

## Program of the Nanopatterning2015 Workshop

### Sunday - July 12, 2015

18:00-20:00 Welcome/Registration

### Monday - July 13, 2015

09:00-09:05 Workshop opening

*Session I:*

*Chairman: C. Teichert*

09:05-09:40

I-1 **Ugo Valbusa**: Ion-beam surface nanostructuring before Bonassola meeting

09:40-10:00

O-1 **Skeren Tomas**: Propagation of ion-induced morphology on metals

10:00-10:20

O-2 **Engler Martin**: Ion beam patterning of crystalline Si(001)

10:20-10:40

O-3 **Kim Jae-Sung**: Effects of polycrystallinity on nano patterning by ion-beam sputtering

10:40-11:00 coffee break

*Session II:*

*Chairman: F. Buatier*

11:00-11:40

I-2 **Thomas Michely**: New phenomena in 2D-material irradiation with low energy ions

11:40-12:00

O-4 **Rosandi Yudi**: Grazing Incidence Ion bombardment on graphene overlayers

12:00-12:20

O-5 **Rodenbucher Christian**: Manipulating the Properties of Transition Metal Oxide Surfaces on the Nanoscale

12:20-12:40

O-6 **Pawlak Remy**: Atomic structure and Majorana wavefunction of nano-structured Fe atoms on superconducting lead

12:40-14:10 lunch

*Session III:*

*Chairman: T. Michely*

14:10-14:50

I-3 **Mark Bradley**: Exotic New Patterns, Terraced Topographies and Virtually Defect-Free Ripples Produced by Ion Sputtering

14:50-15:10

O-7 **Hobler Gerhard**: Testing Sigmund's Model of Sputtering

15:10-15:30

O-8 **Hans Hofsass**: Noble gas ion-induced ripple pattern formation on carbon surfaces

15:30-15:50

O-9 **Repetto Luca**: Thin films looking for equilibrium: role of projectile energy in the ion-induced self-organized patterning

15:50-16:20 coffee break

*Session IV:*

*Chairman: J. Munoz-Garcia*

16:20-17:00

I-4 **Rachel Goldman**: Ion-Induced Nanostructures on Compound Semiconductor Surfaces: Formation, Properties, and Promise

17:00-17:20

O-10 **Norris Scott A.**: Ion beam nanopatterning of III-V semiconductors: consistency of chemistry driven theory with experimental and simulation parametric trends

17:20-17:40

O-11 **Jany Benedykt R.**: Energy dependence of nanopillars formation on AIIIIBV semiconductor surfaces under gallium FIB and noble gas ions beam irradiation

17:40-18:00

O-12 **Holybee Brandon Jay**: ARAES analysis during pre-nanostructure formation via ion irradiation of GaSb surfaces

18:00-19:30 Poster Session

**Tuesday - July 14, 2015**

*Session V:*

*Chairman: M. Bradley*

09:00-09:40

I-5 **Zbigniew Postawa**: Computer Simulations of Surface Morphology Induced by Impact of Cluster Projectiles

09:40-10:00

O-13 **Nordlund Kai**: Molecular dynamics simulations of atom flow mechanisms underlying ripple formation

10:00-10:20

O-14 **Moeller Wolfhard**: Dynamic Binary Collision Computer Simulation of Ion Irradiation Effects in Nanostructures

10:20-10:40

O-15 **Lively Michael Aaron**: Multiscale computational modeling and experimental validation to decipher the role of incident ion mass in surface nanopatterning of Si

10:40-11:00 coffee break

*Session VI:*

*Chairman: U. Valbusa*

11:00-11:40

I-6 **Hans Hofsass**: Argon ion beam induced surface pattern on Si

11:40-12:00

O-16 **Garg Sandeep Kumar**: Wetting dynamics of 60 keV Ar<sup>+</sup>-ion bombarded Si surface: A physio-chemical study

12:00-12:20

O-17 **Sarkar Subhendu**: Formation and kinetic roughening of hillocks by alkaline wet etching of Si

