

PSI Center for Accelerator Science
and Engineering

HTS2024

Welcome - Introductory Remarks

11-13 June 2024, Bad Zurzach & PSI

Stéphane Sanfilippo Paul Scherrer Institute

Argovia : Rivers & wellness & and castles



Committee

- Kévin Berger (President) – [University of Lorraine – France]
- Remi Dorget – [Safran Techn. – France]
- Wescley T. B. de Sousa – [Karlsruhe Institute of Technology – Germany]
- João Murta Pina – [New University of Lisbon – Portugal]
- Nicolo Riva – [Proxima Fusion-Germany]
- Stéphane Sanfilippo – [Paul Scherrer Institut – Switzerland]
- Frederic Trillaud – [Universidad Nacional Autonoma de Mexico – Mexico]
- Min Zhang – [University of Strathclyde – Scotland]

Local committee (PSI)

- Stéphane Sanfilippo (Chair)
- Silvia Bacher (Organisation)
- Ciro Calzolaio
- Stefan Keller (Finance)
- Jaap Kosse
- Rebecca Riccioli

First workshop at PSI of a triptych dedicated to magnet modeling and magnet tests



PAUL SCHERRER INSTITUT
PSI

HTS MODELLING WORKGROUP

CHART
Swiss Accelerator
Research and
Technology

hts2024.eu

HTS Modelling Workshop 2024

June 10 – 13
Parkhotel Bad Zurzach & PSI
Switzerland

Innovative methods and tools for modelling large-scale HTS systems

Multiphysics problems, coupled & uncoupled

Applications in large instruments, such as high field magnets, medical magnets and accelerator magnets

IEEE CSC
Council on Superconductivity

ESAS
EUROPEAN SOCIETY FOR APPLIED SUPERCONDUCTIVITY

RENAISSANCE FUSION

SIGMAPHI
SUPERCONDUCTING INSTRUMENTATION

COMSOL

QUANSIENT

10/06-13/06/2024

PAUL SCHERRER INSTITUT
PSI

23rd International Magnetic Measurement Workshop (IMMW 23)

23th International Magnetic Measurement Workshop

Oct 6 – 11, 2024
Parkhotel Bad Zurzach & PSI
Switzerland

<https://indico.psi.ch/event/15256/>

- Overview of Magnetic Measurements
- Sensors
- Measurement Reports
- Instruments
- Methods
- Fiducialization and Alignment

CHART
Swiss Accelerator
Research and
Technology

KY

metrolab

SENIS
magnetic & current measurement

06/10-11/10/2024
(registration open)

PAUL SCHERRER INSTITUT
PSI

5th Superconducting Magnet Test Facilities Workshop & 3rd Workshop on Instrumentation and Diagnostics for Superconducting Magnets

2025

- Superconducting magnet test stands
- Magnet protection
- Magnet instrumentation and diagnostics

Spring 2025

Exchange among researchers in HTS modeling on :

Innovative methods and tools for modelling large-scale HTS systems

- Improvements in fundamental numerical methods to simulate superconducting materials, including HTS, MgB₂ and iron-based materials.
- Innovative methods and tools for design and simulation of HTS materials.
- Original, novel application of commercial numerical software packages,
- Open access modelling and simulation resources for teaching, training and research.

Coupled & uncoupled multiphysics problems

- Computation of AC losses under distinct regimes.
- Thermal modelling (coupled and uncoupled).
- Mechanical modelling (coupled and uncoupled).

Applications in large instruments (high-field magnets, medical magnets and accelerator magnets....)

- Design and optimization tools for HTS devices for power/transportation applications [Topics include energy storage, including SMES and flywheels; fault current limiters; power cables; transformers; wind generators; stacked tape machines; and others],
- Development of tools for integration with power grid software simulators,
- Novel applications of HTS materials



Time plan of the event

10 June 24 (Monday)-13 June 24 (Thursday)



Monday evening : Welcome reception & apéro, (Park Hotel)

Tuesday : Workshop day 1 (presentations)-Park Hotel

Wednesday

- Transfert to PSI (Villigen)
- Morning : Sponsor session + **Poster session**
- **12 : 00 End of the vote: election of the two new members of the HTS modeling board**
- Afternoon : PSI Presentation (auditorium) Oral Session + Lab tour
- Evening : Social Dinner (Habsburg Castle) – Transfer back to Zurzach

Thursday

- Morning : Workshop Day 2 (presentations) - Park Hotel
- End of the workshop : Thursday Midday

Conference Room for the oral sessions (Park Hotel)



Plenum room 150 m²

Concert layout 100 persons (without table)

- beamer with screen
- 2 flipcharts
- 2 pinboards
- moderation material

Coffee breaks just outside the room

Booth from sponsors outside the room



No hybrid sessions

Many thanks to our sponsors !!!!



