

**ETH**

Eidgenössische Technische Hochschule Zürich  
Swiss Federal Institute of Technology Zurich

# Program

Workshop on Challenges and  
Visions in the Social Sciences



(program may change last minute,  
please check announcements in the foyer)

International Workshop on Challenges and Visions in the Social Sciences

including a Summer School on Modeling and Simulation and Think Tanks

## Organizers:

Dirk Helbing (Coordinator)  
Lars-Erik Cederman  
Andreas Diekmann  
Frank Schweitzer  
Didier Sornette

## Notes:

## Webpage:

<http://www.soms.ethz.ch/workshop2008>

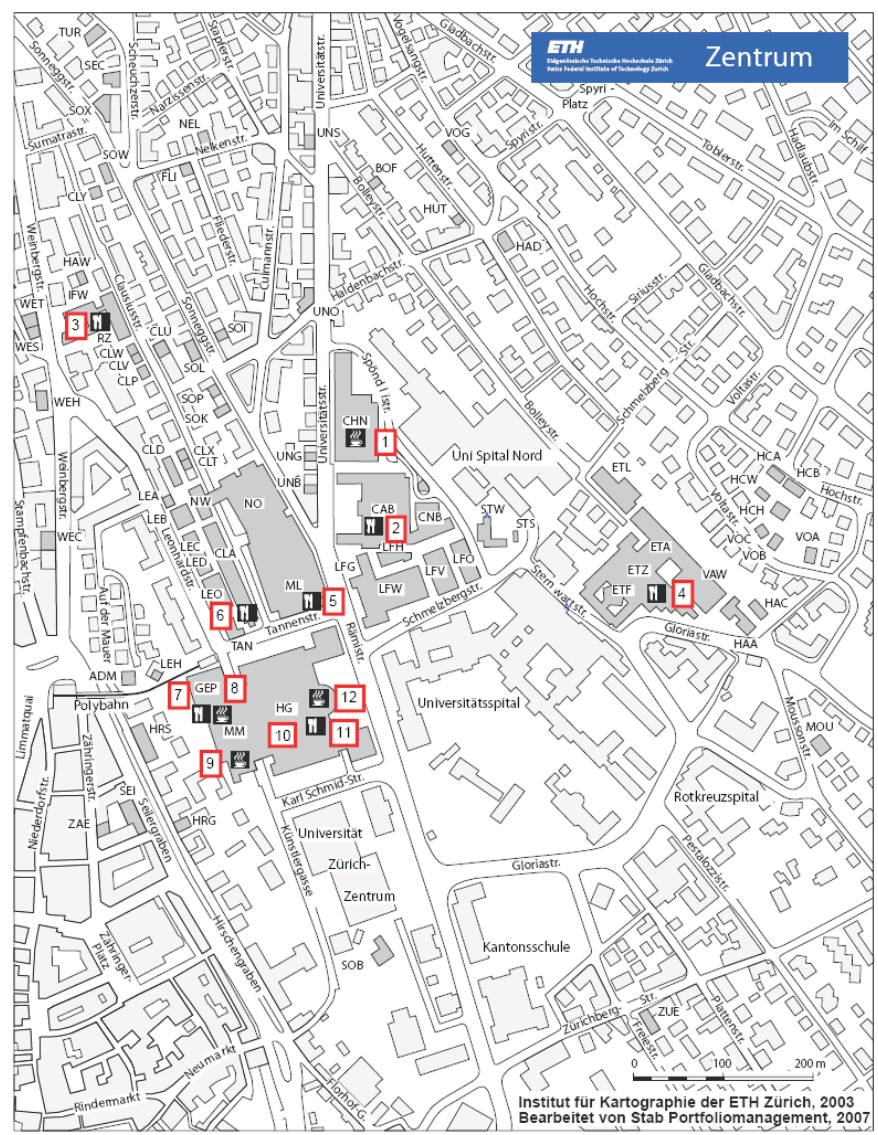
## Supported by:

