

SAINTS Summer School (Part 1: 21 January – 4 February 2022)

Time Lines:

Welcoming and introduction to the virtual platform (21 January 2021)

Week 1: 24 – 28 January 2022

Week 2: 31 Jan – 4 February 2022

Revised Time table: 21 January 2022 – 4 February 2022

Time	Friday 21 January
10h00 – 11h30	Access and introduction to virtual platforms and software + Virtual Tour media made available
11h30 – 12h00	Welcoming - Dr Rudzani Nemetudi (iTL) + Dr Dmitry Kamanin (JINR)

Week 1

Time	Monday 24 January
10h00 – 11h00	Introduction to JINR – Dr Dmitry Kamanin (JINR)
11h00 – 12h00	Introduction to iThemba LABS (iTL) – Dr Rudolph Nchodu (iTL)
12h00 – 13h00	Multi-Purpose Research Reactor Facility – Katse Maphoto (DMRE)
13h00 – 14h00	LUNCH
14h00 – 15h00	Introduction NMU Facilities – Dr Jacques O'connell (NMU)
15h00 – 16h00	Introduction UP Facilities – Prof Thulani Hlatshwayo (UP)

Time	Tuesday 25 January
10h00 – 11h00	Accel Physics 1 – Dr Joele Mira (iTL)
11h00 – 12h00	Accel Physics 1 – Dr Joele Mira (iTL)
12h00 – 13h00	Accel Physics 1 – Dr Muneer Sakildien (iTL)
13h00 – 14h00	LUNCH
14h00 – 15h00	Accel Physics 1 – Hugo Barnard (iTL)
15h00 – 16h00	Accel Physics 1 – Hugo Barnard (iTL)

Time	Wednesday 26 January
10h00 – 11h00	Radiation Hardness Assurance – Dr Arno Barnard (SU)
11h00 – 12h00	Radiation Hardness Assurance – Dr Arno Barnard (SU)
12h00 – 13h00	Neutron studies at IBR-2 – Prof Timur Tropin (JINR)
13h00 – 14h00	LUNCH
14h00 – 15h00	State-of-the-art in NAA at the reactor IBR-2 – Dr Inga Zinicovscaia (JINR)
15h00 – 16h00	Accel Physics 2 (JINR-IBR) –

Time	Thursday 27 January
10h00 – 11h00	Radiation Safety / Protection – Mr Philip Beukes (iTL)
11h00 – 12h00	Radiobiology – Dr Julie Bolcaen (iTL)
12h00 – 13h00	Fundamental aspects of ion-tracks on a variety of solids through swift heavy ions – Vladimir Skuratov, JINR
13h00 – 14h00	LUNCH
14h00 – 15h00	Applications of track-etched materials – Dr Alexander Nechaev, JINR
15h00 – 16h00	Self-organization of solid microstructure under irradiation – Prof P Selyshchev

Time	Friday 28 January
10h00 – 11h00	Introduction to coding in Python: Lecture 1 – Calib Buckton
11h00 – 12h00	Introduction to coding in Python: Lecture 2 – Calib Buckton
12h00 – 13h00	Introduction to coding in Python: Lecture 3 – Calib Buckton
13h00 – 14h00	LUNCH
14h00 – 15h00	Practical with Python – Calib Buckton
15h00 – 16h00	Practical with Python – Calib Buckton

Week 2

Time	Monday 31 January
10h00 – 11h00	Introductory lecture on Nuclear Physics – Prof Iyabo Usman (Wits)
11h00 – 12h00	Introductory lecture on Nuclear Physics – Prof Iyabo Usman (Wits)
12h00 – 13h00	Introductory lecture on Nuclear Physics – Prof Elena Lawrie (iTL)
13h00 – 14h00	LUNCH
14h00 – 15h00	Introduction to Nuclear Few-Body Calculations – Prof Mantile Lekala (UNISA)
15h00 – 16h00	RBS and PIXE – Dr Chris Mtshali (iTL)

Time	Tuesday 1 February
10h00 – 11h00	Neutron Physics research and applications – Dr Zina Ndabeni (UCT-iTL)
11h00 – 12h00	Neutron Physics research and applications – Dr Zina Ndabeni (UCT-iTL)
12h00 – 13h00	TEM and SEM – Dr Jacques O’ Connell
13h00 – 14h00	LUNCH
14h00 – 15h00	Neutron Physics research and applications – Dr Zina Ndabeni (UCT-iTL)
15h00 – 16h00	Nuclear and Related Analytical techniques in Air Pollution Studies – Prof Marina Frontasyeva (JINR))

Time	Wednesday 2 February
10h00 – 11h00	Lecture “Introduction into the Virtual Lab Project” – Yuri Panebratsev (JINR)
11h00 – 12h00	Virtual practicum on the basics of measuring signals from the pulse generator – Kseniya Klygina, Pavel Semchukov (JINR)
12h00 – 13h00	Virtual practicum on gamma spectroscopy based on a scintillation detector – Kseniya Klygina, Pavel Semchukov (JINR)
13h00 – 14h00	LUNCH
14h00 – 15h00	Virtual practicum on measuring the energy of the decay products of californium-252 source (alpha decay and spontaneous fission) – Kseniya Klygina, Pavel Semchukov (JINR)
15h00 – 16h00	Review of virtual practicums on gamma spectroscopy based on Ge-Li semiconductor detectors and the study of X-ray radiation (Moseley’s Law) – Kseniya Klygina, Pavel Semchukov (JINR)

Time	Thursday 3 February
10h00 – 11h00	The study of CCT within the SA-JINR collaboration – Riaan Korsten (SU)
11h00 – 12h00	Raman spectroscopy – Dr Mbuso Mlambo
12h00 – 13h00	Introduction Necsa Facilities – Prof Andrew Venter (Necsa)
13h00 – 14h00	LUNCH
14h00 – 15h00	Nuclear Physics research with Radioactive Ion Beam – Dr Rob Bark (iTL)
15h00 – 16h00	Nuclear Physics research with Radioactive Ion Beam – Dr Rob Bark (iTL)

Time	Friday 4 February
10h00 – 11h00	Student session
11h00 – 12h00	Student session
12h00 – 13h00	Closing of the school – iTL/JINR
13h00 – 14h00	LUNCH