Scientific Programme

Monday June 4, 2007

9:00 – 9:10 Opening ceremony

9:10 – 9:50 Invited talk 01

_Growth of InGaN/GaN structures for blue and green emitters, a comparison between polar and non-polar sapphire substrates_

M. Kappers,
University of Cambridge, Cambridge, United Kingdom

9:50 – 10:30 Invited talk 02

_MOVPE growth optimization for AlGaN/GaN-HEMTs_

H. Hardtdegen
Institute for Bio- and Nanosystems, Research Center Jülich, Germany

10:30 Coffee break

10:50-12:45 Poster Session A: MOVPE growth studies

A1. Effect of parasitic reactions on AlGaN MOVPE
A.V. Lobanova et al.

A2. Growth and characterisation of Al_{1-x}Ga_xAs layers
G. Attolini et al.

A3. The use of Arsenic as surfactant in the epitaxy of Germanium
G. Attolini et al.

A4. Influence of growth parameters on structural properties and bandgap of InN epilayers deposited in a showerhead MOVPE system
A. Kadir et al.

A5. Lattice matched AlAs/GaAs superlattice with carbon auto-doping of AlAs by Metalorganic Vapor Phase Epitaxy using conventional precursors.
J. Decobert et al.

A6. Optimization of Nucleation and Buffer Layer Growth for improved GaN Quality and Device Performance
J. Hertkorn et al.

A7. Vapour pressure study of manganocene and tert-butyl lithium organometallics by a static method
J. Pangrác et al.

A8. Influence of precursor access on structure and morphology of AlN layers grown by MOVPE
R. Ferreyra et al.
Development of computer software support for semiconductor epitaxy
M. Wesolowski et al.

Novel MOVPE-grown 2DEG structures for local anodic oxidation.
R. Kúdela et al.

On the nature of the interlayer at the inverted interface in MOVPE InGaP/GaAs heterojunctions
C. Frigeri et al.

Non polar a-(In)GaN heterostructures
E.F. Zavarin et al.

Mechanisms of magnesium transport and incorporation in p-type doping of GaN by MOVPE
E.V. Yakovlev et al.

MOVPE Growth of High Quality AlN Layers and Effects of Si-doping
S.B. Thapa et al.

Carbon Doping of InAlGaAs and InAlAs grown by MOVPE in Nitrogen
A. Mereuta et al.

10:50-12:45 Poster Session B  GaN based structures and devices

B1. AlGaN/GaN HEMT Grown on 150 mm Silicon (111) Substrates
K. Cheng et al.

B2. LP MOCVD growth optimisation of InAlN/GaN heterostructures on sapphire and SiC substrates for HEMT application
M.-A. Poisson et al.

B3. Optimisation of AlInN/GaN HEMT Structures
L. Rahimzadeh-Khoshroo et al.

B4. Performance of MOSHFETs prepared using MOVPE grown AlGaN/GaN heterostructure and MOCVD deposited Al₂O₃ gate oxide
D. Gregušová et al.

B5. Strain compensated AlGaN/GaN/ InGaN cladding layers in homoepitaxial nitride devices
R. Czernecki et al.

B6. Investigation of InGaAlN heterostructures with 2D electron gas
A.V. Sakharov et al.

B7. MOVPE growth and characterization of InN/GaN quantum well structures
A. Kadir et al.

12:45 Lunch
14:00 – 14:40 invited talk 03

MOVPE of Fe-doped GaN below and above the solubility limit: growth, in-situ and ex-situ characterization

A. Bonanni
University of Linz, Austria

14:40- 16:30 Poster Session C Diluted semiconductors

C1. MOVPE Growth of Ferromagnetic MnAs Nanoclusters Well-Oriented on Lattice-Mismatched Surfaces
S. Hara et al.

C2. APMOVPE growth of undoped GaAsN/ GaAs heterostructures using two organic nitrogen sources
B. Sciana et al.

C3. BP and (BGaIn)P layer structures grown by MOVPE
V. Gottschalch et al.

C4. Manganese incorporation during the OMVPE growth of GaAs
S. Hasenohrl et al.

C5. Study on the intentional incorporation of Cr in the MOVPE of GaN
Y. S. Cho et al.

14:40- 16:30 Poster Session D Non-sapphire GaN

D1. Growth the InN on Si(111) with different buffer layers by MOVPE
S. J. Chang et al.

D2. Interlayer Techniques Applied in GaN Growth on Silicon(111) by MOVPE
K. Cheng et al.

D3. HVPE thick GaN layers grown on ZnO buffer layers
R. Korbutowicz et al.

D4. Heteroepitaxial Growth of GaN on ZnO by MOVPE
S. B. Thapa et al.

D5. HeteroEpitaxial growth of crystalline GaN epilayers on LiNbO3 substrate by MOVPE
S. Gautier et al.

D6. MOVPE growth on Ge substrates for TPV and multijunction solar cell applications
B. Galiana et al.

D7. MOVPE growth of III-N heterostructures for optoelectronic and electronic application on SiC substrates
W. V. Lundin et al.

D8. Effect of atomistic surface structure on the macroscopic surface reaction rate constants for GaAs and InP
M. Sugiyama et al.

16:30 Bus transport to the port,
17:00 – 20:00 Boat trip on the Danube river
Tuesday
June 5, 2007

9:00 – 9:40 Invited talk 04
Mid infra-red quantum cascade laser grown by MOVPE
J. Roberts,
University of Sheffield, United Kingdom

9:40 – 10:20 Invited talk 05
Deep UV light emitting diodes by MOVPE
T. Makimoto
NTT Laboratories, Kanagawa, Japan

10:20 Coffee break

10:50-12:45 Poster Session E: Lasers and detectors

E1. AlInGaN-based photodetectors with novel MOCVD system
Y.-D. Jhou et al.