 **GIACS** | MORE IS DIFFERENT  
General Integration of the Applications of Complexity In Science

**ETH** Foundation  
Zürich

# Locations

Cafeteria:



please check: <http://www.gastro.ethz.ch> for opening hours

# Monday (August, 18th)

08:30	<i>Registration (Foyer)</i>
10:00	<b>Opening by Dirk Helbing</b> (HG G 60 - Semper Aula)
10:15	<b>Bernardo A. Huberman</b> (HG G 60 - Semper Aula) <i>Social attention</i>
11:15	<i>Coffee Break (Foyer)</i>
11:30	<b>Michael Macy</b> (HG G 60 - Semper Aula) <i>Agents and avatars: A new era of computational social science</i>
12:30	<b>Dirk Helbing</b> (HG G 60 - Semper Aula) <i>Emergence of cooperation by social interactions in space and time.</i>
13:00	<i>Lunch Break</i>
14:30	<b>Thilo Gross</b> (HG G 26.5) <i>Adaptive networks - The intriguing interplay of dynamics ON and OF networks</i>
	<b>Tutorial by Douglas Heckathorn</b> (HG G 26.1) <i>Respondent-driven sampling (part 1/3)</i>
15:05	<b>Imre Kondor</b> (HG G 26.5) <i>Correlations in complex systems</i>
15:40	<i>Coffee Break (Foyer)</i>
16:00	<b>Jeremy Hackney</b> (HG G 26.5) <i>Validation results from a multi-agent simulation of coupled travel and social behavior</i>
	<b>Tutorial by Douglas Heckathorn</b> (HG G 26.1) <i>Respondent-driven sampling (part 2/3)</i>
16:30	<b>Elpida Tzafestas</b> (HG G 26.5) <i>Reactive components of (proto-)social behavior</i>
17:00	<i>Coffee Break (Foyer)</i>
17:30	<b>Frank Schweitzer</b> (HG G 60 - Semper Aula) <i>The costs of interaction and how they shape the social network</i>
18:00	<i>Short Break</i>
18:15	<b>Think Tank / Discussion on Empirical and Experimental Challenges</b> (HG G 60 - S. Aula)
19:30	<i>End of first day</i>

(Registration/Coffee/Poster Session)  
 Foyer  
 Level G

# Tuesday (August, 19th)

09:00	<b>Barkley Rosser</b> (HG G 60 - Semper Aula) <i>Econophysics and economic complexity</i>
09:55	<b>Short Break</b> (Foyer)
10:00	<b>Douglas Heckathorn</b> (HG G 60 - Semper Aula) <i>Respondent-driven sampling: Drawing statistically valid samples of hard-to-reach populations</i>
10:55	<b>Coffee Break</b> (Foyer)
11:10	<b>Robert Axtell</b> (HG G 60 - Semper Aula) <i>Agentization: Paradigm for a computational foundation for the social sciences</i>
12:05	<b>Herbert Gintis</b> (HG G 60 - Semper Aula) <i>The bounds of reason</i>
13:00	<b>Lunch Break</b>
14:30	<b>Jacob Foster</b> (HG G 26.5) <i>The promise and peril of high-</i> <i>Taking the avatar approximation: throughput social-science in virtual worlds</i>
	<b>Tutorial by Douglas Heckathorn</b> (HG G 26.1) <i>Respondent-driven sampling (part 3/3)</i>
15:05	<b>Peter de Haan</b> (HG G 26.5) <i>Agent-based simulation of emergence through monetary incentives and social pressure</i>
15:40	<b>Coffee Break</b> (Foyer)
16:00	<b>Floriana Gargiulo</b> (HG G 26.5) <i>The saturation threshold of public opinion: Are aggressive media campaigns always effective?</i>
	<b>Tutorial by Anders Johansson</b> (HG G 26.1) <i>Simulating the dynamics of human crowds (part 1/2)</i>
16:30	<b>Gabriel Istrate</b> (HG G 26.5) <i>Addressing the validation problem for social simulations</i>
17:00	<b>Coffee Break</b> (Foyer)
17:30	<b>Didier Sornette</b> (HG G 60 - Semper Aula) <i>Illusory and genuine control in optimizing games and financial markets</i>
18:00	<b>Short Break</b>
18:15	<b>Think Tank / Discussion on Modeling and Simulation Challenges</b> (HG G 60 - S. Aula)
19:30	<i>End of second day</i>

