The times are given as UTC+3 (Helsinki)

Monday 20.6.2022

11.00-11.10 Welcome (SCANDEM president Kesara Anamthawat-Jónsson and Professor Minnamari Vippola)

11.10-11.40 **Plenary** (Chair: Minnamari Vippola): **Sara Bals**, University of Antwerp, Belgium: ***3D characterization of nanomaterials under relevant conditions***

Break 5 min

Material Session 1: Atomic-scale characterization by STEM (Chair: Hua Jiang)	***Life Session 1 : 3D imaging and image analysis*** (Chair: Eija Jokitalo)
11.45-12.05 **Randi Holmestad**, Norwegian University of Science and Tehcnology: ***Phase Mapping of Precipitates in Aluminium Alloys by SPED***	11.45-12.05 **Julia Fernandez-Rodriguez**, University of Gothenburg: ***The BUILD project: Proof-of-concept study for high-resolution correlative multimodal imaging of mouse brain***
12.05-12.25 **Justinas Palisaitis**, Linköping University: ***Atomic-scale study of planar defects in transition metal diboride coatings***	12.05-12.25 **Ilya Belevich**, University of Helsinki: ***Democratizing deep learning for image segmentation with DeepMIB***
12.25-12.45 **Andreas Rosnes**, Norwegian University of Science and Technology: ***Differentiating Polyamorphous SiO2 by SPED, PDF and Blind Source Separation Algorithm***	12.25-12.45 **Sonal Prasad**, Linköping University: ***Metabolic age-related hearing loss: Functional changes in the organ of Corti***
12.45-13.05 **Thomas Thersleff**, Stockholm University: ***Advanced nanoscale characterization of lithium ion batteries***	12.45-13.05 **Christian Schwalb**, Quantum Design Microscopy GmbH: ***In-situ Nanoscale Characterization of Electrical and Magnetic Properties of 3D Nanostructures by combination of AFM, SEM and FIB***

13.05-14.00 Lunch break & poster session

14.00-15.00 **Company introductions** (Chair: Turkka Salminen)

15.00-15.30 **Plenary** (Chair: Minnamari Vippola): **Giuseppe Balistreri**, University of Helsinki, Finland: ***How SARS-CoV-2 enters human cells and how can we stop it***

Break 10 min

Material Session 2: Applications and simulations in electron microscopy (Chair: Mari Honkanen) 15.40-16.00 **Mads Larsen**, Technical University of Denmark: ***Simulating Electron-Holography with FEM for charge analysis*** 16.00-16.20 **Erkka Frankberg**, Tampere Unviversity: ***Plasticity of amorphous Al2O3 at room temperature*** 16.20-16.40 **Thao Nguyen**, Top Analytica Oy: ***High resolution SEM/EDS study of stainless steel oxidation at high temperatures*** 16.40-17 **Robert Boyd**, Linköping University: ***Low voltage scanning electron microscopy analysis of thin film microstructure***	***Life Session 2: Imaging of cells and biomaterials*** (Chair: Varpu Marjomäki) 15.40-16.00 **Anne Skogberg**, Tampere University: ***SEM characterization of cell morphology on flat 2D substrates, more physiological 3D substrates and porous substrates for diverse cell cultivation applications*** 16.00-16.20 **Igor Shevkunov**, Tampere University: ***Coherent lensless phase microscope with subpixel resolution*** 16.20-16.40 **Ingela Parmryd**, University of Gothenburg: ***Analysis of membrane order in pollen tubes – Methodological challenges and plant unique findings*** 16.40-17 **Julia Fadjukov**, Tampere University: ***Investigating the physiology of retinal pigment epithelium with immunogold electron microscopy***

Tuesday 21.6.2022

11.00-11.30 **Plenary** (Chair: Minnamari Vippola): **Jianghua Chen**, Hunan University, China: ***Quantitative and 3D electron microscopy for materials science***

