

# Workshop program

June 19<sup>th</sup>

8:30-8:40	Opening by <b>Erwin Kessels</b> (Chair, TU/e) and <b>Hugo de Haan</b> (Vision Dynamics)		
8:40-9:10	Keynote speaker: Prof. <b>Joost Frenken</b> (ARCNL)		
9:10-9:40	Plenary presentation of 3 young innovative host nation spin-offs/start-ups (10 min each) <ul style="list-style-type: none"> <li>▪ <b>Aaïke van Vugt</b> (VSParticle) “Nano-particles at the push of a button”</li> <li>▪ <b>Bart van Limpt</b> (Delft IMP) “Protection and functionalization of particles through scalable atomic layer deposition”</li> <li>▪ <b>Jan Aarts</b> (4Pico) “PicoMaster Direct Laser Writer”</li> </ul>		
9:40-10:10	30 min coffee break		
Start parallel session	<i>Session:</i> <b>Nano-Fabrication &amp; Nano-Devices</b> Moderator: Dr. <b>Pascale Maury</b> (ASML)	<i>Session:</i> <b>Nano-Fabrication</b> <i>Patterned ALD – Plasma/laser etching</i> Moderator: Prof. dr. ir. <b>Erwin Kessels</b> (TU/e)	<i>Session:</i> <b>Entrepreneurship Cases</b> Moderator: ir. <b>Hugo de Haan</b> (VD Science & Entrepreneurship)
10:10-10:30	Dr. <b>Pascale Maury</b> , ASML, “A review of additive patterning”	Prof. <b>Erwin Kessels</b> , TU/e, “The dawn of atomic layer processing”	Case 1: Dr. <b>Martin Ebert</b> , Yieldstar, ASML
10:30-10:50	Prof. <b>Phillippe Lecoeur</b> , CNRS; Université Paris-Sud, “Perovskite oxide MEMS: strain control and sensor applications”	Dr. <b>Adrie Mackus</b> , TU/e, “Area-selective ALD for bottom-up nano-fabrication”	
10:50-11:10	Dr. <b>Armin Knoll</b> , IBM Zurich, “Fabrication of nm accurate 3D profiles using thermal probes”	Dr. <b>Elina Siokou</b> , P2i Ltd Global Headquarters, “Plasma processing for different levels of liquid damage protection; a new characterization tool for barrier coatings”	Case 2: Dr. <b>Felix Holzner</b> , SwissLitho AG
11:10-11:30	Dr. <b>Harm Knoops</b> , Oxford Instruments, “Basics of plasma-assisted Atomic Layer Deposition for materials for spacers”	Dr. <b>Mikhael Bechelany</b> , CNRS, “ALD for membrane design and applications”	
11:30-12:00	30 min coffee break		
12:00-12:20	Dr. <b>Susanne Hoffmann-Eifert</b> , Forschungszentrum Jülich, “Nanostructured resistive switching devices for next generation non-volatile storage class memory”	Dr. <b>Dana Borsa</b> , Meyer Burger, “Spatial ALD from lab to fab”	Case 3: Prof. <b>Pieter Kruit</b> , Mapper Lithography
12:20-12:40	Dr. <b>Frank Nouvertne</b> , Raith, “Large Area Image Mapping and Automated Metrology for Improving Yield in Nanofabrication, Data Preparation and Process Control”	Dr. <b>Paul Poedt</b> , TNO, “Patterned spatial ALD for large-area and flexible electronics”	
12:40-13:00	Dr. <b>Christophe Cardinaud</b> , CNRS, “Plasma Etching for nanopatterning incl diagnostics and characterization”	Dr. <b>Alquin Stevens</b> , Innophysics, “μ-Plasma assisted ALD at atmospheric pressure of thin TiO <sub>2</sub> layers”	Case 4: Dr. <b>Valeria Sanginario</b> , Organic Spintronics
13:00-13:20	Dr. <b>Richard van Rijn</b> , Applied Nanolayers, “From wafer scale graphene production to 2D materials foundry”	Dr. <b>Efrain Altamirano-Sanchez</b> , Imec, “Multiple patterning for sub N5 technologies”	
13:20-14:20	Lunch		