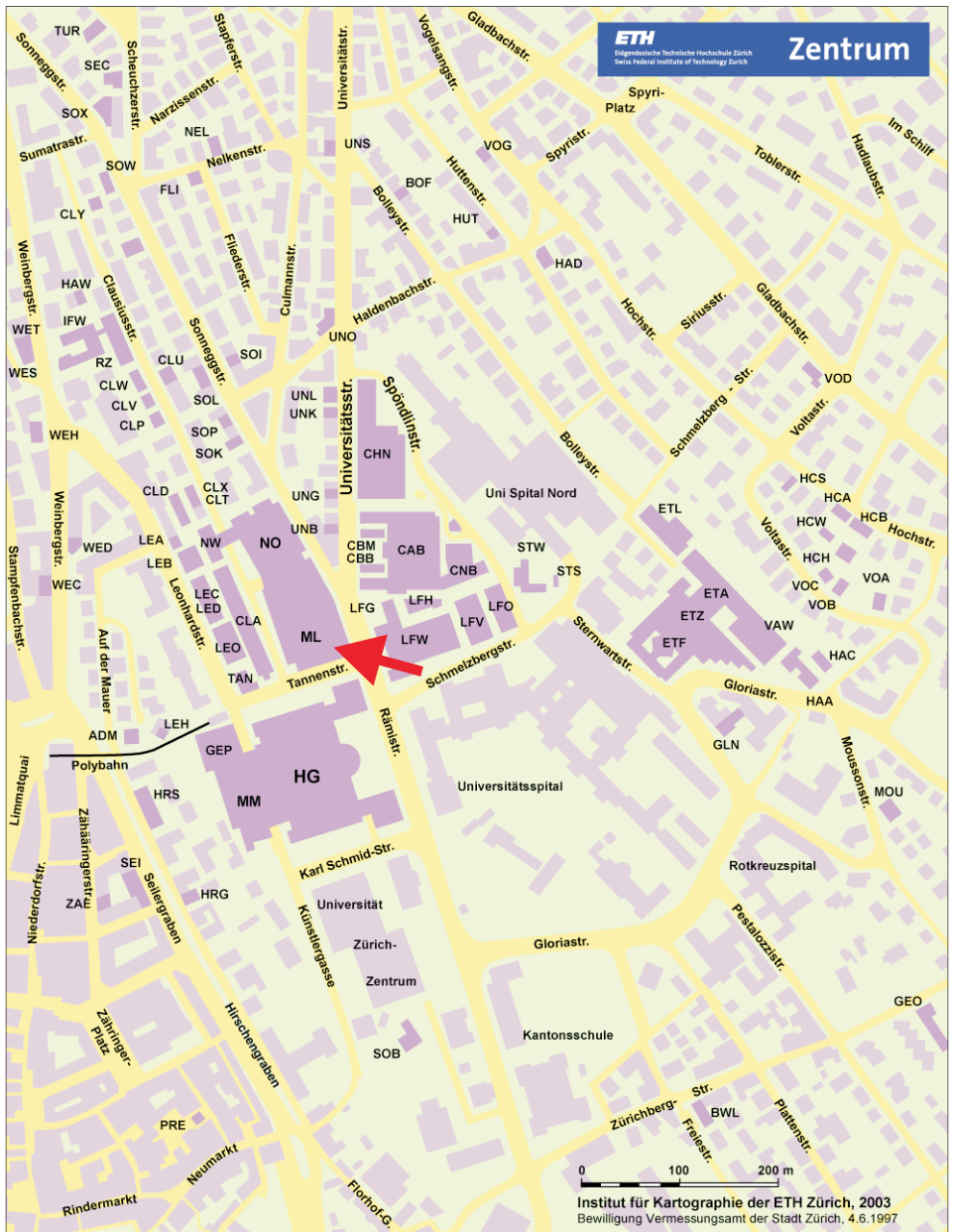
(Registration/Coffee/Poster Session)  
Level G  
Foyer

# Information

<b>Internet: (WiFi/WLAN-access)</b>
1) <b>Network:</b> public (campus-wide) 2) open browser and go to any webpage, a login page will appear 3) <b>Name:</b> Zurich <b>Password:</b> Workshop2008
<b>Cash Machine /ATM:</b>
Main building (HG) below the terrace Next bank: Credit Suisse, Universitätsstrasse 105, tram 9 or 10 between <i>Winkelriedstrasse</i> and <i>Rigiplatz</i>
<b>Lunch:</b>
Main building (HG) "Dozentenfoyer" Level J use staircase or elevator (the elevators in front of the Aula do not go the Level J) On Thursday lunch will be served in front of the Aula.
<b>Local Transport:</b>
<b>www.zvv.ch</b> (operating until 1 am, on Friday and Saturday all night)
Taxi service: +41 (0) 44 7777777

# Locations

ML - Building (only on Thursday and Friday)



