



Andreas Pautz, Head of the Nuclear Energy and Safety Division (NES) :: Paul Scherrer Institut

PSI Information Event/Webinar for the ETHZ/EPFL Nuclear Master Students

Paul Scherrer Institut, Villigen, 17-05-2021

Information Event Nuclear Master: Time Table

Time	Topic	Presenter
13:00-13:15	General Introduction	A. Pautz/ H.-M. Prasser
13:15-13:35	Introduction	A. Manera
13:35-13:55	AHL – Hot Laboratory	M. Streit
13:55-14:15	LNM – Laboratory for Nuclear Materials	M. Pouchon
14:15-14:35	LEA/ LES – Laboratory for Energy Systems Analysis and Laboratory for Waste Management	V. Dang/ W. Pfingsten
14:35-14:55	LRC – Laboratory for Radiochemistry	P. Grundler/ E. Mauger/ P. Steinegger/ R. Eichler
14:55-15:25	LRT – Laboratory for Reactor Physics and Thermal Hydraulics + Laboratory for Reactor Physics and System Behavior at EPFL	H. Ferroukhi M. Hursin
15:25-15:40	BREAK	
15:40-16:00	LSM – Scientific Computing and Modelling	K. Mikityuk/ B. Niceno
16:00-16:20	ASI - Department of Radiation Safety and Security	E. Yukihiro/ N. Walter
16:20-16:40	ZPT	A. Lomax
16:40-17:00	Concluding discussion	H.-M. Prasser/ A. Pautz/ P. Kull
17:15	End of the Webinar	

Information Event Nuclear Master: Participants

PSI participants:

Lead:

Professor Annalisa Manera /Horst-Michael Prasser/ Professor
Andreas Pautz

Administrative support:

Petra Kull (phone +41 56 310 2685/ petra.kull@psi.ch)

Presenters:

see agenda

NE-Students:

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- **Annalisa Manera** as **Full Professor for Nuclear Safety and Multiphase Flows** (ETH / D-MAVT), and group leader in the Laboratory for Reactor Physics and Thermal Hydraulics (LRT)
 - Annalisa is currently professor at University of Michigan, and will join NES in July 2021
- **Patrick Steinegger** as **Tenure Track Assistant Professor of Radiochemistry**, and group leader in the Laboratory for Radiochemistry (LRC) at PSI
 - Patrick is group leader for Superheavy Elements in LRS, and has started his professorship in January 2021
- **Prof. Horst-Michael Prasser** has retired in January 2021 from ETH Zurich
 - Micha has been professor at ETH, head of the Laboratory of Nuclear Energy Systems at ETH, and head of the Laboratory of Thermal Hydraulics at PSI since 2006.



The Paul Scherrer Institute: (Very) brief Overview

Aerial View of the Paul Scherrer Institut (PSI)

← Basel

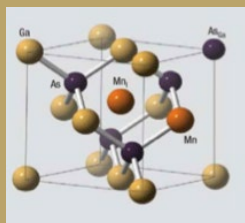
Germany ↑

Aarau/Bern ↓

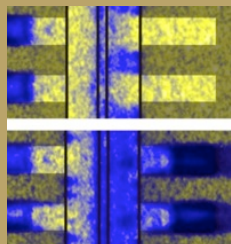
Zürich →



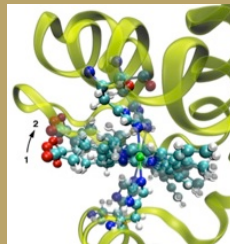
Matter and materials



Energy and environment



Human health

Development
Construction
Operation

Large research facilities



Swiss and foreign users
from academia and industry

more that 2400 external
users/year (39 beamports)

