander, 2016)

- Interview & survey of G20 banks
- Questionnaire & interviews with GFSG members & stakeholders

Financial inclusion through digital finance

- Dr Xenia Karametaxas and Professor Alexander will publish a paper in the *Journal of Law and Society* (Sept 2020)
- Paper aims at balancing innovation and risk to achieve financial inclusion and ultimately putting forward policy recommendations to ensure that new technologies create equal opportunities for all while minimizing unintended consequences.
- Special attention given to question of whether and how to involve central banks in this process, given their access to data, information, currencies and payment infrastructures.
- Explores potential global coordination in establishing partnerships between the public and private sectors.
- Dr Karametaxas presented draft paper at the Conference on 'social justice, business and the pursuit of sustainability' at the University of Oslo, on December 2 2019.
- https://www.rnsfin.com/conferences-and-lectures

Publications of Zurich law academics on the law and regulation of sustainable finance

- Dr Karametaxas paper 'The Role of Pension Funds in the Low-carbon Transition' in the "Liber amicorum for Prof. Henry Peter (Geneva, Schulthess, 2019). Paper analyses the duties of those who manage pension funds, as those duties relate to investment decision-making, and how investors can overcome legal/regulatory hurdles in selecting and integrating ESG measures to enhance returns.
- Dr Anne M Schneuwly (2016), 'Corporate Social Responsibility at the Interface of Business, Law and Politics: Transnational CSR Soft Law in the Global Context'
- Professor Marco dell'Erba papers on the corporate and regulatory law aspects of digital finance

https://www.rnsfin.com/papers-and-publications

Research Network for Sustainable Finance - RNSFIN

- Research project to analyse the implementation of EU taxonomies into banking regulation and investment regulation (with Luxembourg/UCD/Edinburgh)
– Funding from the Swiss Association of Social Sciences and Humanities to organize the first annual conference of the Research Network in December 2020, with peer-reviewed papers on the theme: 'Climate Change and Sustainable Financial Markets: A Global Regulatory Imperative' https://www.rnsfin.com/conferences-and-lectures
– Funding from the Dutch Social Science Foundation for creating an International Working Group on Sustainable Finance (with Radboud/Nijmegen)
– See research projects, publications and policy initiatives – https://www.rnsfin.com/papers-and-publications

Annette Krauss: Education Mission of the Competence Center for Sustainable Finance

Goal:

– Consolidate, scale up and pioneer teaching on Sustainable Finance (SF)

– Comprehensive, science-based, state-of-the art university education

University education for Master & Bachelor students

– Enable students to address sustainability in finance practice and research

– Ensure specialization in finance while enabling interdisciplinary perspectives

– Respond to students' demand for topics and skills on SF

Executive education

– Enable finance professionals to close knowledge and competence gaps in SF

– Incite finance professionals to finance practices towards reaching global and Swiss sustainability goals

Current and Future Teaching in Sustainable Finance (SF)

Master B&F

- Consolidated teaching offer (minor specialization SF in Banking and Finance B&F)

Master B&F

- Ensure continuity through multi- and interdisciplinary CCSF teams
- Lay ground for larger specialization

Bachelor B&F

- Aspects of SF taught in mandatory B&F classes
- Selected specialized classes

Bachelor B&F

- Expand list of aspects and approaches taught through interdisciplinary collaboration with CCSF members

Executive Education

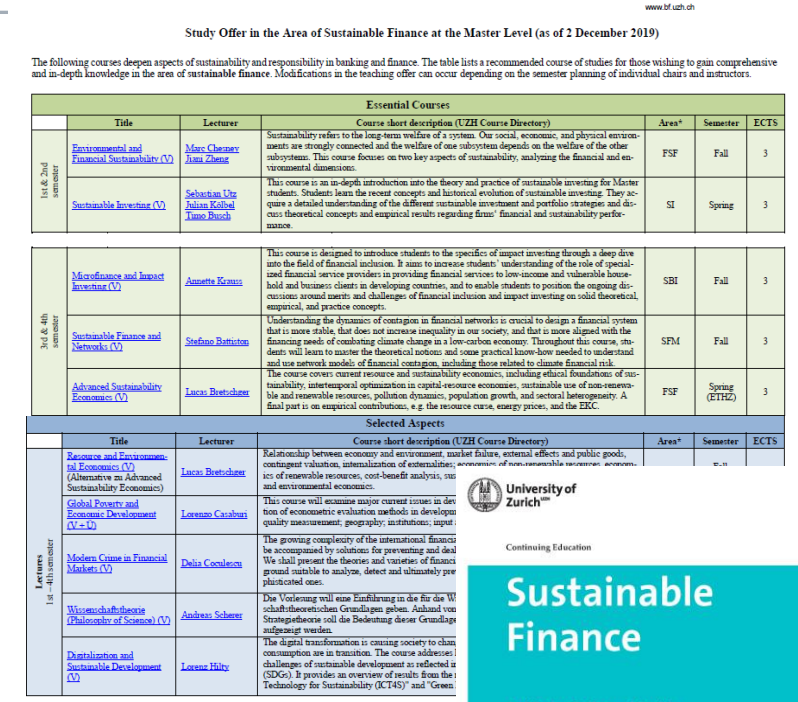
- Certificate of Advanced Studies (CAS) SF interlinked with UZH & MAS Finance
- Strategic not-for-credit offers