Parallel session	<i>Session:</i> <i>Nano-Fabrication</i> Moderator: Prof. dr. ir. <b>Pieter Kruit</b> (TU Delft)	<i>Session:</i> <i>Nano-Metrology</i> Moderator: Prof. dr. ir. <b>Joost Frenken</b> (ARCNL)	<i>Session:</i> <i>Entrepreneurship Cases</i> Moderator: ir. <b>Hugo de Haan</b> (Vision Dynamics Science & Entrepreneurship)
14:20-14:40	Prof. <b>Pieter Kruit</b> , TU Delft, "Nano fabrication using electron beams"	Prof. <b>Urs Staufer</b> , TU-Delft, "Automated in-line Metrology for Nano-production"	Case 5: Dr. <b>Jos Maas</b> , PhenomWorld
14:40-15:00	Prof. <b>Ivo W. Rangelow</b> , TU Ilmenau, "Active "Quattro" cantilever arrays for large area fast –AFM imaging and nanolithography"	Dr. <b>Diederik Maas</b> , TNO, "Advanced defect classification by optical metrology"	
15:00-15:20	Dr. <b>Cas Damen</b> , TSST, "Pulsed Laser Deposition (PLD), a versatile deposition technique for growing thin films"	Dr. <b>Vassilios Constantoudis</b> , NCSR Demokritos, "Morphological Characterization of nanostructures through quantitative analysis of microscope images"	Case 6: Dr. <b>Bart van Limpt</b> , Delft IMP
15:20-15:40	Prof. <b>Giuseppe Compagnini</b> , Universita di Catania, "Nanoparticle generation and processing by lasers in liquids"	Dr. <b>Hamed Sadeghian</b> , TNO, "Through Layers nano-imaging with Subsurface scanning probe microscopy"	
15:40-16:10	30 min coffee break		
16:10-16:30	Dr. <b>Valeria Sanginario</b> , Organic Spintronics, "Pulsed Plasma Deposition for thin film treatments. From research to industry"	Dr. <b>Frank De Jong</b> , FEI, "Title will follow"	Case 7: Dr. <b>Alquin Stevens</b> , Innophysics
16:30-16:50	Dr. <b>Fabrice Oehler</b> , CNRS; University of Paris-Sud, "Understanding and modeling the kinetics of nanowire growth: from numerical simulation to in-situ studies"	Dr. <b>Marijn van Veghel</b> , VSL, "Pushing the boundaries of traceable metrology at the nanoscale"	
16:50-17:10	Dr. <b>Juan José Vilatela</b> , IMDEA Materials, "km/day synthesis of nanostructured textiles for energy and composite applications"	Dr. <b>Martin Ebert</b> , ASML, "Title will follow"	Case 8: Ir. <b>Aaïke van Vugt</b> , VSParticle
17:10-17:30	PhD student <b>Alfredo Mamei</b> , TU/e, "Direct-write ALD of transparent conductive oxides: micro- and nanoscale patterned In <sub>2</sub> O <sub>3</sub> :H and ZnO"	Dr. <b>Stefan Witte</b> , ARCNL, "Lensless imaging and spectroscopy with compact extreme ultraviolet sources"	
17:40-18:00	Plenary closure		
19:00-23:00	Meet & Match dinner		