Knowledge & expertise



Education

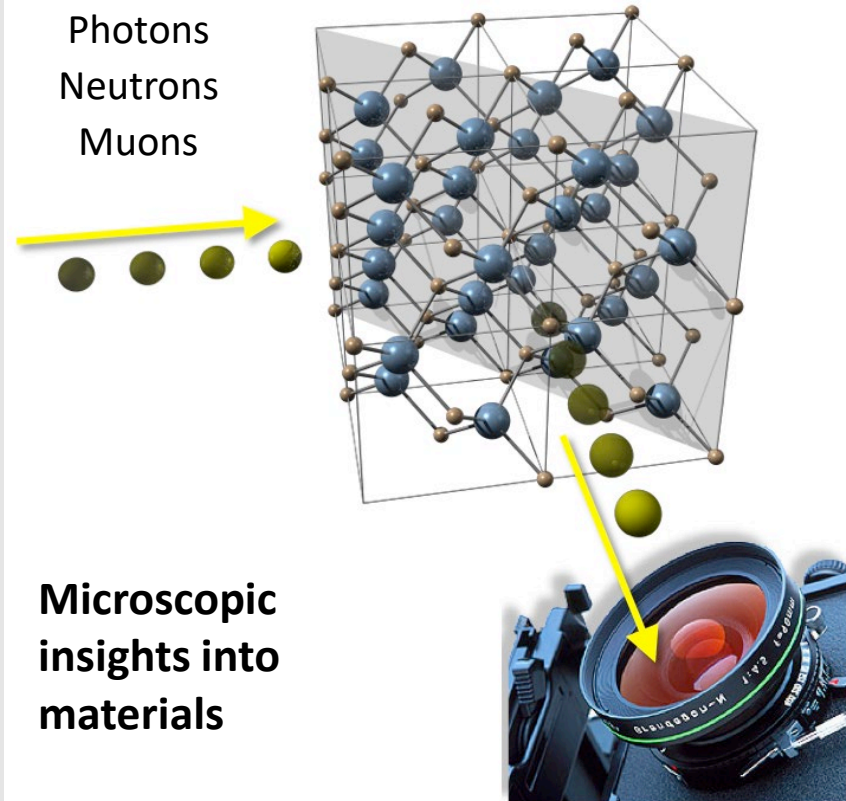


