7th SINANO Summer School
WP3 & WP4 Domain-Workshops

October 16 – 21, 2016, Bertinoro (FC), Italy

Sunday, October 16 2016

18:00	RECEPTION and WELCOME BUFFET

Monday, October 17 2016

	NEREID Workshop 1 – Task 3.1 "Nanoscale FETs" Chairman: Francis Balestra – GINP France Invited Experts (Free attendance for SINANO/MIGAS students)
8:15 – 8:45	Badge registration
8:45 – 9:00	Opening of the Workshop (Francis Balestra)
9:00 – 9:40	**Maaike Op de Beeck** – CMST Gent, Belgium "Medical electronics for wearable and implantable devices: system and chip requirements".
9:40 – 10:20	**Gerard Ghibaudo** – Grenoble INP, France "Challenges in electrical characterization of nano devices".
10:20 – 10:35	Break
10:35 – 11:15	**Mocuta Anda** – IMEC, Belgium "Transistor Architecture and materials".
11:15 - 12:05	**Francis Balestra** – GINP, France "Tunnel FETs trends and challenges"
12:05 – 13:15	Lunch
13:15 – 13:55	**Carlo Cagli** – CEA, France "Memory Challenges"
13:55 – 14:35	**Luca Selmi** – University of Udine, Italy "Modeling and simulation challenges for integrated nanoscale CMOS switches and CMOS compatible nanosensors"
14:35 – 14:50	Break
14:50 - 15:30	**Claire Fenouillet- Beranger** – GINP, France "3D Sequential integration challenges"
15:30-16:10	**Lars-Erik Wernersson** – Lund University, Sweden "III-V nanowires, for digital and RF/mmWave applications"
16:10 – 18:00	Discussion for road-mapping (ONLY for NEREID experts and members)
20:00	Dinner

Tuesday, October 18 2016

	NEREID Workshop 2 – Task 3.2 "Connectivity" **Chairmen: Jean-Baptiste David – CEA-LETI France and Didier Belot - CEA-LETI France** **Invited Experts** (Free attendance for SINANO/MIGAS students)
8:15 – 8:45	Badge registration
8:45 – 9:00	Opening of the Workshop
9:00 – 9:40	**Emilio Calvanese** – LETI, France "5G & Beyond Spectrum Challenges".
9:40 – 10:20	**Leif Wilhelmsson** – Ericsson, Sweden "Some key components in future Wi-Fi: IEEE 802.11ax and Wake-Up Radios".
10:20 – 10:35	Break
10:35 – 11:15	**Andrea Ghilioni** – University of Pavia, Italy "Optical data communications for data-center applications in Silicon Photonics Technology".
11:15 - 12:05	**Ian O'Connor** – INL-Lyon, France "Multi-scale optical interconnect solutions"
12:05 – 13:15	Lunch
13:15 – 13:55	**Matteo Bassi** – University of Pavia, Italy "Serial link interfaces, with emphasis on the challenges of future links"
13:55 – 14:35	**Sylvain Bourdel** – Grenoble INP, France "RF low power design technics"
14:35 – 14:50	Break
14:50 - 15:30	**Francois Rivet** – IMS Bordeaux, France "Design by Mathematics for Analog-RF"
15:30-16:10	**Jose-Luis Gonzalez** – LETI, France "RF and mmW challenges"
16:10 – 16:15	Break
16:15 – 18:00	Discussion for road-mapping (ONLY for NEREID experts and members)
20:00	Dinner

Wednesday, October 19 2016

	Joint SINANO/MIGAS School **Chairmen: Susanna Reggiani – IUNET Italy and Laurent Montes – GINP France** Free attendance for SINANO/MIGAS students
8:45 – 9:00	Opening of the School (Susanna Reggiani, Laurent Montes)
9:00 – 9:45	**Giorgio Baccarani** – University of Bologna, Italy "Theoretical Analyses and Modeling for Nanoelectronics"
9:45 – 10:30	**Luca Selmi** – University of Udine, Italy "State of the art and Modeling of advanced MOSFETs with III-V channel materials"
10:30 – 10:45	Break
10:45 – 11:30	**Clemens Heitzinger** – TU Wien, Austria "Using stochastic partial differential equations to model noise, fluctuations, and process variations in nanoscale FETs and nanoscale affinity based bio- and gas sensors"
11:30 – 12:15	**Gilberto Curatola** – Infineon Technologies, Austria "GaN device concepts and modelling approaches of GaN power devices from device to system level modelling"
12:15 – 13:15	Lunch

