Graduiertenkolleg 1782
„Functionalization of Semiconductors“
Seminarhotel Kunze-Hof, Stadland

Seminar Program 02. – 06.10.2017

Monday, 02.10.2017

till 15:30  Arrival

15:30 – 16:00  Welcome Snack/ Coffee Break

16:00 – 17:30  Simulation Workshop I  Jan Oliver Oelerich

18:00  Dinner

Tuesday, 03.10.2017

08:00 – 09:00  Breakfast

09:00 – 10:30  Simulation Workshop II  Jan Oliver Oelerich

10:30 – 11:00  Coffee Break

11:00 – 12:30  Simulation Workshop III  Jan Oliver Oelerich

13:00 – 14:00  Lunch Break
**Session I**

Chair: Jan Oliver Oelerich

14:00 – 14:30  
**Lukas Nattermann:** MOVPE in-situ gas phase analysis with real-time 3D quadrupole ion trap mass spectrometer

14:30 – 15:00  
**Lars Ostheim:** Electronic transport properties of dilute N- and B-containing III-V semiconductors under hydrostatic pressure

15:00 – 15:30  
**Lars Bannow:** A first principle based approach to optical properties of semiconductor materials

15:30 – 16:00  
Coffee Break

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**Session II**

Chair: Katharina Hanau

16:00 – 16:30  
**Johannes Völker:** Monolayer Functionalization of GaAs Surfaces

16:30 – 17:00  
**Mikko Wilhelm:** Optoelectronic Coupling between Quantum Dots and Burrowed Quantum Wells

17:00 – 17:30  
**Jürgen Belz:** Atomic-Scale 3D Reconstruction of Antiphase Boundaries of GaP on Silicon (001) by STEM

18:00  
Dinner

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**Wednesday, 04.10.2017**

08:00 – 09:00  
Breakfast

**Session III**

Chair: Jonas Hühn

09:00 – 09:30  
**Thilo Hepp:** MOVPE growth of quaternary Ga$_y$In$_{1-y}$As$_{1-x}$Bi$_x$ structures on InP and on GaAs

09:30 – 10:00  
**Vitalii Valkovskii:** Peculiarities of the photoluminescence line shape in Ga(N,As,P)/GaP. Experiment and Monte Carlo simulations

10:00 – 10:30  
**Shalini Gupta:** STEM investigation of Ga(NAs) multi quantum well structures grown on (001) Si substrates

10:30 – 11:00  
Coffee Break

**Session IV**

Chair: Lars Bannow

11:00 – 11:30  
**Katharina Hanau:** Organo-functionalized Tetrel Chalcogenide Clusters

11:30 – 12:00  
**Florian Dobener:** Photoluminescence Pumping Characteristics in Ga(N,As,P) / (B,Ga)(As,P) Heterostructures

12:00 – 12:30  
**Marcel Köster:** Synthesis of novel bicyclic Trisiloxanes

12:30 – 13:00  
**Tamam Bohamud:** Adsorption Dynamics of Methanol on Si(001) Studied by Means of Molecular Beam Techniques

13:00 – 14:00  
Lunch Break

14:00 – 17:30  
Teambuilding Seminar

18:00  
Dinner
Thursday, 05.10.2017

08:00 – 09:00  Breakfast

Session V  Chair: Mikko Wilhelm
09:00 – 09:30  Eike Dornsiepen: Binary and Ternary Organotetrel Chalcogenide Clusters
09:30 – 10:00  Jonas Hühn: Synthesis, characterization and functionalization of inorganic, water soluble nanoparticles
10:00 – 10:30  Eduard Sterzer: MOVPE growth of Ga(NAsSb) 1 eV bulk material on GaAs
10:30 – 11:00  Coffee Break

Session VI  Chair: Eduard Sterzer
11:00 – 11:30  Benjamin Ringler: Group 15 MOVPE Precursors and Stepwise Construction of Interpnictogens
11:30 – 12:00  Fabian Pieck: DFT study on molybdenum disulphide: Searching for the growth mechanism in the atomic layer deposition
12:00 – 12:30  Oliver Maßmeyer: Influence of TMBi on the GaAs (001) surface reconstruction before and during Ga(AsBi) growth in MOVPE
13:00 – 14:00  Lunch Break

14:00 – 17:30  Poster Session  
(15:30 – 16:00 coffee break included)

1. Lars Bannow: An ab initio based approach to optical properties of semiconductor heterostructures
2. Jürgen Belz: Atom Counting Reconstruction For Antiphase Boundaries of Gallium Phosphide on Silicon
3. Tamam Bohamud: Electronically Induced Manipulation of Diethyl Ether and Tetrahydrofuran on Si(001)
4. Florian Dobener: Band offsets in Ga(N,As,P)/GaP/(B,Ga)(As,P) heterostructures in the high-strain regime
5. Eike Dornsiepen: Binary and Ternary Organotetrelsulfide Clusters
6. Dominic Duffy: Composition Dependence of Quasi-Forbidden XRD Reflections in Mixed III/V Semiconductors
7. Shalini Gupta: Quantitative structural characterization of Ga(NAs) quantum well heterostructures on (001) Si substrates
8. Katharina Hanau: Functional Binary and Ternary Organotetrel Chalcogenide Clusters
9. Julian Heep: Reaction channels of acetylene and methanol on Si(001) studied by means of STM and XPS
10. Thilo Hepp: MOVPE growth of quaternary (Ga$_y$In$_{1-y}$)(As$_x$Bi$_{1-x}$) on InP and on GaAs
12. Sarah Karrenberg und Luise Rost: Determining the band offset of Ga(NAsP)/Si heterostructures
13. Oliver Maßmeyer: RAS in MOVPE – Observation During Ga(NAs) Growth and Influence of UDMHy on GaAs Surface Reconstruction
14. Lukas Nattermann: MOVPE Growth and Characterization of Dilute Bi-III/V Semiconductors
15. Lars Ostheim: Transport properties of the interface of GaP/Si heterostructures
16. Fabian Pieck: Searching the growth mechanism of molybdenum disulfide: Atomic layer deposition under an electric field
17. Benjamin Ringler: Binary Group 15 Element Precursor Materials for MOVPE
19. Vitalii Valkovskii: Peculiarities of the PL line shape in GaNAsP/GaP. Experiment and Monte-Carlo Simulation
22. Mikko Wilhelm: Optoelectronic coupling between colloidal quantum dots and burrowed quantum wells

18:00 Dinner

Friday, 06.10.2017

08:00 – 09:00 Breakfast
09:00 Departure