Technology transfer



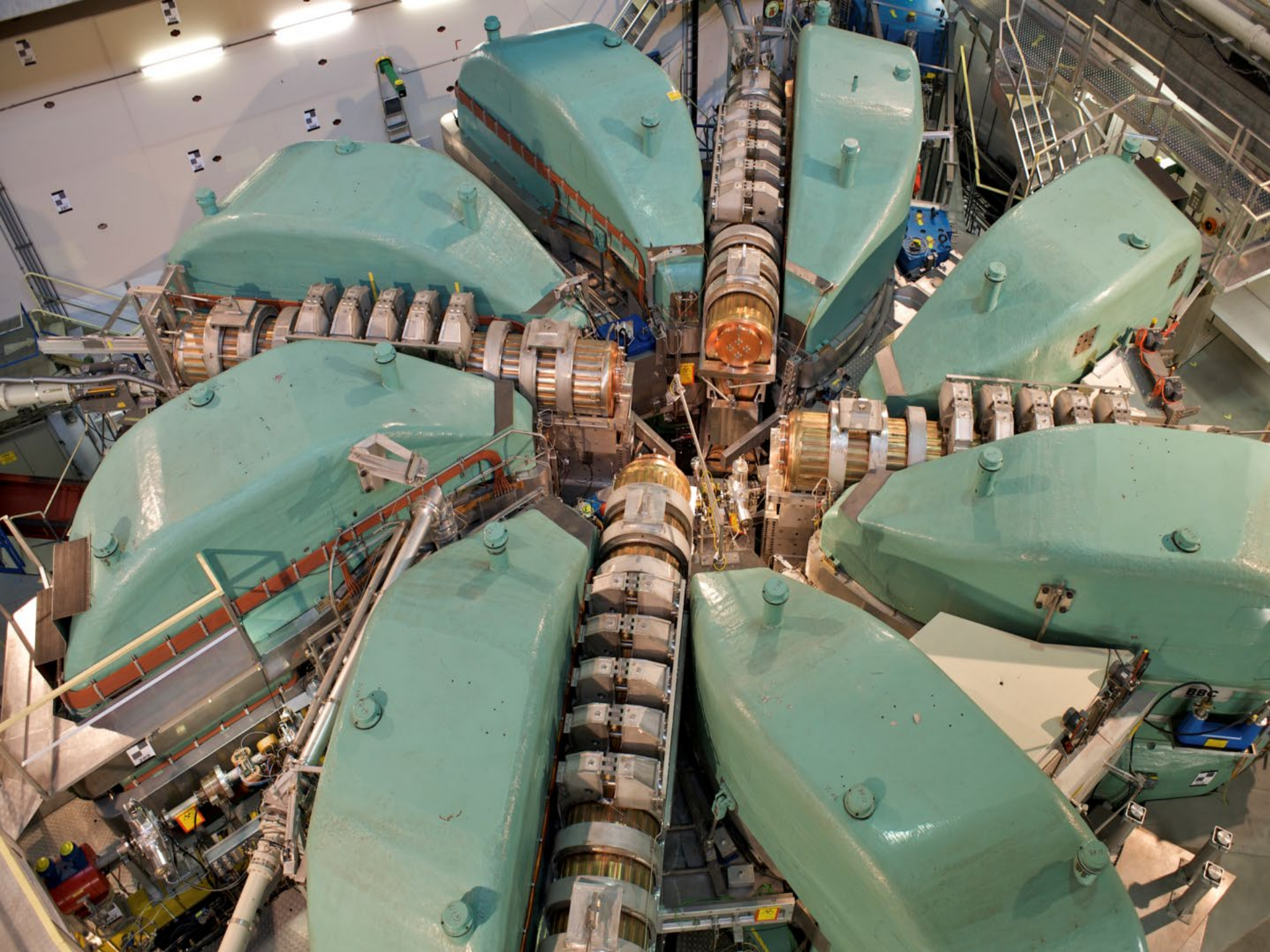
Large Research Facilities at PSI