Executive Education

- Interlink CAS & MAS Sustainable Finance with UZH through CCSF members
- Strategic not-for-credit offers

Curriculum Development

- **Science-based links between theory and practice**
  - Ensure foundations in scientific models and methods
  - Combine academic and practice teachers
  - Learn from practice teachers while ensuring objectivity
  - Apply experiential and case-based learning techniques
- **Emphasizing research-based teaching**
  - Feed new research results into curricula
  - Interlink curriculum development of consecutive teaching and executive education
- **Foster increasing interdisciplilarity**
  - Use expertise of CCSF members
  - Enable interdisciplinary dialogue



www.bf.uzh.ch

Study Offer in the Area of Sustainable Finance at the Master Level (as of 2 December 2019)

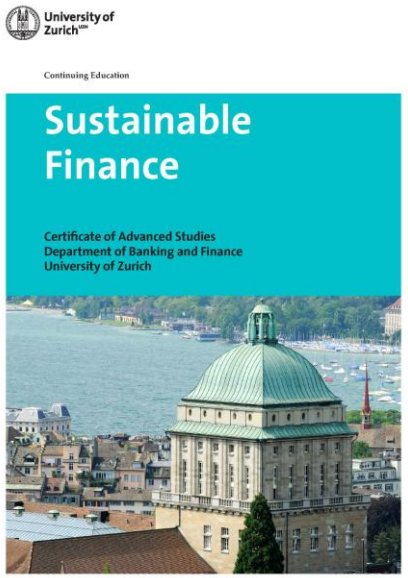
The following courses deepen aspects of sustainability and responsibility in banking and finance. The table lists a recommended course of studies for those wishing to gain comprehensive and in-depth knowledge in the area of **sustainable finance**. Modifications in the teaching offer can occur depending on the semester planning of individual chairs and instructors.

Essential Courses

	Title	Lecturer	Course short description (UZH Course Directory)	Area*	Semester	ECTS
1st & 2nd semester	Environmental and Financial Sustainability (V)	Marc Chesney Jiasi Zheng	Sustainability refers to the long-term welfare of a system. Our social, economic, and physical environments are strongly connected and the welfare of one subsystem depends on the welfare of the other subsystems. This course focuses on two key aspects of sustainability, analyzing the financial and environmental dimensions.	FSF	Fall	3
	Sustainable Investing (V)	Sebastian Utz Julian Kölbel Timo Busch	This course is an in-depth introduction into the theory and practice of sustainable investing for Master students. Students learn the recent concepts and historical evolution of sustainable investing. They acquire a detailed understanding of the different sustainable investment and portfolio strategies and discuss theoretical concepts and empirical results regarding firms' financial and sustainability performance.	SI	Spring	3
3rd & 4th semester	Microfinance and Impact Investing (V)	Annette Krauss	This course is designed to introduce students to the specifics of impact investing through a deep dive into the field of financial inclusion. It aims to increase students' understanding of the role of specialized financial service providers in providing financial services to low-income and vulnerable household and business clients in developing countries, and to enable students to position the ongoing discussions around merits and challenges of financial inclusion and impact investing on solid theoretical, empirical, and practice concepts.	SBI	Fall	3
	Sustainable Finance and Networks (V)	Stefano Battiston	Understanding the dynamics of contagion in financial networks is crucial to design a financial system that is more stable, that does not increase inequality in our society, and that is more aligned with the financing needs of combating climate change in a low-carbon economy. Throughout this course, students will learn to master the theoretical notions and some practical know-how needed to understand and use network models of financial contagion, including those related to climate financial risk.	SFM	Fall	3
	Advanced Sustainability Economics (V)	Lucas Bretschger	The course covers current resource and sustainability economics, including ethical foundations of sustainability, intertemporal optimization in capital-resource economies, sustainable use of non-renewable and renewable resources, pollution dynamics, population growth, and sectoral heterogeneity. A final part is on empirical contributions, e.g. the resource curse, energy prices, and the EKC.	FSF	Spring (ETHZ)	3