12:20-12:40

O-18 **Mollick Safiul Alam**: Resistivity anisotropy from 26 keV gold ion bombarded grating-like germanium ripple structures

12:40-14:10 lunch

*Session VII:*

*Chairman: R. Goldman*

14:10-14:50

I-7 **Tapobrata Som**: Synergetic effects of sputter-erosion and mass-redistribution in medium energy ion-beam patterning of materials

14:50-15:10

O-19 **Wilhelm Richard A.**: Highly charged ion induce nanostructures at surfaces by strong electronic excitations

15:10-15:30

O-20 **Gnecco Enrico**: Surface rippling in abrasive nanowear: A novel interpretation and way to prevent it

15:30-15:50

O-21 **Glatzel Thilo**: Patterning of C60 Islands on Organic Layer Compound Crystals

15:50-16:20 coffee break

*Session VIII:*

*Chairman: T. Som*

16:20-17:00

I-8 **Matthias Batzill**: Titania Surfaces: From Ion Beam Directed Atomic-Step Orientations to Surface Restructuring Controlled Molecular Self-Organization

17:00-17:20

O-22 **Johr Res**: Interaction of Metallo-Carboxyphenyl Porphyrins with Rutile and Anatase TiO<sub>2</sub>

17:20-17:40

O-23 **Szajna Konrad**: Influence of TiO<sub>2</sub>(110) surface roughness on growth and stability of thin organic films

17:40-18:00

O-24 **Kolmer Marek**: Aryl halide covalent coupling controlled by surface hydroxyl groups on rutile TiO<sub>2</sub> surfaces

18:00-18:20

O-25 **Meyer Ernst**: Manipulation of single molecules by NC-AFM

**Wednesday - July 15, 2015**

*Session IX:*

*Chairman: M. Batzill*

09:00-09:40

I-9 **Adrian Keller:** Applications of nanopatterned biointerfaces: from DNA nanotechnology to implant materials

09:40-10:00

O-26 **Kisiel Marcin:** Artificial "cicada wings" surfaces for antibacterial purpose

10:00-10:20

O-27 **Giordano Maria Caterina:** Self-organised Plasmonic Metamaterials

10:20-10:40

O-28 **Som Tapobrata:** Tunable field emission from self-organized Si nanofacets: Dual pass tunnelling current microscopy and role of native oxide

10:40-11:00 coffee break

*Session X:*

*Chairman: A. Keller*

11:00-11:40

I-10 **Stefan Facsko:** Reverse Epitaxy on Semiconductor Surfaces

11:40-12:00

O-29 **Marszalek Marta:** Fabrication of magnetic antidot arrays by different patterning methods

12:00-12:40

I-11 **Christian Teichert:** Ion induced nanopatterning: Understanding and application

12:40-14:10 lunch

16:00 Excursion

19:00-22:00 Banquet

**Thursday - July 16, 2015**

*Session XI:*

*Chairman: Z. Postawa*

09:00-09:40

I-12 **Javier Munoz-Garcia:** Nonuniversality due to inhomogeneous stress in semiconductor surface nanopatterning by low-energy ion-beam irradiation

09:40-10:00

O-30 **Perkinson Joy C.:** Evolution of steep structures under FIB irradiation

10:00-10:20

O-31 **Koyiloth Vayalil Sarathlal:** Growth of magnetic nanostructures on nanorippled Si substrates: An in-situ uGISAXS investigation

10:20-10:40

O-32 **Mennucci Carlo:** Optical functionalization of substrates nanostructured via Ion Beam Sputtering or Light Interference Lithography

10:40-11:00 coffee break

*Session XII:*

*Chairman: H. Hofsass*

11:00-11:40

I-13 **F. Buatier de Mongeot:** Self-Organised Faceted dielectric templates with tailored optical functionality

11:40-12:20

O-33 **Ranjan Mukesh:** Applications of ion induced ripple/dot patterns for plasmonic solar cell applications

12:20-12:40

O-34 **Bottger Roman:** Nanoporous Ge surface decomposition under ion bombardment: towards settling the dispute about driving forces

12:40-14:10 lunch/closing