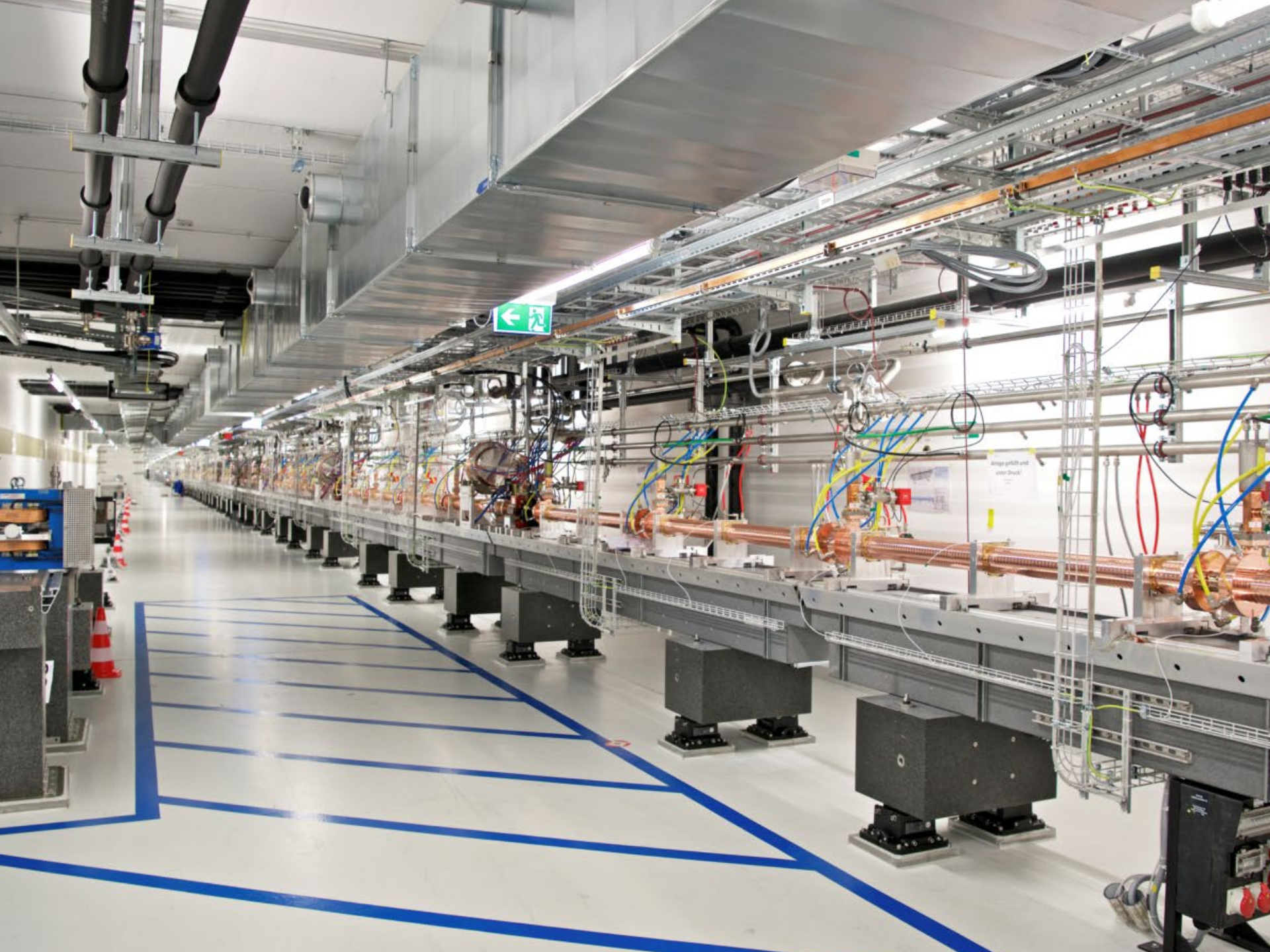
Research at large facilities