# Wednesday (August, 20th)

09:00	<b>Michael Hechter</b> (HG G 60 - Semper Aula) <i>Alien rule and its discontents</i>
10:00	<i>Coffee Break (Foyer)</i>
10:15	<b>Neil F. Johnson</b> (HG G 60 - Semper Aula) <i>The dangers of time-aggregation A little knowledge is a dangerous thing: and sampling in social systems</i>
11:15	<i>Coffee Break (Foyer)</i>
11:30	<b>Andrzej Nowak</b> (HG G 60 - Semper Aula) <i>t.b.a.</i>
12:30	<b>Maxi San Miguel</b> (HG G 60 - Semper Aula) <i>Group formation: Fragmentation transitions in network coevolution dynamics</i>
13:00	<i>Lunch Break</i>
14:30	<b>Jose J. Ramasco</b> (HG G 26.5) <i>Human dynamics revealed through Web analytics</i>
	<b>Tutorial by Anders Johansson</b> (HG G 26.1) <i>Simulating the dynamics of human crowds (part 2/2)</i>
15:05	<b>Samer Hassan Collado</b> (HG G 26.5) <i>Injecting Data into Simulation: Can Agent-Based Modelling Learn from Microsimulation?</i>
15:40	<b>Jörg Reichardt</b> (HG G 60 - Semper Aula) <i>Data driven vs. hypothesis-driven research in the social sciences</i>
16:15	<i>Coffee Break (Foyer)</i>
17:30	<b>Boat Trip incl. Social Dinner</b> (more information on page 13)
22:00	<i>End of third day</i>

Foyer  
 Level G  
 (Registration/Coffee/Poster Session)

# Thursday (August, 21th)

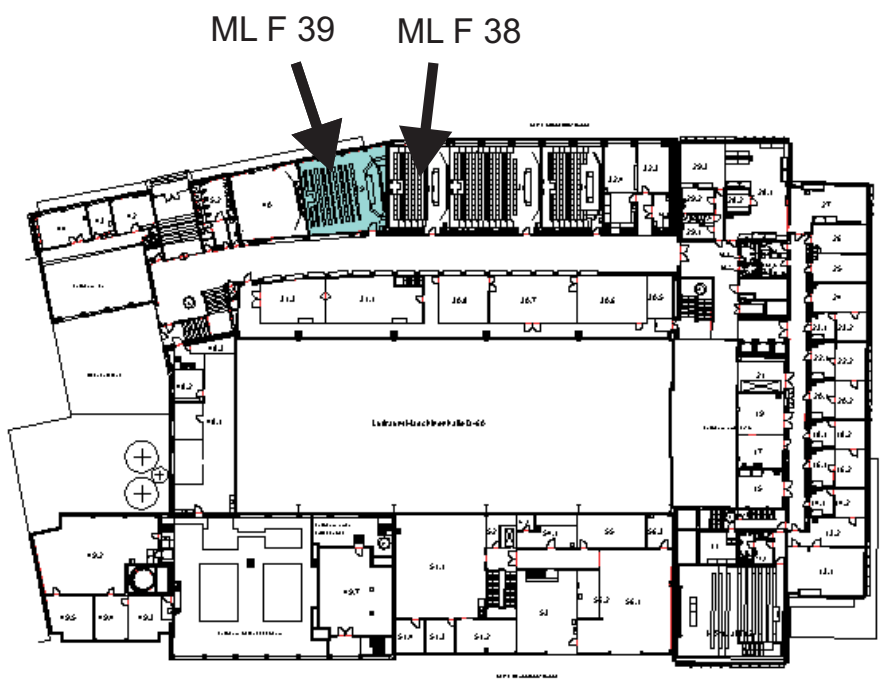
09:00	<b>Luis A.N. Amaral</b> (HG G 60 - Semper Aula) <i>Measuring science: Fears, challenges and opportunities</i>
10:00	<b>Coffee Break</b> (Foyer)
10:15	<b>Nigel Gilbert</b> (HG G 60 - Semper Aula) <i>Are social simulations ready for the real world?</i>
11:15	<b>Coffee Break</b> (Foyer)
11:30	<b>Andreas Flache</b> (HG G 60 - Semper Aula) <i>Modelling integration in a diverse society: theoretical and methodological challenges</i>
12:30	<b>Sandro Rambaldi</b> (HG G 60 - Semper Aula) <i>Models and tools for the analysis of human behaviour in third generation metropolis</i>
13:00	<b>Lunch Break</b>
14:30	<b>Christophe Deissenberg</b> (ML F 39) <i>Constructing a very large agent-based macroeconomic model: Challenge and solutions</i>
	<b>Tutorial by Pietro Speroni di Fenizio</b> (ML F 38) <i>Observing society through tags: Using tags to help society (part 1/3)</i>
15:05	<b>Pierpaolo Andriani</b> (ML F 39) <i>Extremes &amp; scale-free dynamics in organization science</i>
15:40	<b>Coffee Break</b> (Foyer)
16:00	<b>Armando Geller</b> (ML F 39) <i>Idiography and formalism – Incompatible or complementary concepts?</i>
	<b>Tutorial by Pietro Speroni di Fenizio</b> (ML F 38) <i>Observing society through tags: Using tags to help society (part 2/3)</i>
16:30	<b>Carlos P. Roca</b> (ML F 39) <i>Understanding the effect of population structure on the evolution of cooperation</i>
17:00	<b>Short Break</b>
17:15	<b>Lars-Eric Cederman</b> (HG G 60 - Semper Aula) <i>Nationalism and its geopolitical consequences: A distributional perspective.</i>
17:45	<b>Coffee Break</b> (Foyer)
18:15	<b>Think Tank / Discussion on Practical Challenges</b> (HG G 60 - Semper Aula)
19:30	<i>End of fourth day</i>