Selected Aspects

	Title	Lecturer	Course short description (UZH Course Directory)	Area*	Semester	ECTS
Lectures 1st – 4th semester	Resource and Environmental Economics (V) (Alternative zu Advanced Sustainability Economics)	Lucas Bretschger	Relationship between economy and environment, market failure, external effects and public goods, contingent valuation, internalization of externalities; economics of non-renewable resources, economics of renewable resources, cost-benefit analysis, sus… and environmental economics.			
	Global Poverty and Economic Development (V + Ü)	Lorenzo Casaburi	This course will examine major current issues in dev… tion of econometric evaluation methods in developm… quality measurement; geography; institutions; input …			
	Modern Crime in Financial Markets (V)	Delia Coculescu	The growing complexity of the international financi… be accompanied by solutions for preventing and deal… We shall present the theories and varieties of financi… ground suitable to analyze, detect and ultimately pre… phisticated ones.			
	Wissenschaftstheorie (Philosophy of Science) (V)	Andreas Scherer	Die Vorlesung will eine Einführung in die für die W… schaftstheoretischen Grundlagen geben. Anhand von… Strategietheorie soll die Bedeutung dieser Grundlage… aufgezeigt werden.			
	Digitalization and Sustainable Development (V)	Lorenz Hilty	The digital transformation is causing society to chan… consumption are in transition. The course addresses … challenges of sustainable development as reflected i… (SDGs). It provides an overview of results from the … Technology for Sustainability (ICT4S)" and "Green …			
Seminars 1st – 4th semester	Corporate Governance (S)	Christoph Wenk	This course will provide students with a synthesis of … the empirical academic literature, and actual exampl… cal models and findings of the empirical literature to … individual companies as well as legal and regulatory … The course will cover the main actors of Corporate G… rectors to auditors and regulators.			
	Serious Games in Banking: Training Sustainability & Behavioral Ethics (S)	David Schmocker	Im Zuge der Governance-Skandale bei Banken und … stitute in der Schweiz zunehmend Aspekte in den Be… nance' in ihre Unternehmensstrategien auf. Zukünft… chend auch in diesen Bereichen gut ausgebildet wer… lung von neuen, prototypischen Serious Games, wel… Ethics' und 'Sustainable Finance' integrieren und zu… setzt werden können.			



Teaching information:
https://www.bf.uzh.ch/en/society/sustainability.html

Markus Leippold : Thoughts on climate finance

- «Awareness is rapidly changing, and I believe we are on the edge of a fundamental reshaping of finance.»

  (Larry Fink, Blackrock, Jan. 14, 2020)

- Finding solutions to the climate emergency (as declared by the EU parliament on Nov. 28th 2019) is necessarily an interdisciplinary approach.

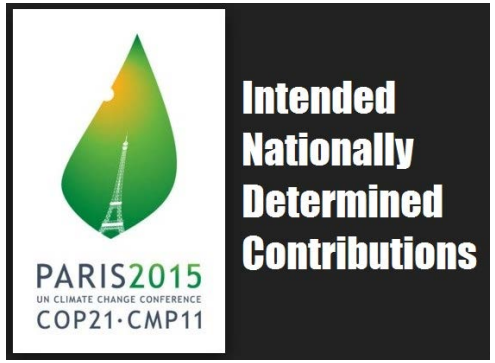
- Economic forces are the major driver of the climate change problem.

- Recent progress in computational methods and big data provides unique and powerful tools.

- My research agenda will focus on
  - how asset prices are influenced by transitory and physical climate risk.
  - how climate-change awareness of investors and the public influences prices.
  - how investors can hedge themselves against climate-related risks, given the increasing insurance gap due to uninsurable catastrophic risks.
  - how modern tools from natural language processing can be used to assess economy-wide climate exposures, how to do fact-checking on climate-related claims, and how to potentially detect greenwashing activities.

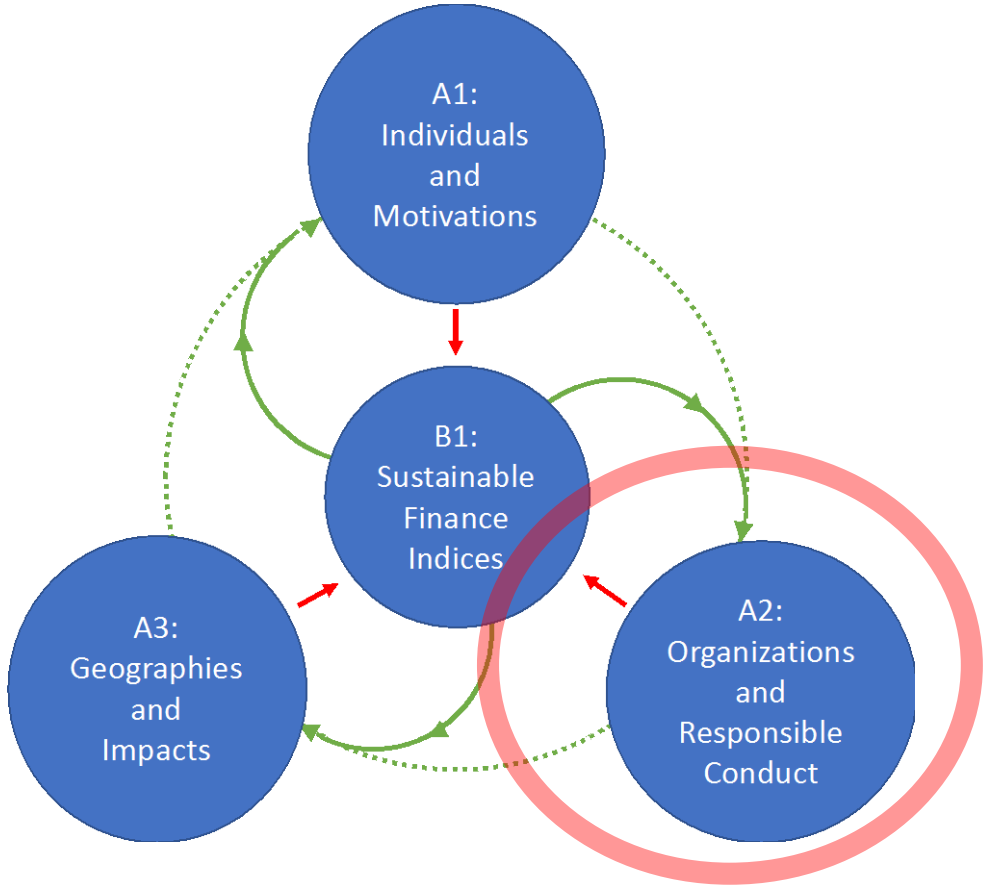
Cluster A2: Organizations and Responsible Business Conduct