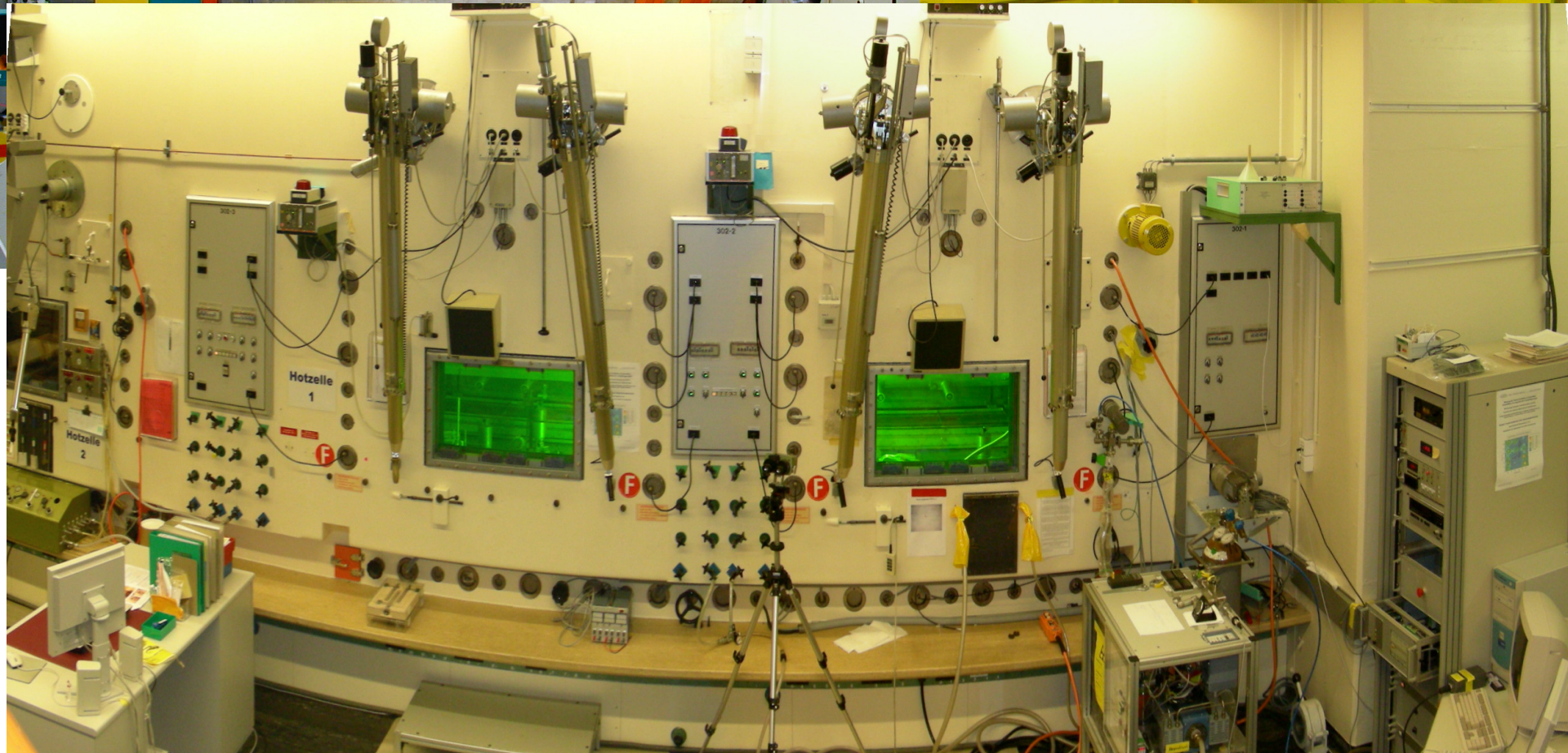
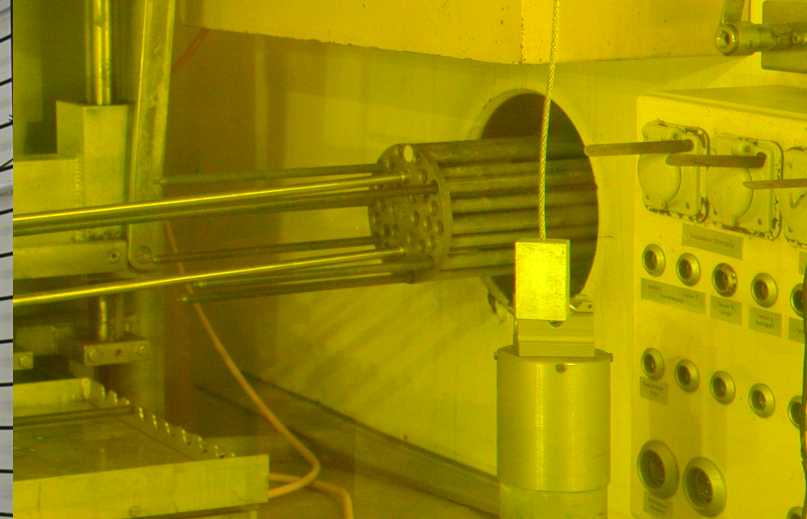