(Registration/Coffee/Poster Session)  
 Foyer  
 Level G

# Locations

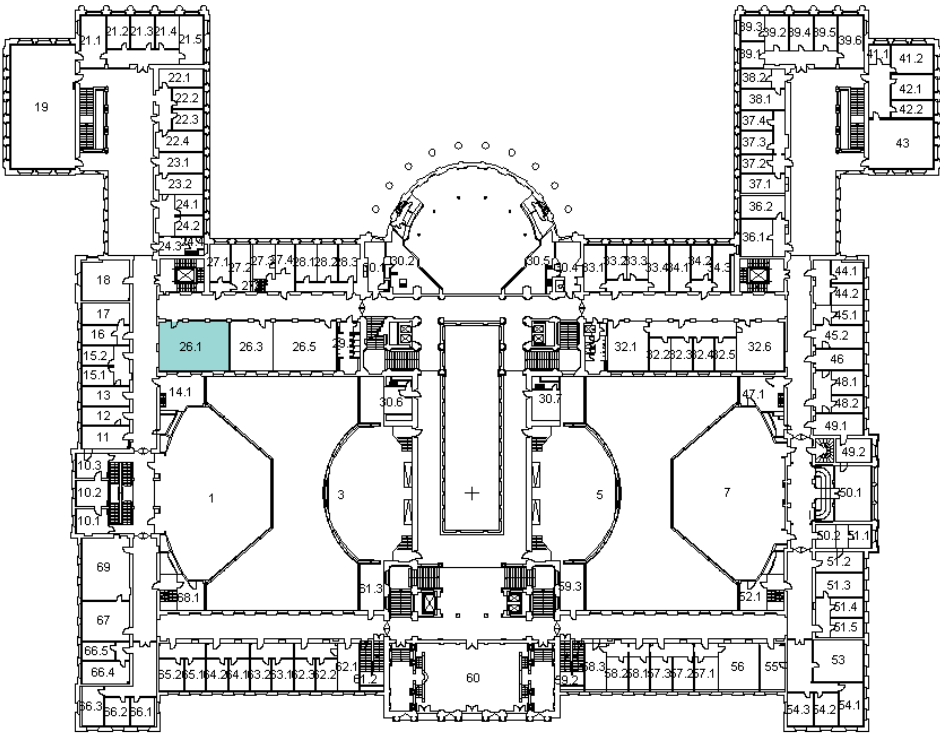
**Workshop Venue - only on Thursday and Friday (ML, Sonneggstrasse 3, 8092 Zürich)**

**Room ML F 39 + ML F 38**



# Locations

## Room HG G 26.1



**Boat Trip (Bürkliplatz, point of departure and arrival)**

**From ETH Zurich, Main Building:**

Use tram 9 (direction: Heuried) to Bürkliplatz (7 min).  
Go to the shipping pier.