What are the drivers of responsible business conduct?
How to measure corporate impact?



Cluster A2: Organizations and Responsible Business Conduct

Fundamental Questions	**Researchers and Departments**
A2.1 **Drivers of responsible business conduct** Interplay between objectives of corporation, its shareholders and managers in relation to sustainability	Sethe, Kaufmann (RFW); Tanner, Wagner, Kölbel (DBF)
A2.2 **Measuring responsible business conduct** Build on digital tools to develop metrics of responsible business	Tanner, Chesney, Battiston (DBF), Hilty (IFI), Kaufmann, Sethe (RWF)



Red arrows: scientific input
Green arrows: real-world impact

Cluster A3: Geographies and Impacts

What is the impact of investment activities on ecosystems environmental system?
What is the exposure of financial investments to ecosystem disruption?

Monitoring impact on ecosystems using sensors and satellite data

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University of Zurich » Press releases » … » 2019 » **Swiss Data Cube**

News release, 6 June 2019

Four Scientific Institutions will Monitor Switzerland from Space

The Swiss Data Cube (SDC) is an innovative technology that gathers all available satellite images from the American Landsat program and the European Sentinel 1 and 2. UNEP/GRID-Geneva, the University of Geneva (UNIGE), the University of Zurich (UZH) and the Swiss Federal Institute for