Synchrotron Light Source SLS
Spallation Neutron Source SINQ
Muon Source $S\mu S$

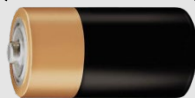
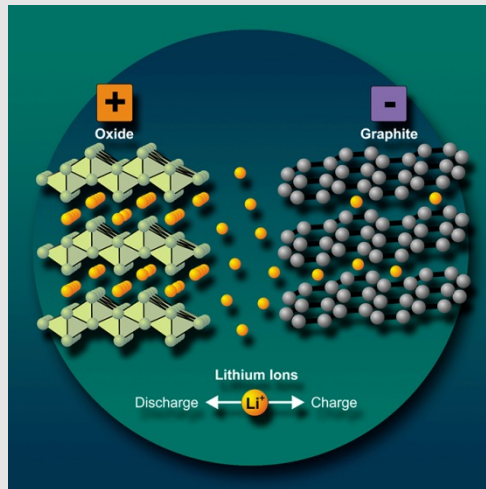




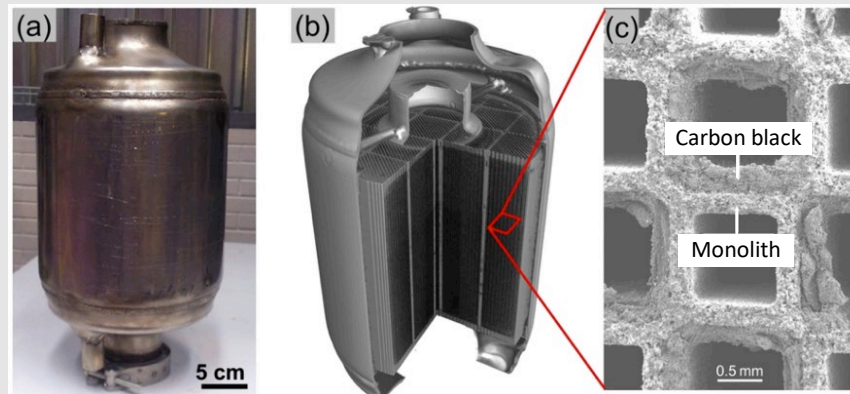




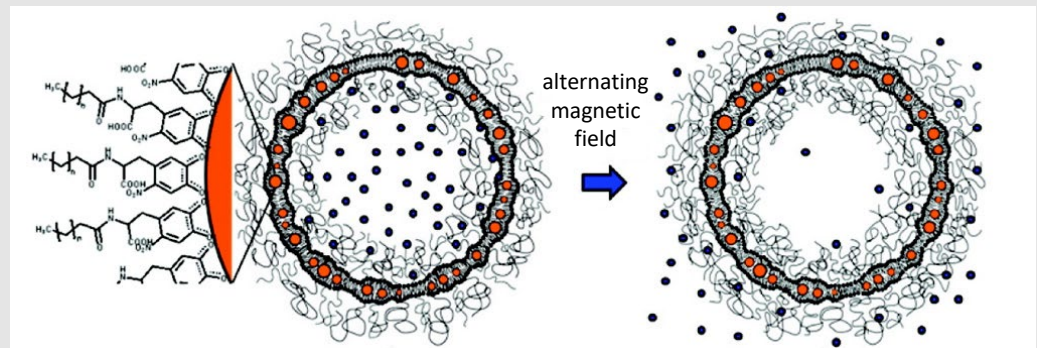
... for **energy** storage:
development of new
materials for batteries.



... for the **environment**:
distribution of soot in particle filters.

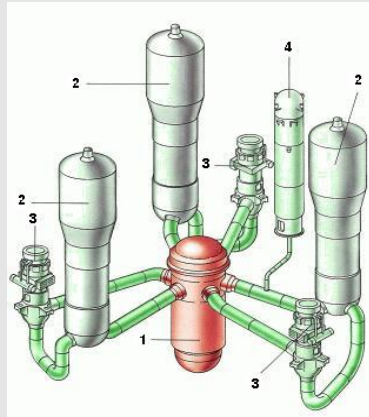
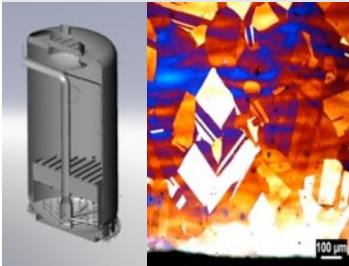


... for **human health**: encapsulation of medical agents
for targeted drug delivery in the body.



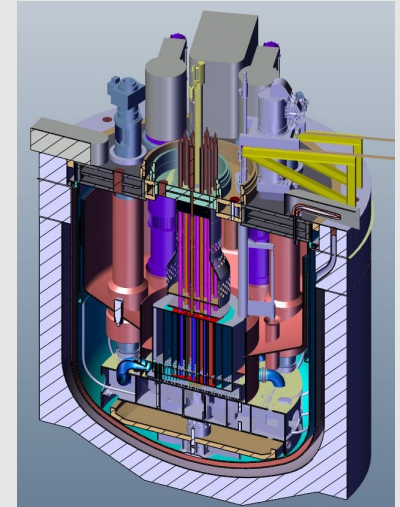
Nuclear safety

Understanding processes,
monitoring materials
ageing

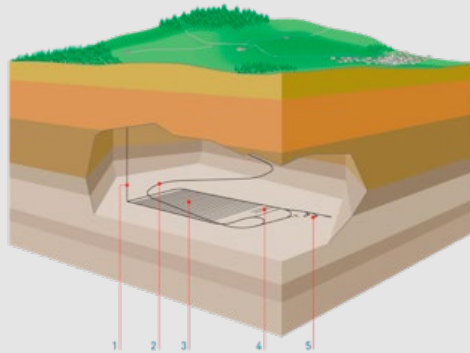
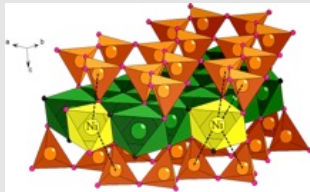