# Friday (August, 22th)

09:00	<b>Chris Snijders</b> (HG G 60 - Semper Aula) <i>Crunching numbers, crunching brains</i>
10:00	<b>Coffee Break (Foyer)</b>
10:15	<b>Peter S. Dodds</b> (HG G 60 - Semper Aula) <i>The emotional content of large-scale texts: The happiness of bloggers, song lyrics, and presidents</i>
11:15	<b>Coffee Break (Foyer)</b>
11:30	<b>Carter Butts</b> (HG G 60 - Semper Aula) <i>Modeling reality without sacrificing data: Inferentially tractable models for complex social systems</i>
12:30	<b>Pietro Speroni di Fenizio</b> (HG G 60 - Semper Aula) <i>How should the 21st century democracy be organised? Studying online communities to answer it</i>
13:00	<b>Lunch Break</b>
14:30	<b>Ali Rana Atilgan</b> (ML F 39) <i>Document life cycle systems identify decision dynamics in organizations</i>
	<b>Tutorial by Jörg Reichardt</b> (ML F 38) <i>Network analysis: A physics perspective (part 1/2)</i>
15:05	<b>Tai-Yu Ma</b> (ML F 39) <i>A multiagent approach for dynamic daily activity pattern formulation</i>
15:40	<b>Coffee Break (Foyer)</b>
16:00	<b>Talks of 3 best posters</b> (ML F 39)
	<b>Tutorial by Jörg Reichardt</b> (ML F 38) <i>Network analysis: A physics perspective (part 2/2)</i>
17:00	<b>Short Break</b>
17:15	<b>Andreas Diekmann &amp; Wojtek Przepiorka</b> (HG G 60 - Semper Aula) <i>Signalling models and experiments. A research perspective</i>
18:15	<b>Workshop Closing by Dirk Helbing</b>
18:30	<b>Think Tank / Discussion on Challenges of Interdisciplinary Research</b> (HG G 60 S. Aula)
19:30	<i>End of fifth day</i>

(Registration/Coffee/Poster Session)  
 Foyer  
 Level G

# Saturday (August, 23th)

09:00	<b>Tutorial by Pietro Speroni di Fenizio</b> (HG G 26.1) <i>Observing society through tags: Using tags to help society (part 3/3)</i>
10:00	<b>Coffee Break</b> (Foyer)
10:15	<b>Tutorial by Dirk Helbing</b> (HG G 60 - Semper Aula) <i>Mathematical modeling of behavioral changes by pair interactions (part 1/2)</i>
11:15	<b>Coffee Break</b> (Foyer)
11:30	<b>Tutorial by Dirk Helbing</b> (HG G 60 - Semper Aula) <i>Mathematical modeling of behavioral changes by pair interactions (part 2/2)</i>
13:15	<b>Lunch Break</b>
14:00	<b>End of workshop</b>

Foyer  
Level G  
(Coffee)

### Some topics addressed by the Think Tanks:

Monday: Empirical and Experimental Challenges

- Data sociologist would like to have
- Measurement techniques
- New data sources
- Evaluation methods
- Data mining vs. hypothesis-driven approach
- Software tools
- Privacy and ethical issues

Tuesday: Modeling and Simulation Challenges

- Fundamental subjects
- Constituting elements and relations
- Parameter calibration
- Correlation and causality
- Predictive power
- Realistic vs. toy models
- Stylized facts
- Universal behavior
- Artificial societies