Many thanks to the sponsors for contribution and support



**Workshop dinner:
Habsburg castle (1020)**

*Reduced fee for
the early career
scientists
participants (32)*

+



Dedicated session on Wednesday

Morning at PSI

Booth at the conference room entrance

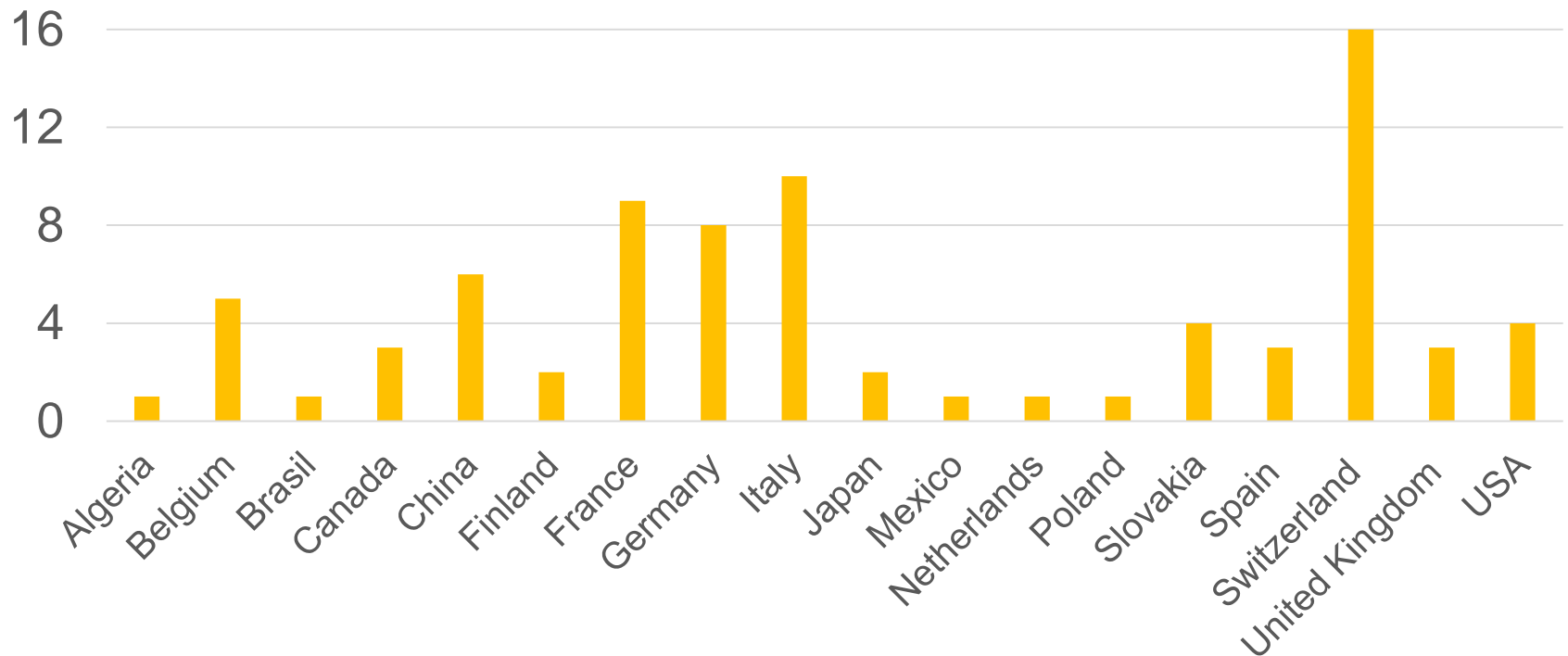
Participants



79 participants (thank you for your interest !)

18 countries - An authentic international workshop

Participants -Countries



Program of the workshop



Abstract : 50 abstracts
Submitted on indico

Committee's classification

- 6 invited talks (25+5 min)
- 19 contributed talks (20+5 min)
- 25 Posters

3 sessions

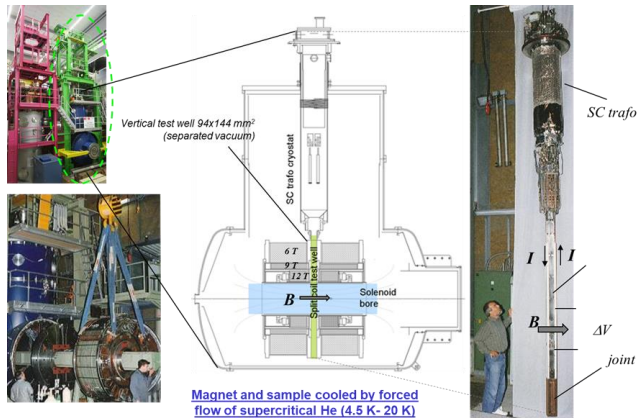
- Coupled and uncoupled Multiphysics problems
- Innovative methods and tools
- Applications