	NEREID Workshop 3 – Task 4.2 "Energy for Autonomous Systems" Chairmen: Gustavo Ardila - GINP France and Alan Matewson - Tyndall Ireland **Invited Experts** (Free attendance for SINANO/MIGAS students)
13:15 – 13:30	Badge registration
13:30 – 13:40	Opening of the Workshop (Gustavo Ardila)
13:40 – 14:30	**Stephane Monfray** - STMicroelectronics, "Innovatie Thermal Energy harvesting for future autonomous applications"
14:30 – 15:20	**Anne Kaminski-Cachopo** - Grenoble INP, "Solar cells for energy harvesting"
15:20 – 15:40	Break
15:40 – 16:30	**Gustavo Ardila** - Grenoble INP/Grenoble Alpes University, "Mechanical energy harvesting using piezoelectric materials"
16:30 – 17:20	**Aldo Romani** - University of Bologna, Italy "Energy Management"
17:20 – 17:30	Break
17:30 – 19:00	Discussion for road-mapping
20:00	Dinner

Thursday, October 20 2016

	NEREID Workshop 4 – Task 4.2 "Smart Energy" **Chairman: Gaudenzio Meneghesso – IUNET Italy** **Invited Experts** (Free attendance for SINANO/MIGAS students)
8:30 – 9:00	Badge registration
9:00 – 9:10	**Gaudenzio Meneghesso** - University of Padova, Italy "Opening of the Workshop"
9:10 – 9:30	**Mikael Östling** – KTH, Royal Institute of Technology, "SiC power switch device status and predictions".
9:30 – 9:50	**Peter Moens** – ON Semiconductor, Belgium, "Status and oulook of GaN power devices from an industry perspective"
9:50 – 10:10	**Giuseppe Croce** – STMicroelectronics, Italy "Smart Power Technology Roadmap and Trends"
10:10 – 10:30	**Thomas Detzel** – Infineon, Austria "GaN in a Silicon world: Competition or Coexistence?"
10:30 – 11:00	Break
11:00 – 11:20	**Joff Derluyn**– EPIGAN, Belgium "GaN from the epitaxy perspective"
11:20 – 11:40	**Steve Stoffels** – IMEC, Belgium "Outlook for 200mm E-mode device technology"
11:40 – 12:00	**Anton Bauer** – Fraunhofer IISB, Germany "Potential of SiC for Automotive Power Electronics"
12:00 – 12:20	**Thomas Harder** – ECPE European Center for Power Electronics, "WBG System Integration"
12:20 – 12:40	**Braham Ferreira** – TU Delft, The Netherlands "International Technology Roadmap for Wide Band-gap Power Semiconductor ITRW"
12:40 – 14:00	Lunch
14:00 – 17:30	Discussion for road-mapping ONLY for NEREID experts and members Coffee break during the discussion
20:00	Dinner (free)

Friday, October 21 2016

	NEREID Workshop 5 – Task 4.1 "Smart Sensors" **Chairman: Montserrat F.-Bolaños –EPFL Switzerland** **Invited Experts** (Free attendance for SINANO/MIGAS students)
8:30 – 9:00	Badge registration
9:00 – 9:05	Opening of the Workshop
9:05 – 9:45 9:45 – 10:25	**Cosmin Roman** – ETH Zürich, CH "CNT and flexible substrate sensors" **Denis Flandre** – UCL, BE "SOI sensor, high-T sensors and sensor Read-out"
10:25 – 10:40	Break
10:40 – 11:20 11:20 – 12:00	**Frans Widdershoven** – NXP semiconductors, NL "CMOS Pixelated Capacitive Sensor platform for biosensing and many other applications" **Maaike Taklo** – SINTEF, NO "IR and MEMS sensors"
12:00 – 13:00	Lunch
13:00 – 13:20 13:20 – 14:00	**Mireille Mouis** – INP, FR "Field effect nanodevices for biosensing" **Teodor Gotszalk** – University of Wroclaw, PL "Nanosensors"
14:00 – 14:10	Break
14:10 – 14:50 14:50 – 15:30	**Walter De Raedt** –IMEC, BE "Wearable and IoT sensors enabling health applications" **Florin Udrea** –University of Cambridge, UK "The next generation of smart gas sensors"
15:30 – 16:00	Break
16:00 – 18:00	Discussion for road-mapping chaired by Cosmin Roman (ETH) and Montserrat F.-Bolaños (EPFL) (ONLY for NEREID experts and members)
20:00	Dinner (free)