

POLAB at ICEC/ICMC

R.Piccin

Polymer Lab Weekly Meeting

01/08/2024



Themes:

Materials for cryogenic applications (mostly metallic but including polymers!)

Large Cryogenic Systems (e.g. LHC, fusion machines)

Industrial applications (e.g. Energy, Transport)

Cryocoolers, Cryostats, and other components

[From the indico page of the event you can download the presentations:](https://indico.cern.ch/event/1296489/timetable/?view=standard)

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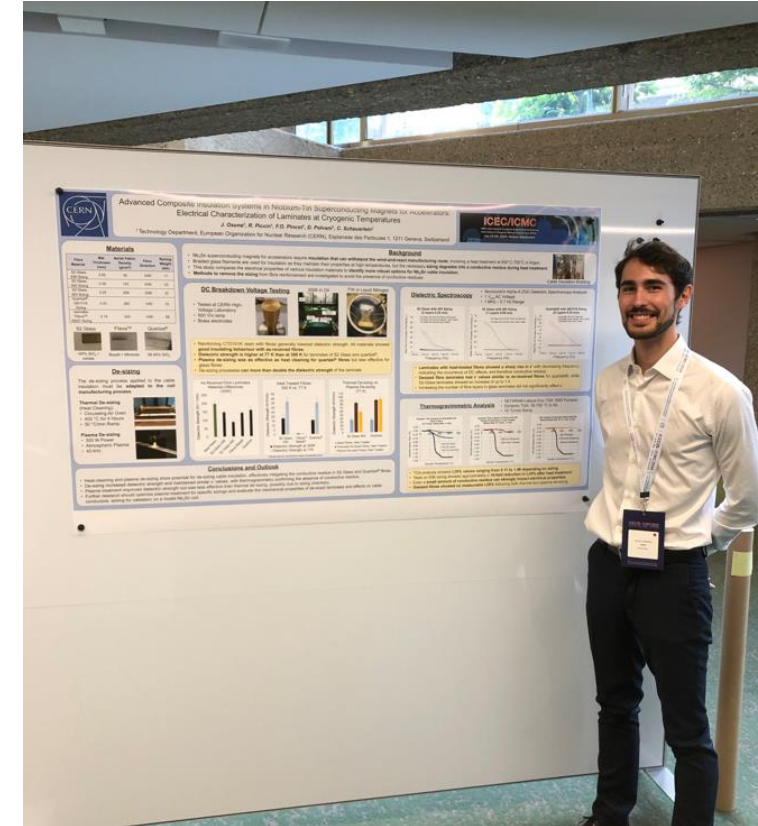
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5 contributions from polymer lab team!!!

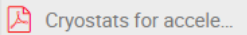

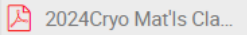
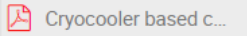

Bertsch J. et al.	Thermomechanical properties of epoxy and wax matrix composites for superconducting magnets
Osuna J. et al.	Advanced Composite Insulation Systems in Niobium-Tin Superconducting Magnets for Accelerators [...]
Scheuerlein C. et al.	Dielectric, thermal and mechanical properties of insulation systems for quench heaters for the protection of superconducting magnets
Verma B. et al.	Adhesion analysis of epoxy resin impregnation systems for Nb ₃ Sn superconducting magnets
Scheuerlein C. et al.	Thermomechanical properties and irradiation induced aging of SLA and FDM 3D printed high performance polymers

Add your poster here:

<https://edms.cern.ch/ui/#!master/navigator/project?P:1816443886:101509855:subDocs>



Courses

11:45 → 12:00	Start of conference	🕒 15m 📍 C1CG
12:00 → 16:00	Registration Desk and Publication Office open at conference center	🕒 4h
13:00 → 14:45	ICEC course 1 "Cryostats for Accelerator Superconducting Devices" Orateur: Vittorio Parma (CERN)  	🕒 1h 45m 📍 Room B
13:00 → 14:45	ICMC course 1 "Materials selection for cryogenic applications" Orateur: Ignacio Aviles Santillana (CERN) 	🕒 1h 45m 📍 Room C
14:45 → 15:15	Coffee & Tea Break (for course attendees only)	🕒 30m
15:15 → 17:00	ICEC course 2: "Cryocooler based cooling options, from principles to performance, to system integration" Orateur: Torsten Koettig (CERN) 	🕒 1h 45m 📍 Room B
15:15 → 17:00	ICMC course 2: "Cryogenic Materials & Magnet Technology for High Energy Physics Detectors" Orateur: Herman ten Kate (University of Twente / CERN) 	🕒 1h 45m 📍 Room C

A list of some Plenary Talks

Accelerator technologies:

- Low temperature technologies for accelerators and detectors at CERN (M. Jimenez)
- Advancing Superconductor Technology for High Field Applications: Current State and Emerging Trends (C. Senatore)

Other industrial applications:

- Electrification of Aviation Propulsion – Cryogenic Technologies that enable the Next Generation of Propulsion Systems
- Cryogenics for power and energy: a winning ticket?
- Cryogenics for future Hydrogen Infrastructure

Oral Presentations

- Onset of mechanical degradation due to transverse compressive stress in Nb₃Sn Rutherford cables as a function of heat treatment and impregnation (K. Puthran)
- Can Stainless Steel Meet the Challenges of Future Cryogenic Engineering Systems? (I. A. Santillana)