Break 5 min

Material Session 3: In-situ electron microscopy (Chair: Thomas Willum Hansen) 11.35-11.55 **Ofentse Makgae**, Lund University: ***Visualising the variable temperature oxidation of titanium nitride in the aberration-corrected environmental TEM*** 11.55-12.15 **Gaurav Mohanty**, Tampere University: ***Recent advances in in-situ micromechanical testing inside Scanning Electron Microscopes (SEM)*** 12.15-12.35 **Michael Seifner**, Lund University: ***Direct observation of facet, morphology, and phase evolution in photocatalytic materials***	***Life Session 3: Fluorescence imaging*** (Chair: Katri Lindfors) 11.35-11.55 **Ainsley Huang**, University of Gothenburg: ***Optimising image analysis of membrane hydration using solvatochromic fluorophores*** 11.55-12.15 **Kesara Anamthawat-Jonsson**, University of Iceland: **Genomic relationship between American lymegrass species and their Eurasian and Asiatic relatives** 12.15-12.35 **Elina Yli-Rantala**, Tampere University: ***Fluorescence microscopy and SEM in the validation of a microplastic extraction method***

Break 5 min

12.40-13.40 **Company introductions** (Chair: Turkka Salminen)

13.40-14.40 Lunch break & poster session

14.40-15.10 **Plenary** (Chair Minnamari Vippola)**: Lucy Collinson**, Francis Crick Institute, UK: ***Volume CLEM: Bigger, better, faster, more…***

Break 5 min

Material Session 4: Force microscopy (Chair: Kati Valtonen)	***Life Session 4: Electron microscopy methods in biology*** (Chair: Nonappa)
15.15-15.35 **Maja Vuckovac**, Aalto University: ***Scanning droplet adhesion microscopy***	15.15-15.35 **Helena Vihinen**, University of Helsinki: **Thin section TEM analysis to study Golgi morphology and localization of Golgi proteins**
15.35-15.55 **Anthoula Poulia**, University of Oslo: ***Magnetic force microscopy in the service of high entropy alloys exploration***	15.35-15.55 **Tayyaba Malik**, Technical University of Denmark: ***Application of nanochannel liquid cell for liquid phase electron microscopy***
15.55-16.15 **Mika Latikka**, Aalto University: ***Scanning droplet tribometer for rapid surface wetting mapping***	15.55-16.15 **Vili Lampinen**, Tampere University: **Modular vaccine platform based on the norovirus-like particle**

Break 5 min

16.20-17 General assembly, prizes and closing remarks

Video posters (in alphabetical order):

Shahroz Ahmed, Tampere University: ***Dynamic strain aging in multiphase steels***

Betül Aktaş, Tampere University: ***Porous flame sprayed Al2O3 coating for slippery liquid infused surface***

Christopher Røhl Andersen, Technical University of Denmark: ***Local E-field manipulation of III-V nanowire catalysts in an environmental transmission electron microscope***

Suprit Bhusare, Tampere University: ***Indentation based stress relaxation tests – novel tests to study transient plasticity***

Paulami Bose, Indian Institute of Technology Madras: ***Atom transfer between precision nanoclusters and polydispersed nanoparticles: A facile route for monodisperse alloy nanoparticles and their superstructures***

Tejas Gundgire, Tampere University: ***Surface and subsurface modification of selective laser melting built 316L stainless steel by means of severe shot peening***

Reza Jafari, Tampere University: ***A microstructure-based approach towards cold sprayed composite coating quality assessment***

Heli Koivuluoto, Tampere University: ***Microstructural details of high-pressure cold-sprayed aluminium alloy coatings***

Aloshious Lambai, Tampere University: ***High strain rate testing of ultra fine grained aluminium at micro and macro length scales***

Anastasiia Matiukhina, Tampere University: ***Perovskite nanocrystals under the Transmission Electron Microscope: towards reliable data***

Kristian Molhave, Techincal University of Denmark: ***Electrochemical Scanning Electron Microscopy***

Baeckkyoung Sung, KIST Europe / UST Korea: ***Cryo-electron microscopy of a thermotropic liquid crystal film dispersed with superparamagnetic nanoparticles***

Taimin Yang, Stockholm University: ***Development and application of automated experiments in transmission electron microscopy***

Rassim Younes, University of Bejaia: ***Structural and Microstructural investigation on TBC alumina doped with Titanium Coatings obtained by thermal spray process***

Amirhossein Zabihi, Tampere University: ***Microscopic characterization of fretting damage in quenched and tempered steel***

Setareh Zakeri, Tampere University: ***Applications of electron microscopy in additive manufacturing of porous multi-ceramics structures***