Cluster A3: Geographies and Impacts

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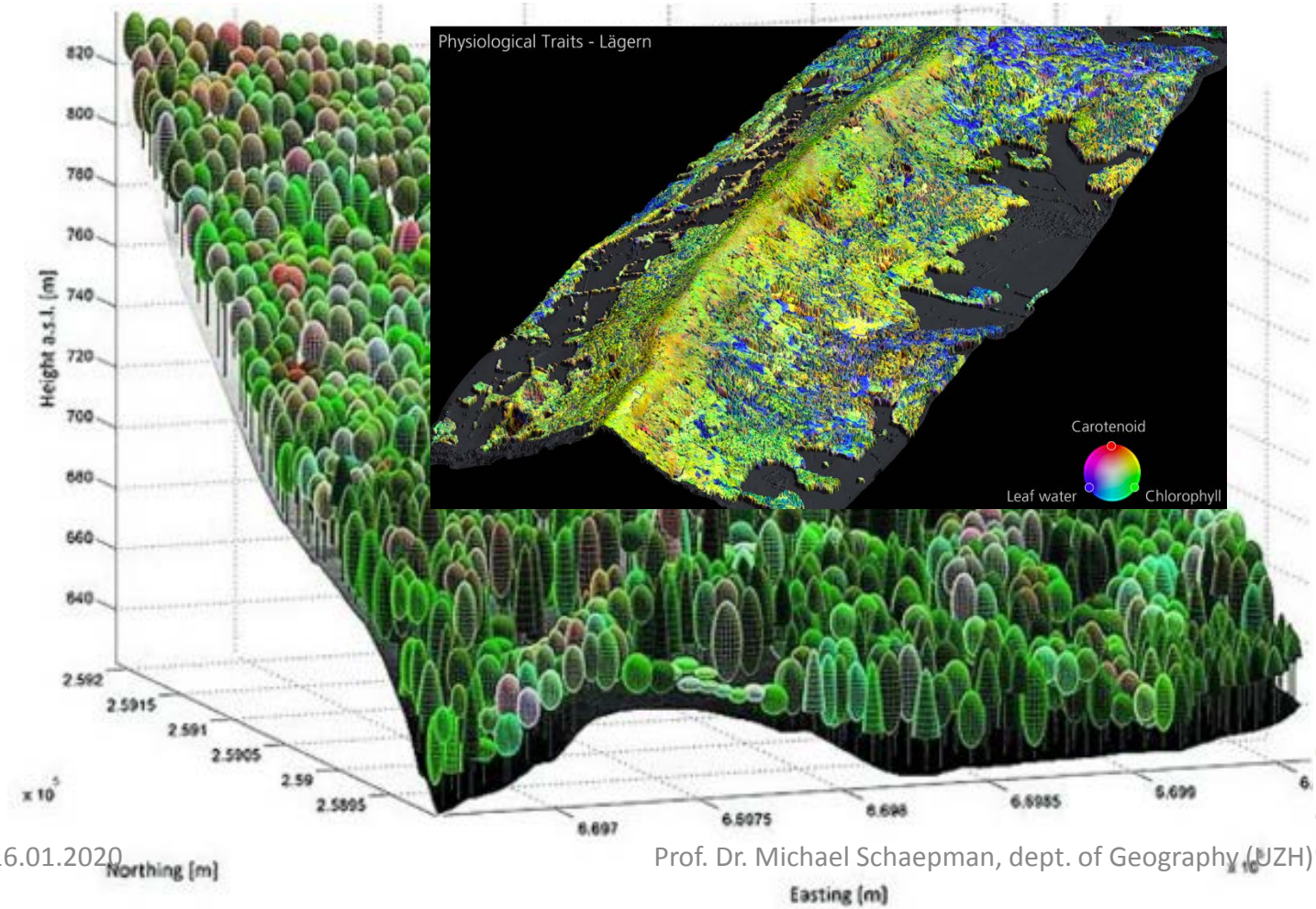
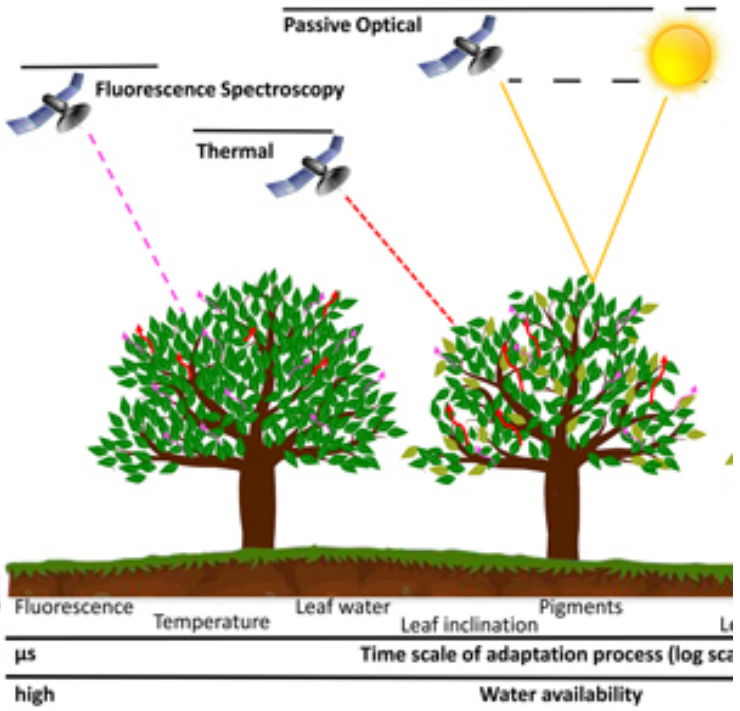