Thursday: Practical Challenges

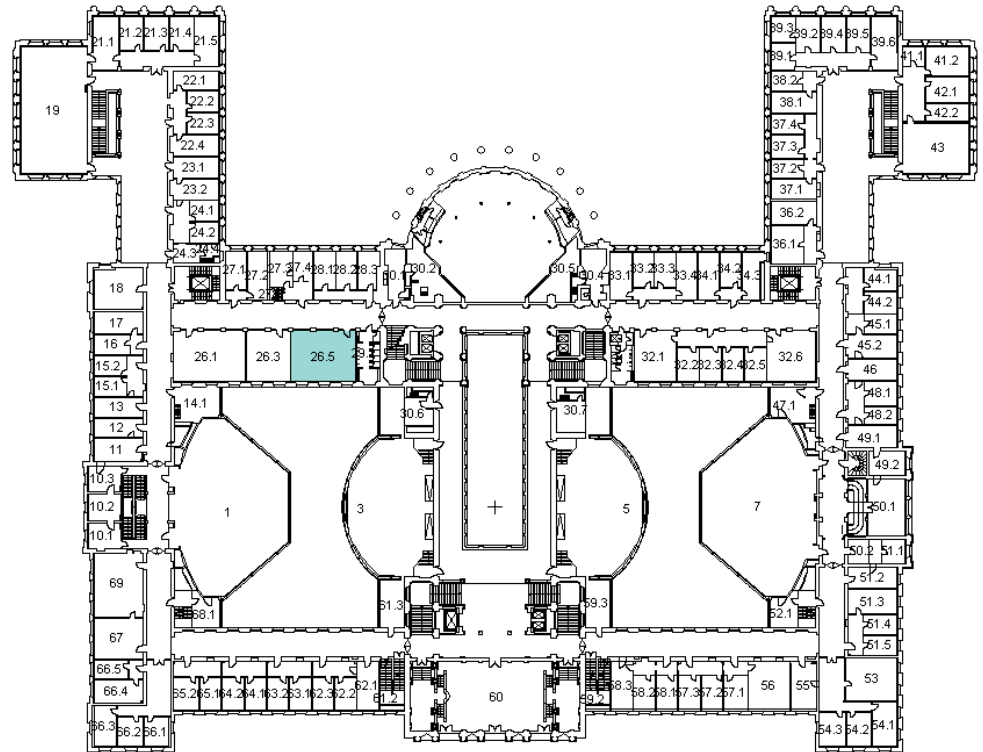
- Globalization
- Individualization
- Aging societies
- Environmental pollution and global warming
- International conflicts
- Understanding instabilities and crises
- Sources of disequilibrium and regime shifts
- Decision support

Friday: Challenges of Interdisciplinary Research

- Terminology
- Problem classification
- Networking and cooperation
- Funding
- Information exchange
- Publication
- Innovation speed

