



Second International Seminar and Spring School on 2D-materials and devices (2DMD-2023)



Final program:

April 25, 2023

Yerevan, Armenia, 25 - 27 April 2023

I. Opening session

9:30 Opening remarks by Dr. Theresia Knobloch (TU Wien, NPUA)

9:40 Prof. Gor Vardanyan (NPUA) - **90th anniversary of NPUA: short history and current activities** - 20 min

10:00 Prof. Yury Illarionov (SUSTech, China) - **Greetings from SUSTech**, (on-line) - 20 min

10:20 Prof. Tibor Grasser (TU Wien) - Review: **Comparison of Insulators for 2D Transistors** - 40 min

11:00 *Coffee break (20 min)*

II. Growth and characterization of fluoride heterostructures

11:20 Dr. Sergey Suturin (Ioffe Institute) - Tutorial: **MBE growth and diffraction studies of fluoride nanoheterostructures** - 50 min

12:10 Mr. Iliya Ivanov (Ioffe Institute) - **Studies of CaF₂ epitaxial growth on Si(111) in new two-chamber MBE-system**) - 20 min

12:30 Lunch (1.5 hours) - hotel Ani Central Inn

III. Growth and characterization of fluoride heterostructures (continued)

14:00 Dr. Igor Sokolovic (TU Wien) - **MBE growth of fluorides on metallic vdW substrates** - 20 min (on-line)

14:20 Mr. Mauro Borghi (University of Modena) - **MBE growth and characterization of SrF₂ layers on Ag(111)** - 20 min

14:40 Mr. Alexandros Provias (TU Wien) - **C-V measurements of MIS devices with CaF₂ layers** - 20 min

15:00 Ms. Polina Dvortsova (Ioffe Institute) - **I-V and C-V characterization of MIS heterostructures with fluoride layers** - 20 min

15:20 *Coffee break (20 min)*

IV. Growth and characterization of 2D-materials

15:40 Prof. Nikolai Sokolov (Ioffe Institute) - Review: **Recent progress in epitaxial growth of 2D-materials** - 40 min

16:20 Dr. Eugenia Lobanova (Ioffe Institute) - **Laser MBE growth of WS₂ layers on Al₂O₃ and CaF₂/Si(111) substrates** - 20 min

V. Devices based on 2D-materials

16:40 Dr. Theresia Knobloch (TU Wien, NPUA) - Tutorial: **Possible configurations and technologies of FET fabrication with fluoride layers** - 50 min

17:30 Dr. Burkay Uzlu - (AMO GmbH, Germany) - **Fabrication and characterization of G-FET transistors on CaF₂/Si(111)** - 20 min (on-line)

19:30 Working dinner - Restaurant Vostan, 8 Abovyan St, Yerevan 0010

April 26, 2023

VI. Related topics

9:30 Prof. Luca Pasquali (University of Modena) - Tutorial: **X-ray -Photoelectron Spectroscopy and its application for characterization of 2D-materials** - 50 min

10:20 Mr. Alexander Korovin (Ioffe Institute) - Tutorial: **Laser molecular beam epitaxy and its applications for growth of solid state heterostructures** - 50 min

11:10 Coffee break (20 min)

11:30 - Prof. Gagik Shmavonyan (NPUA) - Review: **2D Nanostripes fabricated via Rubbing** - 40 min

12:10 - Dr. Mehdi Sattari-Esfahlan (TU Wien) - **Reliability of SrTiO₃/MoS₂ FETs** - 20 min

12:30 - Mr. Maksim Sargsyan (CANDLE) - **Laser microfabrication and testing of shadow masks for device fabrication** - 20 min

12:50 - Discussions

13:30 - Lunch (1.5 hours) - Tavern Yerevan, Teryan, 91 Teryan St, Yerevan 0009, Armenia

15:00 - Conference photo and excursion to NPUA

18:00 - Evening - walking tour through Yerevan

April 27, 2023

Discussions and cultural program,

9:30 - Mashtots Matenadaran-Institut (Matenadaran) - guided tour

12:00 - arrival at Lake Sevan for lunch

14:30 - guided tour in Monastery Sevanavank

16:00 - guided tour in Monastery Matosavank

19:30 Seminar closure and farewell dinner in Lavash Restaurant, 21 Tumanyan St, Yerevan 0001, Armenia