Monitoring impact on ecosystem using sensors and satellite data

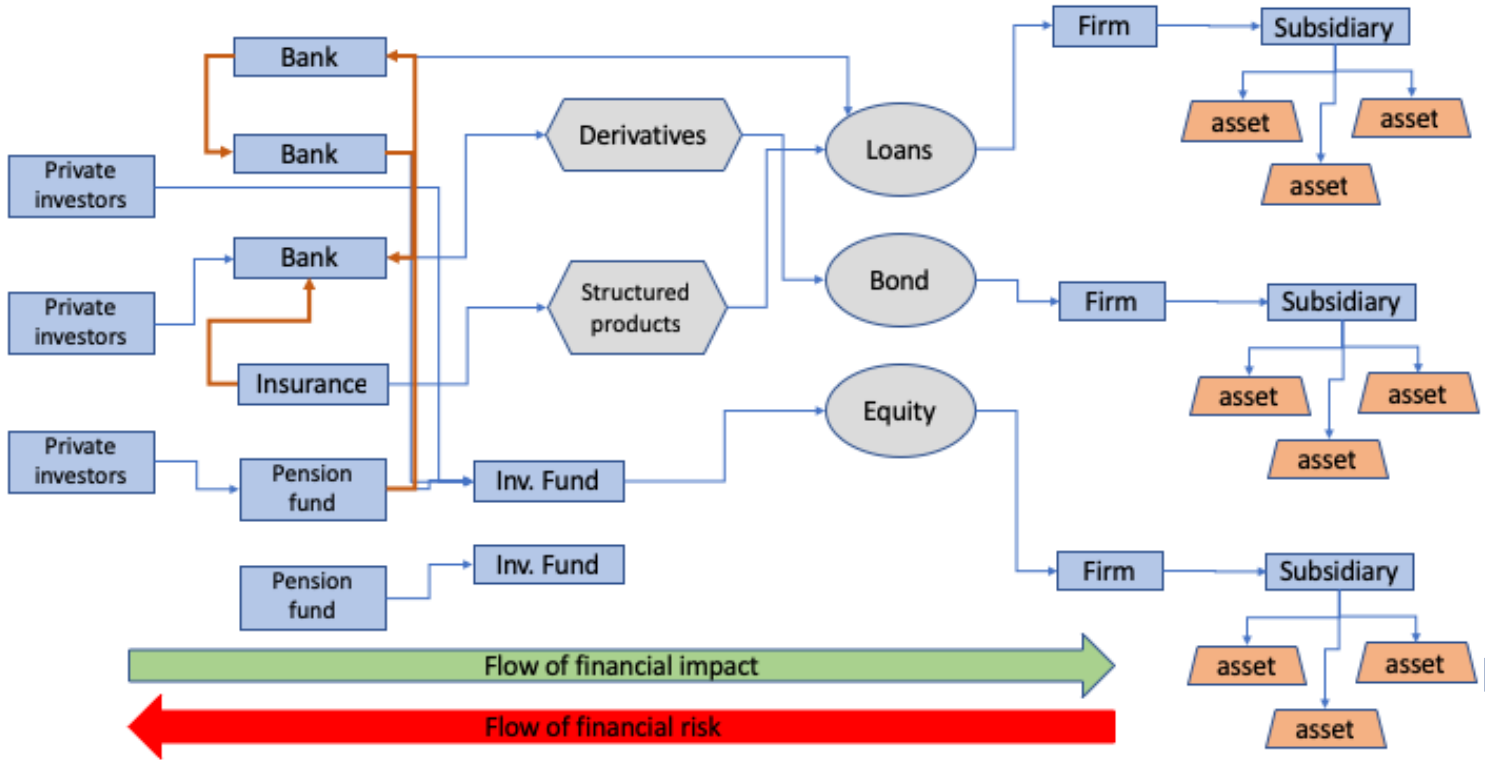


Cluster A3: Geographies and Impacts

Cluster A3: Geographies and Impacts

What is the impact of investment activities on ecosystems environmental system?
What is the exposure of financial investments to ecosystem disruption?