Generation-IV Concepts

Safety and
Sustainability of
innovative reactor
concepts

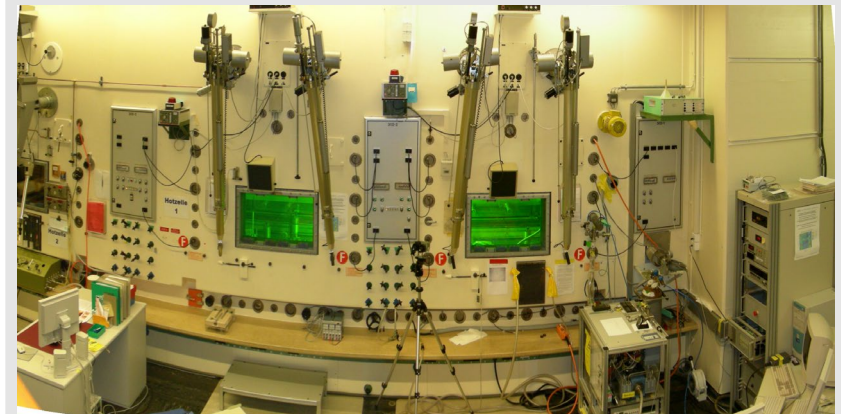


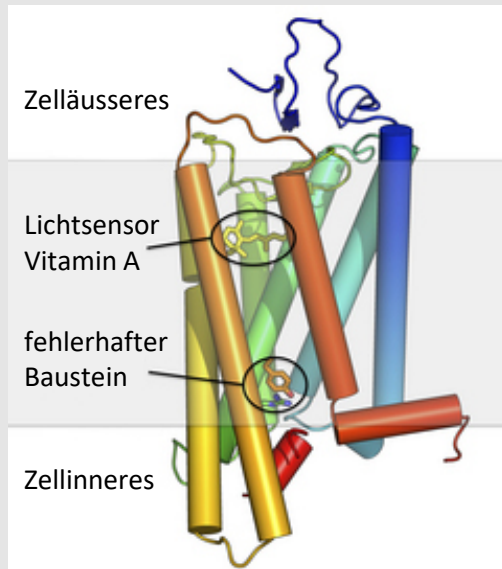
Deep geological disposal



Understanding of
interactions radionuclides and rocks/minerals

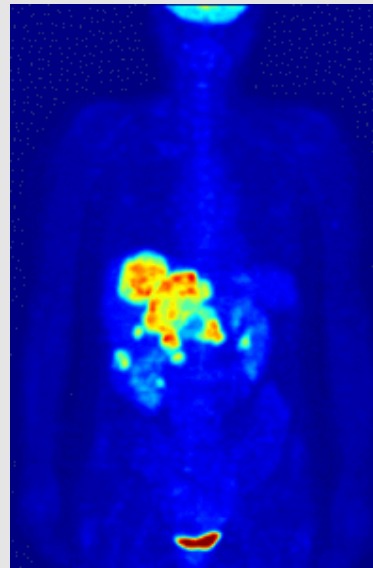
Hotlabor: investigation of nuclear materials