Posters session of 1h30 at PSI Wednesday morning (preparation during a long coffee break ~30 min)

Awards for the 3 best contribution of Early Career Scientist at the end of the workshop

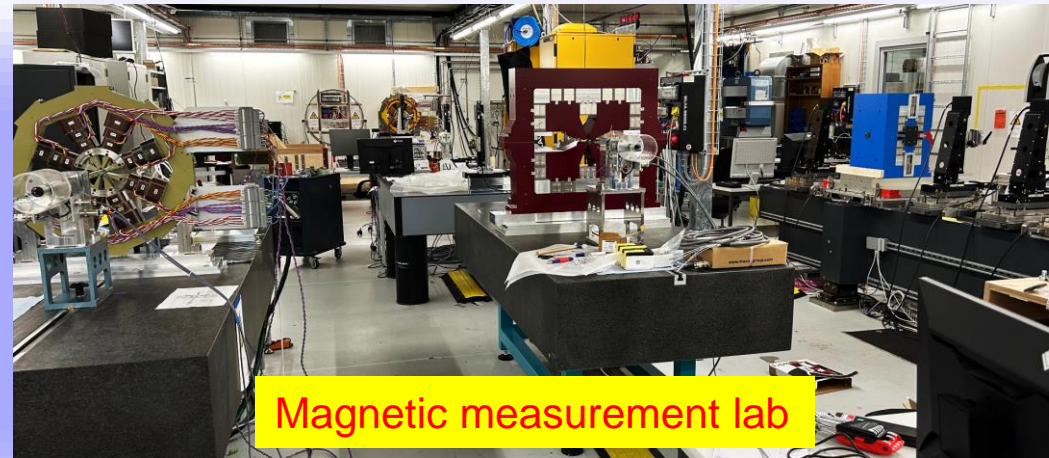
Monday 10 June 2024	
Welcome Apero and Workshop Registration	18h00
Tuesday 11 June 2024	
Workshop Registration	08:00
Workshop Introduction	08:30
Session 1: Coupled & Uncoupled Multiphysics Problems	
Wednesday 12 June 2024 : Sessions & Visits at the Paul Scherrer Institute	
Transfer to the Paul Scherrer Institute	08:15
Paul Scherrer Institute	08:45
Key-note presentations from sponsors	09h:00
Poster Session	10h00
Session 2: Innovative methods and tools for modelling large-scale HTS systems	
Overview of the Paul Scherrer Institute-Hans Braun	14:30
Session 3: Applications	
Visit Test stations (16h40-18h40)	16:30
Social Dinner at the Habsburg Castle till 22h00- transfert to Bad Zurzach	
Thursday 13 June 2024	
Session 3: Applications	
Summary, awards, conclusion -End of the workshop	11h40

SULTAN (Swiss Plasma Center-EPFL)



Cryogenic test stand

SC Magnet lab (CHARTMagDev)



Magnetic measurement lab

4 stations

4 groups of 20 persons

Visit : 2 hours

Welcome to the Dorint Parkhotel Bad Zurzach



Public WLAN – WiFi at Dorint Parkhotel Bad Zurzach

Free SMS login (valid 6 months)

Network: Park_Hotel Bad Zurzach

Browser: www.pwlan.ch

Password via SMS

Lunch and Dinner

Following meals are included in the registration fee:

Tuesday: 12:00 lunch and 19:00 dinner

Wednesday: lunch and conference dinner (see PSI day)

Thursday after the event: Sandwich lunch



Parkhotel will provide a form at the HTS registration desk with 3 meal options:

- Meat
- Fish
- Vegetarian

Please mark your preference every day before the morning coffee break

Group photo : on Thursday morning during the coffee break

Hot springs (Thermalbad)

If you booked hotel accommodation at Parkhotel you can enter the hot springs free of charge



PSI day on Wednesday, June 12th 2024



08:10 Departure by bus in front of the Parkhotel to PSI
Presentations and breaks in the morning and afternoon

10:30 Poster Session: Please bring your posters!

16:40 PSI Lab visits: Please wear flat shoes (no heels).

Please contact Stéphane or Silvia if you apply to one of the following categories, **as access to areas may be forbidden:**

Pregnant women; persons equipped with pacemaker, defibrillator, electronic medicine dispenser, hearing aid or metal implant, person with reduced mobility or otherwise incapacitated, minors under the age of 16.

18:30 Departure in front of the PSI auditorium for the conference dinner at Habsburg castle

22:00 Departure from Habsburg to Parkhotel Bad Zurzach



***For questions/assistance please contact:
Silvia Bacher or Stephane Sanfilippo***

Enjoy HTS2024



Our Innovation Campus