# Locations

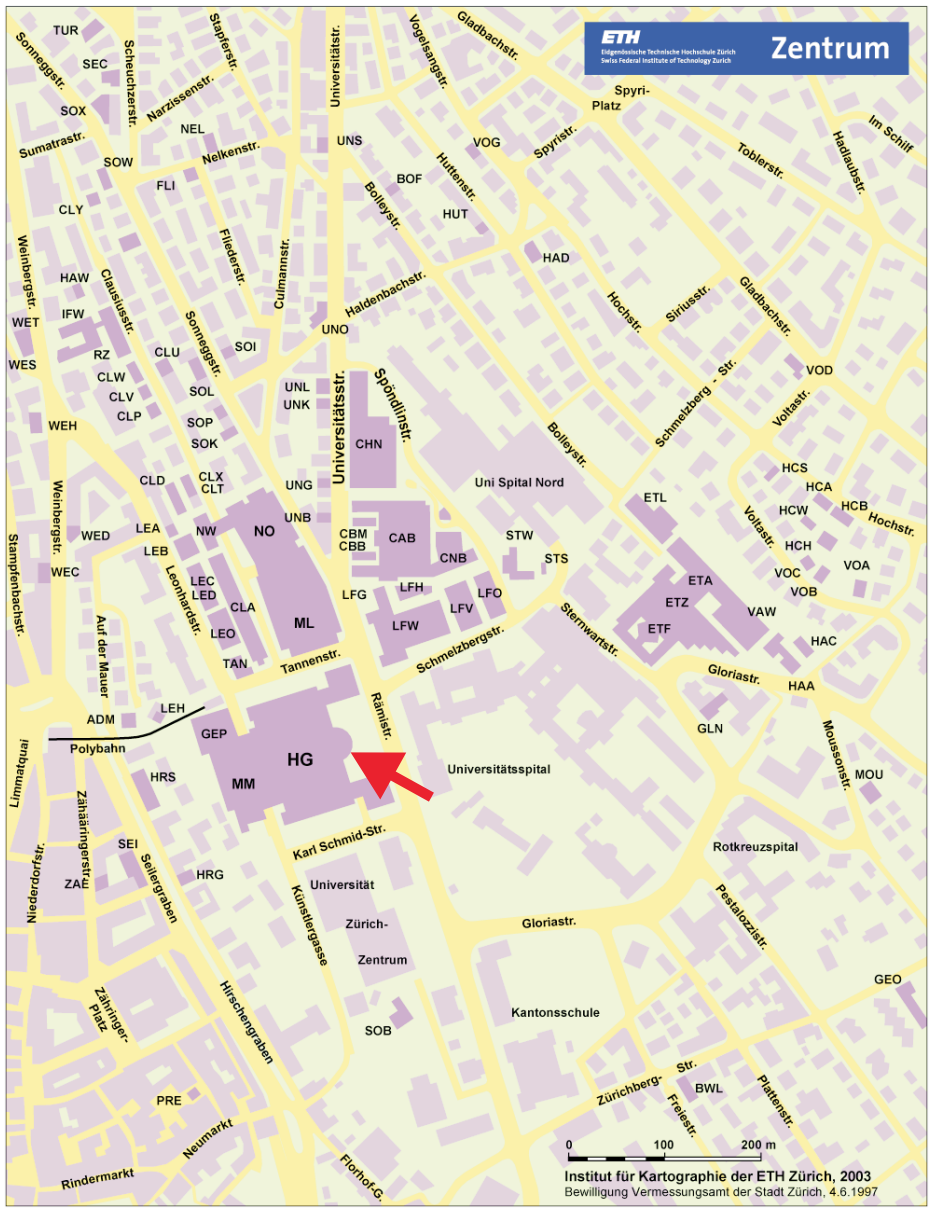
## Room HG G 26.5





# Locations

## HG - Main Building



# Poster Contributions (Foyer)

**Natalia Abramova**  
*The model of global journalism. The West and the East: In search of common ground*

**Pasquale Cirillo**  
*Validation of agent-based models: From data to models*

**Riley Crane**  
*Dynamics of human activity on the web*

**Güven Demirel**  
*Agent complexity, aggregation and the Bullwhip effect*

**Alvaro Malaina**  
*Complex social systems science in the framework of a paradigm of complexity*

**Yérali Gandica**  
*Voter model in topologies of central node and small-world networks*

**Bettina Hoser**  
*Ethics in internet social science*

**Georges Harras**  
*Endogenous versus exogenous origins of financial bubbles and crashes*

**Moritz Hetzer**  
*Cooperative behavioral norms resulting from co-evolutionary processes*

**Andreas Jungherr**  
*Modeling small-group interaction on pervasive digital channels: New influence on public opinion*

**Márton Karsai**  
*Rounding of first-order phase transitions and optimal cooperation in scale-free networks*

**Zoltan Kuscik**  
*Maximum entropy principle in statistical agent-based market area model*

**Lin Lin**  
*An agent-based general equilibrium model of employment, production and consumption*

**Michael Maes** *"What on earth must we assume" to explain increasing opinion differences between subgroups without assuming negative influence?*

**Thomas Maillart**  
*Complex social system science in the framework of a paradigm of complexity*

**Jun-ichi Maskawa**  
*Cross-correlations in stock markets as the indices of market risks*

# Poster Contributions (Foyer)

**Takayuki Mizuno**  
*Microscopic modeling of an online shopping mall*

**Zeynep Tufekci**  
*A million social imprints: The promise and peril of social media data?*

**Tomoko Ohi**  
*The distribution of trader returns under the influence of information asymmetry: A multi-agent simulation study*

**Suresh Pillai**  
*Renormalisation of waiting times in social networks with constraint*

**Heiko Rauhut**  
*Experimental evidence on crime and punishment*

**Francisco Rosales**  
*Modeling farm to market qualitative dynamics on smallholder agriculture*

**Maximilian Schich**  
*Dissecting the canon: Visual subject co-popularity networks in art research*

**Rania Valeeva**  
*Choices of health resources in the conditions of personal and contextual constraints*

**Sven Van Segbroeck**  
*The evolution of prompt reaction to adverse ties*

**Pablo Viejo Garcia**  
*Growing artificial cities from artificial societies. Societies as environmental resource for urban development*

**Frank Edward Walter**  
*Coping with information overload through trust-based networks*

**Ryan Woodard**  
*High temporal resolution LPPL analysis of the S&P 500*

**Rebeca Ibarra**  
*An agent-based model to explain tax avoidance behavior within political regimes of low democratic governance*

**Carl Henning Reschke**  
*An agent-based general equilibrium model of employment, production and consumption*

**Norman Salazar**  
*Infection-based norm emergence in multi-agent complex networks*

**Matus Medo**  
*Breakdown of the mean-field approximation in a wealth distribution model*

Poster Sessions from Monday to Friday (Foyer)

# Locations

**Workshop Venue (ETH Zurich, HG (Main Building), Rämistrasse 101, 8092 Zürich)**

From Zurich airport:

Use train (IR,S) to Zurich main station (10 min)

From Zurich main station:

Use tram 10 (direction: Bahnhof Oerlikon) to ETH/Universitätsspital (6 min).



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## Room HG G 60 - Semper Aula

