SystemsX.ch

Ingredients for a successful SystemsX.ch proposal

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Outline

- Insights into the SystemsX.ch project types
- Characteristics of successful projects of the first phase
- Important written cornerstones
- Important unwritten additional cornerstones
- How to start …
- Q&A

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Micronaut

Micronaut®
the art of microscopy

Invasive Human Cancer Cell (4'500:1)

- Dr. Martin Oeggerli, biologists
- Colouring since 2005, multiple award-winner
- Perparation using scientific methods
- Uses the Scanning Electron Microscope (SEM) as «camera»
- Publishes with Nature, Cell, National Geographic, BBC, etc

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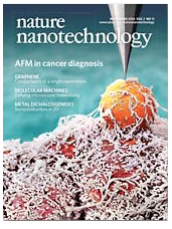

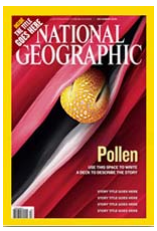

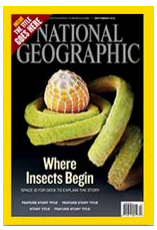

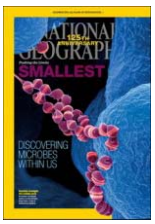

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In case you have an idea or a project you think is well suited for Martin Oeggerli:

- contact him to discuss details:
  Micronaut GmbH | Scientific Microscopy
  Martin Oeggerli, PhD
  Duerrenmattweg 43
  4123 Allschwil, Switzerland
  T: +41 (0)61 265 31 52
  M: +41 (0)76 442 35 08
  info@micronaut.ch | www.Micronaut.ch
- Please treat the samples as carefully and as fresh (in 3% glutaraldehyde) as possible.

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SystemsX.ch project types

1. complementary to SNSF project types
2. inter-disciplinary, inter-institutional
3. systems approach in life sciences
4. quantitative, if not predictive
5. additional resources from institutions (OCs)

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Overview success rate 2008-2012

Project Type Year	Requested Funds	# Proposals Submitted	# Proposals Approved	# (Co-)PIs	Ø	Ø	SysX.ch Funds	Rate # Proposals	Rate Money
RTD 2008	323'590'000	30	8	90	11	5.1	50'866'000	27%	16%
RTD 2009	90'600'000	19	6	51	9	4.6	27'500'000	32%	30%
RTD 2012	95'836'000	33	11	65	6	2.6	28'180'000	33%	29%
RTD	**510'026'000**	**82**	**25**	**206**			**106'546'000**	**30%**	**21%**
TF 2012	1'965'250	7	4	12			1'065'716	57%	54%
TF	**1'965'250**	**7**	**4**	**12**			**1'065'716**	**57%**	**54%**

- Number of research groups per RTD: Ø (2012) = 6
- How much funding? Ø (2012) = CHF 2.6 mio
- SystemsX.ch Funds per research group: 460k ¦ 510k ¦ 430k
- Theme, topic: from plants to antibodies, from neuro to nanofluidics

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Important written cornerstones

8th call for proposals

Definition of Systems Biology

The primary objective of Systems Biology is to achieve an integral and **comprehensive understanding of the quantitative behavior of biological systems** that arises from the dynamic interplay of its components.
It is expected that Systems Biology research projects will culminate in a mathematical model that simulates *in silico the system's properties* **and predicts its quantitative response to internal or external perturbations**. Frequently, biological systems are represented as networks of interacting elements, whereby the structure and the dynamic behavior of the network determine its phenotypic traits.
The study of biological systems in this framework requires interdisciplinary cooperation and a division of labor between e.g. biologists, medical scientists, mathematicians, physicists, computer scientists, chemists and engineers. The present Call for Proposals is based on this definition of Systems Biology.

Scientists **previously not associated** with SystemsX.ch, scientists focused on the development of **mathematical models** of biological processes or on implementing the systems approach **for medical / clinical relevant** projects, and scientists **bridging the private and public sector** are particularly encouraged to apply.

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Important written cornerstones

8th call for proposals

Formalities:

- funding maximum CHF 3'000'000 per RTD
- Duration: 4 years, starting in (early) 2014
- matching funds requested by law (own contributions)
- researchers from at least two partner institutions
- SyBIT: Systems Biology IT (bioinformatics) to be tied-in
  Deadline: **June 30, 2013**; use www.mysnf.ch
  (register 10 days before!)

Evaluation procedure:

- - SNSF review panel: short list (20 to 25 proposals)
  - SystemsX.ch SEB comments the short listed
  - Panel meeting incl interview with the main applicant: **Sept 23-24**
  - Announcement of the results: Oct/Nov 2013

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Important written cornerstones

8th call for proposals

- Each project **must contain substantial quantitative**, **computational, modeling and/or theoretical** research using cutting-edge technology.
- A **follow-up proposal of a RTD project** approved in 2009 will also be assessed on the achievements from the first period (i.e. data, results, deliverables etc). However, […] **linear extensions of earlier projects are discouraged** and changes in direction, research method and composition of the consortium to adapt to new directions is specifically encouraged.

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Important written cornerstones

8th call for proposals

Projects will be prioritized that:

- focus on **quantitative modeling** of biological processes and the integration of **large, complementary datasets that** describe dynamic biological systems;
- develop **new theoretical tools**;
- encourage **non-biologists** to act as an RTD-PI;
- focus on systems biology approaches to **medical and/or clinical** questions
- increase the collaboration with the **private sector**

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Important unwritten cornerstones

The review panel experts will check:

- Important written cornerstones
- Is the proposal **integrated**, the text **coherent**?
- Composition of the **consortium**: are involved research groups complementary in expertise
- Organization and **project management** skills and experience
- Does the single contributions of the research groups result in an added value?

In particular SystemsX.ch is seeking out:

- **translational** Systems Biology projects
- projects combining **experimental and theoretical** approaches
- projects that bridge the **private-public** divide
- projects using already **existing large data sets**
- projects using **human** cells / material

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How to start …

- Find a scientist complementing you and who you like…
- Do together a brain-storing session to find a suitable topic (e.g. based on existing data on which you elaborate theories describing processes that happen in a biological entity)
- Complement the consortium (a) filling know-how gaps needed for the project, and (b) «ticking» on the same wave-length as you do
- FIRST, elaborte in the consortium a 1-page summary describing the main aims, milestones and deliverables
- Shape your proposal by adding items such as
  - quantitative modeling of biological processes,
  - develop new theoretical tools,
  - systems biology approaches to clinical questions,
  - intensify collaboration with the private sector,
  - …
- Rework the proposal until the text is coherent and integrative

go, see & check
@ the meeting point

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Outlook: further calls

	evaluation committee
Last call for **RTD projects**: 2013	Review Panel
Three calls for **Transfer projects**: 2013, 2014, 2015	Review Panel
Two calls for Transition **Post-doc** Fellows: 2014, 2015	Expert Group
Two calls for **IPhD projects**: 2014, 2015	Expert Group
SyBIT supports RTDs 2013-2016	Review Panel
International Activities through **ERASysAPP** 2013-2015	
International SystemsX.ch **Conferences** in 2014 and 2017	

Note: Most projects will be terminated in 2018, the (reduced) Management Office will take care of the last reports until 2019.

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Thank you for your attention

- Questions & Answers

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