Structure of Proteins

For the targeted development of new drugs



Radiopharmaceuticals

for the diagnosis and therapy of cancer



Proton therapy

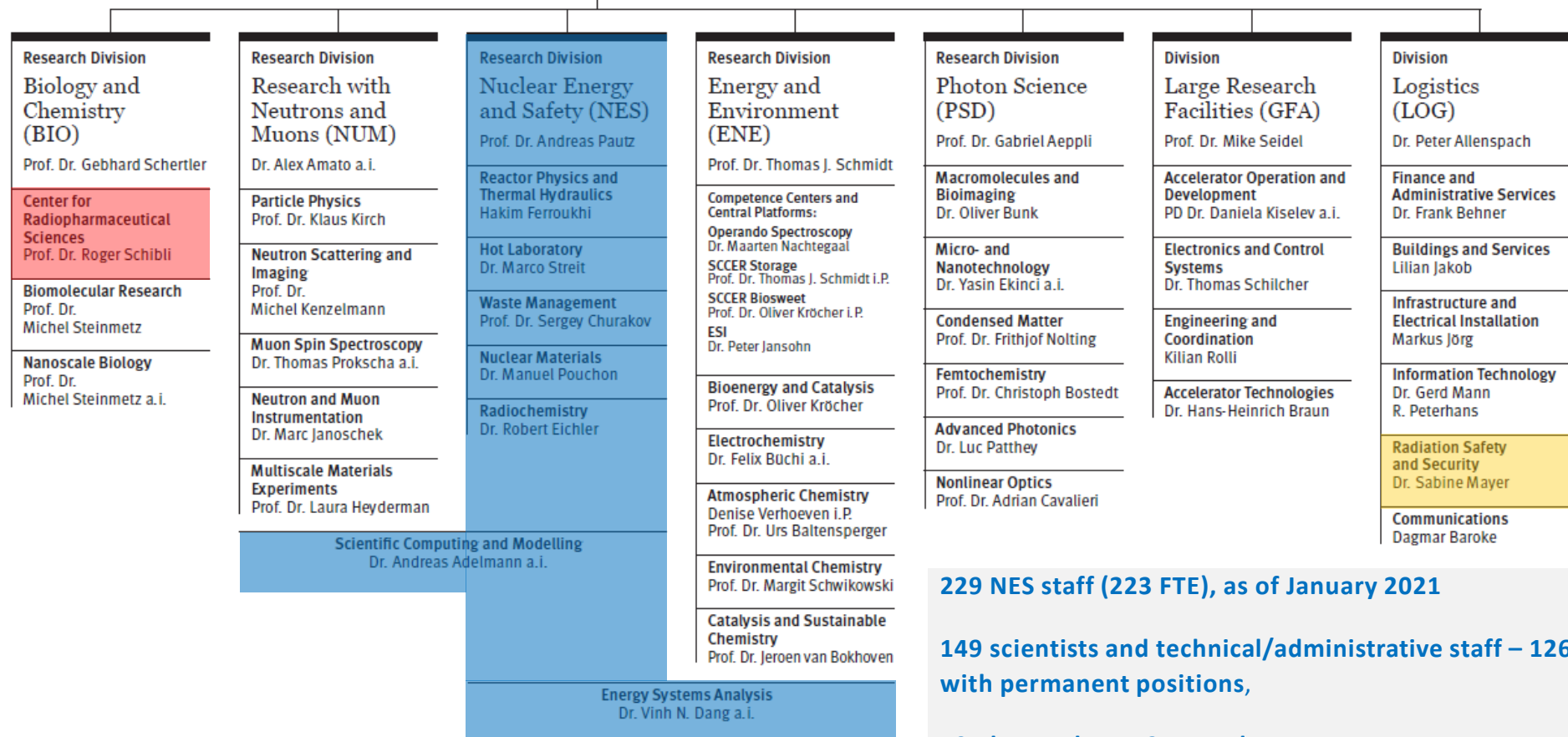
- Treatment of tumors
- Little damage to surrounding tissues

Director:
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Center for Proton Therapy	Prof. Dr. Damien Weber



229 NES staff (223 FTE), as of January 2021

149 scientists and technical/administrative staff – 126 with permanent positions,

49 PhD students, 31 Postdocs

After this event:

- All slides (and recordings), as well as the list of project proposals, will be made available on the ETHZ intranet
- Please feel free to contact the laboratories/sections of PSI in order to inquire about:
 - Possibilities for doing your semester project (8 ECTS in the 3rd semester) in one of the units
 - Possibilities for doing your master thesis project (30 ECTS in the 4th semester)
 - Semester and master project do not have to be necessarily in the same unit
- **We wish you a successful completion of your 2nd semester at ETH, an interesting internship, and look forward to seeing you at PSI in October**

**Thanks a lot for your
attention !**

