

ElectroCeramics XX Autumn School

Advanced 2D and Thin-Film Materials

Processing, Device Fabrication and Characterization

10–11 October 2026

BioSense Institute, University of Novi Sad, Serbia

Saturday 10 October 2026

Time	Programme
08:00–08:30	Registration
08:30–09:00	Welcome presentation
09:00–10:30	Lecture 1: Solution chemistry based routes to ferroelectric perovskite-oxide thin films <i>Barbara Malič</i> Electronic Ceramics Department, Jožef Stefan Institute, Ljubljana, Slovenia
10:30–10:45	Coffee break
10:45–12:15	Lecture 2: Fundamentals of diffraction and scattering – and some applications in electroceramics <i>Jacob L. Jones</i> Department of Materials Science and Engineering, North Carolina State University, Raleigh, USA
12:15–13:00	Lunch break — provided at the venue
13:00–14:30	Lecture 3: Nanoscale Characterization of Functional Materials by Scanning Probe Microscopy <i>Brian Rodriguez</i> School of Physics, University College Dublin, Dublin, Ireland
14:30–14:45	Coffee break
14:45–15:30	Laboratory Session 1
15:30–16:15	Laboratory Session 2
Evening	School dinner

Sunday 11 October 2026

Time	Programme
08:45–10:15	Lecture 4: Binary ferroelectric materials: deposition, properties, and applications <i>Lucian Pintilie</i> National Institute of Materials Physics, Măgurele, Romania
10:15–10:30	Coffee break
10:30–12:00	Lecture 5: Atomic Layer Deposition: From Surface Chemistry to Atomic Manufacturing <i>Paula M. Vilarinho</i> CICECO – Aveiro Materials Institute, Department of Materials and Ceramics Engineering, University of Aveiro, Portugal
12:00–13:00	Lunch break — provided at the venue
13:00–14:30	Lecture 6: New Approaches to the Sustainable Processing of Electroceramic Films <i>Marco Peiteado</i> Electroceramics Department, Instituto de Cerámica y Vidrio, Consejo Superior de Investigaciones Científicas (CSIC), Madrid, Spain
14:30–14:45	Coffee break
14:45–15:30	Laboratory Session 3
15:30–16:15	Laboratory Session 4

Laboratory sessions

Four laboratory sessions, each lasting 45 minutes, connect the fabrication and characterization of 2D materials with their integration into field-effect transistors (FETs) for sensing applications. Two sessions are scheduled each day.

Session	Topic
Session 1	MXene and TMD delamination, deposition of monolayers
Session 2	Structural characterization of 2D materials and thin films
Session 3	Clean room demonstration of FET fabrication using thin-film technologies
Session 4	FET design basics, characterization and practical applications in sensor solutions