June 20<sup>th</sup>

8:30-8:40	Opening by <b>Erwin Kessels</b> (Chair, TU/e) and <b>Hugo de Haan</b> (Vision Dynamics)		
8:40-9:10	Keynote speaker: Prof. <b>Marc Heyns</b> (IMEC) "Beyond Si-CMOS: Chronicle of a (r)evolution foretold"		
9:10-9:40	Plenary presentation of 3 young innovative host nation spin-offs/start-ups (10 min each) <ul style="list-style-type: none"> <li>▪ <b>Eric Kievit</b> (DENSsolutions) "The advancement of in-situ TEM Technologies and Techniques"</li> <li>▪ <b>Gertjan van Baarle</b> (Leiden Probe Microscopy) "Not available"</li> <li>▪ <b>Roland van Vliet</b> (NearFieldInstruments) "High throughput Parallel Atomic Force Microscopy"</li> </ul>		
9:40-10:10	30 min coffee break		
Start parallel session	<i>Session:</i> <b>Photonics and Semiconductor Nanophysics</b> Moderator: Prof. dr. ir. <b>P. Koenraad</b> (TU/e)	<i>Session:</i> <b>Nano-Devices</b> Moderator: Prof. dr. ing <b>Guus Rijnders</b> (University of Twente, Mesa+)	<i>Session:</i> <b>Entrepreneurship Cases</b> Moderator: <b>Hugo de Haan</b> (Vision Dynamics)
10:10-10:30	Prof. <b>Paul Koenraad</b> , TU/e, "Atom Probe Tomography: Element specific 3D microscopy at the atomic level"	Prof. <b>Guus Rijnders</b> (UTwente/Mesa+), "Integration of complex oxide materials in silicon platform technologies"	Case 9: Dr. <b>Gertjan van Baarle</b> , Leiden Probe Microscopy
10:30-10:50	Dr. <b>Lucie Behnke</b> , Solayer, "Sputtering of low temperature TCO layers on glass"	Dr. <b>Felix Holzner</b> , SwissLitho, "Fabrication of superior 2D and 3D nano-devices using NanoFrazor lithography"	
10:50-11:10	Dr. <b>Jean-Louis Leclercq</b> , CNRS, "Folding Photonic Crystals: a new family of 3D hollow micro-photonic resonators by using "stress-engineering""	Dr. <b>Habil Artur Erbe</b> , Helmholtz-Zentrum Dresden, "Contacting 1d and 2d electronic nanostructures"	Case 10: MSc <b>Huib Heezen</b> , SolayTec BV
11:10-11:30	Dr. <b>Mathias Kaschel</b> , IMS Chips, "Rapid prototyping of integrated silicon photonic components"	Dr. <b>Wim Soppe</b> , ECN-Solliance, "Nano-structured silicon as anode material in Li-ion batteries"	
11:30-12:00	30 min coffee break		
12:00-12:20	Prof. <b>Francesco Buatier de Mongeot</b> , Università di Genova, "Self-organised ion-beam patterning of plasmonic nanowire templates for nanophotonics and sensor applications"	Prof. <b>Ngoc Duy Nguyen</b> , University of Liège, "Silver nanowire networks as transparent conductive materials: from basic physical properties to device integration"	Case 11: Dr. <b>Stephen Coulson</b> , P2i Ltd. Global Headquarters
12:20-12:40	Dr. <b>Rob van der Heijden</b> , TU/e, "Integrated spectrometer and displacement sensor based on mechanically tunable photonics crystals"	Dr. <b>Jurgen van Berkum</b> , Philips Innovation Labs, "Chemical analysis on the Nano-scale: Applications in process development and failure analysis"	
12:40-13:00	Open slot	Dr. <b>Omar El Gawhary</b> , VSL Delft, "Light-matter interplay for applications in optical metrology at the nanoscale"	Open slot
13:00-13:20	Open slot	Prof. <b>Peter Steeneken</b> , TU Delft, "Graphene NEMS Sensors"	
13:20-14:20	Lunch		

Parallel session	<p><i>Session:</i> <i>Nano-Fabrication</i></p> <p>Moderator: Prof. dr. <b>Fred Roozeboom</b> (TU/e)</p>	<p><i>Session:</i> <i>Booth demos / 10 min Snapshot presentations (groups)</i></p>	<p><i>Session:</i> <i>Entrepreneurship Cases</i></p> <p>Moderator: <b>Hugo de Haan</b> (Vision Dynamics)</p>
14:20-14:40	Dr. <b>Yordan Georgiev</b> , HZDR, "High Resolution Nanofabrication"	<b>SwissLitho</b> , Zurich <b>Organic Spintronics</b> , Italy <b>Phenom-World</b> , Eindhoven <b>DENSolutions</b> , Delft <b>Innophysics</b> , Eindhoven <b>TSST</b> , Enschede <b>Delft IMP</b> , Delft <b>VSParticle</b> , Delft <b>Leiden Probe Microscopy</b> , Leiden <b>SPS Europe</b> <b>RAITH</b> , Germany <b>Attocube</b> , Germany <b>Salm en Kipp</b> , The Netherlands	Open slot
14:40-15:00	Dr. <b>Werner Knaepen</b> , ASM, "Impact of Selective infiltration synthesis on sub 20nm half pitch patterns"		
15:00-15:20	Prof. <b>Jeroen A. van Kan</b> , The National University of Singapore, "Fast 3D Nano-fabrication and imaging with the next generation proton microscope"		Open slot
15:20-15:40	Dr. <b>Violeta Navarro</b> , TNO, "Maskless nano-patterning with dual frequency scanning probe"		
15:40-16:00	Plenary discussion		
16:45	Closure		