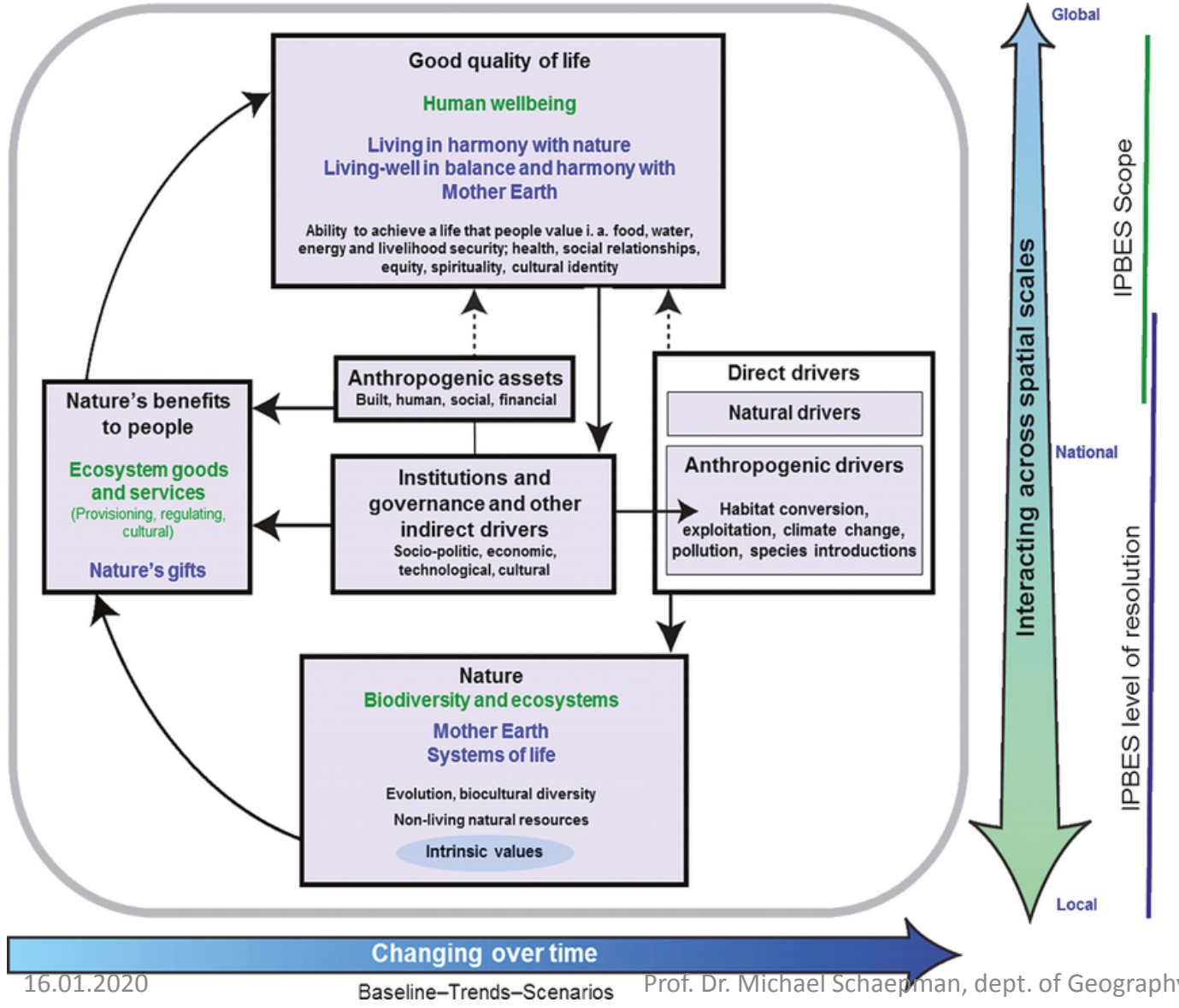
Individuals and organizations



Industrial plants and economic activities

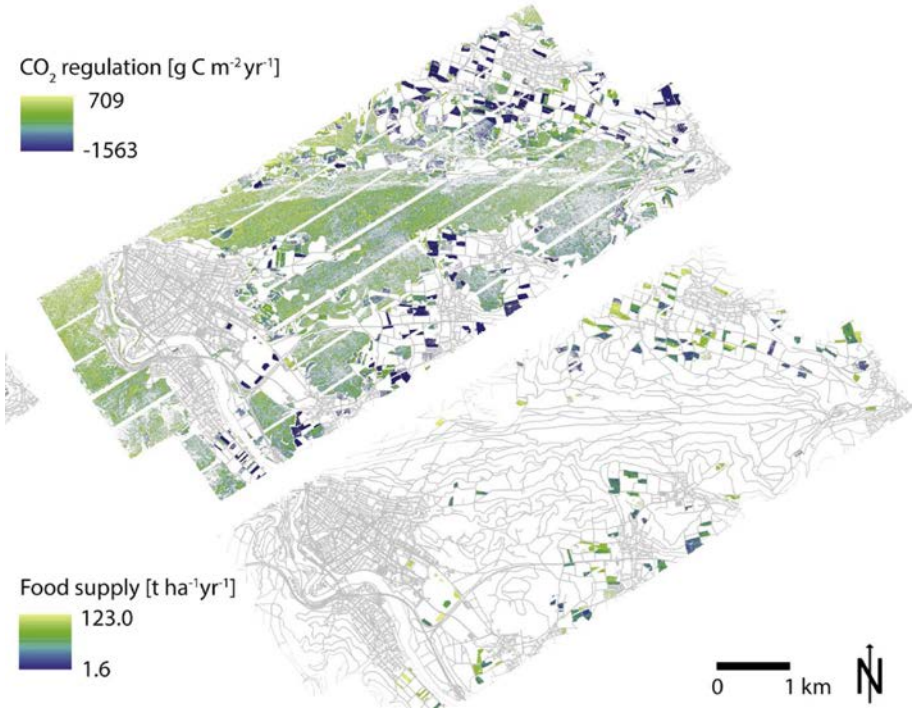
Ecosystems

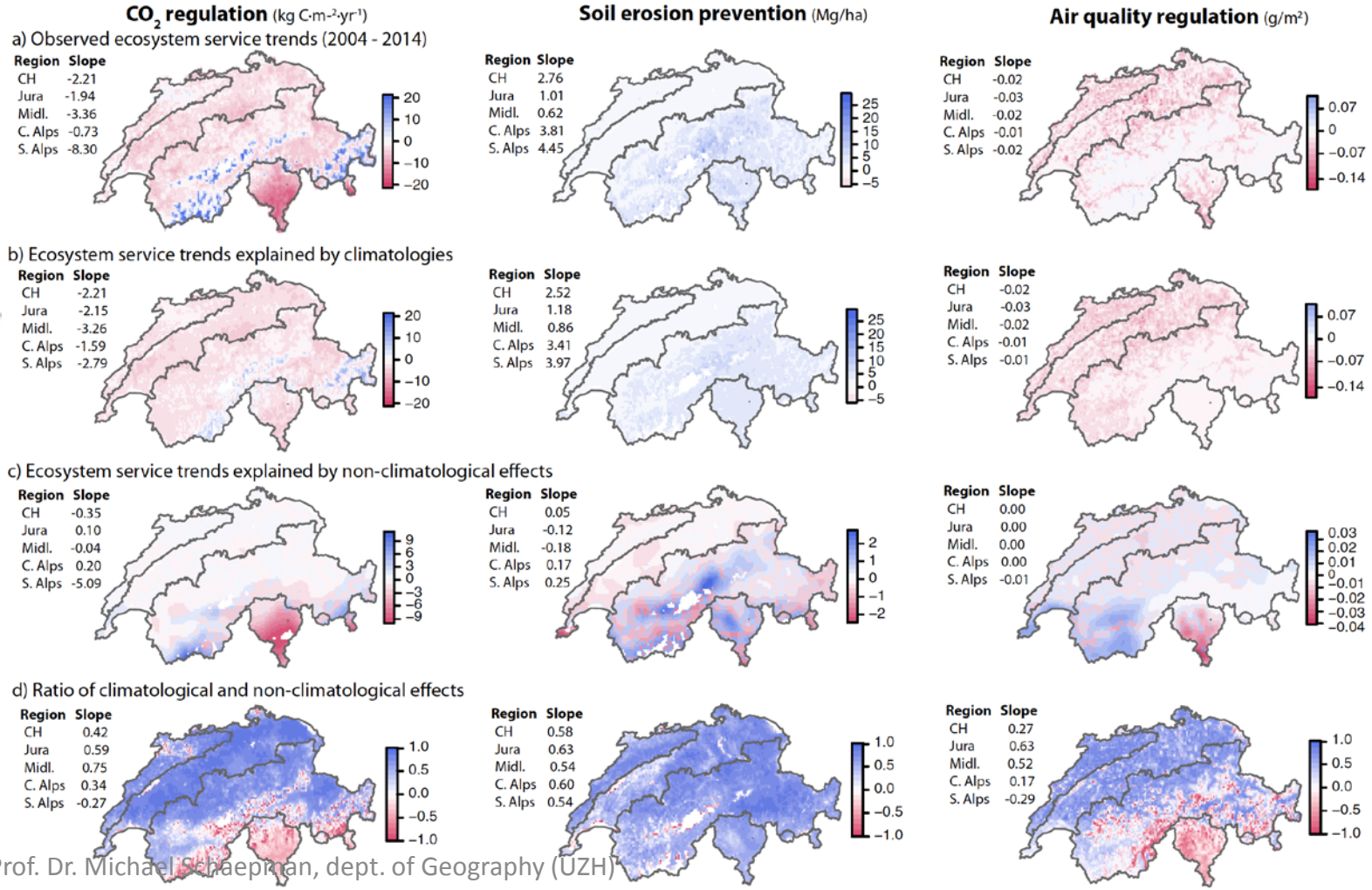
Ecosystem Services



IPBES, 2016; Diaz et al., 2015

Mapping Spatially Distributed Ecosystem Services





Braun, D., Damm, A., Paul-Limoges, E., Revill, A., Buchmann, N., Petchey, O.L., Hein, L., & Schaepman, M.E. (2017). From instantaneous to continuous: Using imaging spectroscopy and in situ data to map two productivity-related ecosystem services. *Ecological Indicators, 82*, 409-419

Braun, D., de Jong, R., Schaepman, M.E., Furrer, R., Hein, L., Kienast, F., & Damm, A. (2019). Ecosystem service change caused by climatological and non-climatological drivers: a Swiss case study. *Ecological Applications, 29*, e01901

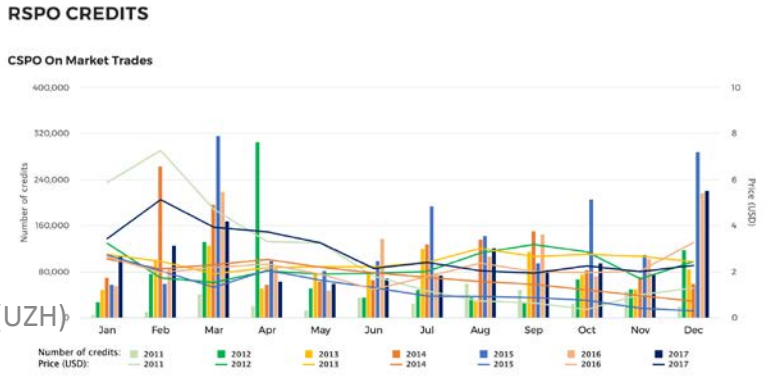
Land Cover and Land Use Change

Maliau Basin (Sabah, Borneo, Malaysia) – Transition from pristine rainforest to selective logging and palm oil plantations

RSPO
CERTIFIED

Palm
Trace

CERTIFIED SUSTAINABLE PALM OIL
RSPO
CREDITS


RSPO CREDITS
CSPO On Market Trades
400,000
320,000
240,000
160,000
80,000
Number of credits
10
8
6
4
2
0
Price (USD)
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Number of credits:
Price (USD):
2011
2012
2013
2014
2015
2016
2017

Alexander Wagner: Thoughts on climate finance

- «The climate system is an angry beast and we are poking it with sticks»
  (Wallace Broecker, cited by Marty Weitzman (2012))
- A productive role for finance
- Finance and the study of risk, 2 examples of own research:
  - After Trump, climate-responsible firms did well. Policy risk boomerang!
  - Mutual fund investors respond to eco-labels – but do they understand the risk implications? (Tomorrow: **"Investor motives in climate finance"**)
- Practice and research as a two-way street: Use and contribute to the new Center of Competence for Sustainable Finance!

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Center of Competence for Sustainable Finance

Excellence and interdisciplinarity in Sustainable Finance.

UZH Center of Competence for Sustainable Finance

Climate Change & Financial Risk

16 - 17 January 2020