E2. High responsivity of GaN p-i-n photodetector grown by MOCVD
J.C.Lin et al.

E3. Tuning the Growth Conditions in Tunnelling Interconnects for Multijunction Solar Cells
I. García et al.

E4. Heterostructure AlGaAs/GaAs p-i-n quantum well solar cell
J.Prazmowska et al.

E5. Growth of InGaN quantum well structures with high In concentration for optoelectronic devices
D.Fuhrmann et al.

E6. Interface investigations of an InGaAs/GaAsSb tunnel junction of a monolithic III-V tandem solar cell
U. Seidel et al.

E7. 10-12° Beam Divergence High Power Laser Heterostructures Grown by MOCVD
A.Marmalyuk et al.

E8. High Power Broadband SLD Heterostructures for 1000+1100 nm Spectral Range Grown by LP MOCVD
A.Padalitsa et al.

E9. High-temperature and reliability investigations of 660 nm AlGaInP-VCSEL
M.Eichfelder et al.

E10. Nitride based laser diodes on substrates with patterned AlN mask
M. Sarzynski et al.

E11. Laser structures with InGaAs-QWs and n-AlGaAs/p-GaInP cladding layers for emission wavelength beyond 1100 nm
F.Bugge et al.
**Poster Session F**

**F1. Crystallographic Study of Vanadium-doped ZnSe by Metal-Organic Vapor Phase Epitaxy Growth Method**  
M. Tahashi, *et al.*

**F2. Growth and characterization of ZnSe/ZnMgSSe MQW structures for blue e-beam pumped laser**  
P. Kuznetsov *et al.*

**F3. Low Pressure MOVPE of CdTe on GaAs Substrate**  
H. Goto *et al.*

**F4. Growth of Cu(In,Ga)Se₂ by using metal organic chemical vapor deposition with Cu-coated glass substrates**  
K. J. Chang *et al.*

**F5. Atomic configuration of Sb in ZnSe prepared by MOVPE**  
T. Ido *et al.*

**F6. The MOCVD of undoped CdO thin films for use as transparent conducting oxides for CdTe/CdS photovoltaic devices**  
D. A. Lamb *et al.*

**F7. Recent developments in the MOCVD of thin film CdTe solar cells**  
S. Irvine *et al.*

**F8. MOVPE growth study of ZnO wires and layers**  
K. Mergenthaler *et al.*

**F9. MOVPE growth and characterization of ZnCdS/ZnSSe QW structures**  
V.I. Kozlovsky *et al.*

**12:45 Lunch**

**14:00 – 14:40 invited talk 06**

*Quantitative transmission electron microscopy for the analysis of interfaces and quantum nano-structures*

K. Leifer,  
Uppsala University, Sweden

**14:50 – 15:30 invited talk 07**

*Growth of InGaN Optoelectronic Structures on 150 mm Sapphire Wafers in a Planetary Reactor*

F. Schulte,  
Aixtron, Aachen, Germany

**15:30 Coffee break**
EW-MOVPE XII, Bratislava, June 3-6, 2007

16:00 – 17:40 Poster Session  G Characterization (including in-situ )

G1. Structural and optical analysis of MOVPE-grown InGaP/GaAs superlattices
    M. Longo et al.

G2. Optical properties of BlnGaAs/GaAs single quantum wells grown by MOVPE
    P. Rodriguez et al.

G3. Polarization-angle dependencies of the photoluminescence of ordered GaInP$_2$ layers grown by
    MOVPE technique
    T. Prutskij et al.

G4. Effects of Mg Doping and Postgrowth Thermal Treatment on Crystal Properties of AlInN Grown by
    Metalorganic Vapor Phase Epitaxy
    Y.K.Su et al.

G5. Characterisation of MOVPE grown InGaN
    M. Leyer et al.

G6. Structural and optical properties of ELOG a-plane GaN grown with MOVPE over different stripe
    directions on r-plane sapphire
    C.Netzel et al.

G7. Study of structural and electrical properties of BGa(Al)N alloys grown by MOVPE
    S.Gautier et al.

G8. Formation of InAs Quantum Dots on GaAs:Si investigated with in-situ STM
    R.Kremzow

G9. Kinetics of surface adsorption layer on GaAs and InP studied with in situ RAS
    M. Deura et al

G10. Optical In Situ Monitoring During MOCVD Growth of CdS/CdTe PV Structures,
    V. Barrioz et al

G11. In-situ Reflectance Anisotropy Spectroscopy of InAs/GaAs quantum dot structures grown by
    MOVPE
    J.Vyskocil et al

G12. Direct measurement of GaN temperatures in epitaxy using bandgap thermometre
    J.J. Harris et al

G13. Quantitative analysis of in-situ wafer bowing measurements
    F. Brunner et al

G14. Characterization and modelling of AlGaInAs Quantum Well in Selective Area Growth LP-MOVPE
    N. Dupuis et al.

19:00 – 23:00 Conference dinner
Wednesday
June 6, 2007

9:00 – 9:40 Invited talk 08
"Recent developments in dilute nitride III/V-semiconductors grown by MOVPE"

K. Volz,
University of Marburg, Germany:

9:40 – 10:10 Coffee break

10:10-12:45 Poster Session H Special techniques

H1. No more parasitic regrowth interface in MOVPE and MBE AlGaN/GaN structures regrown on new Fe doped semi-insulating GaN templates for HEMT applications
M. Azize et al.

H2. Nitrides Layer Growth on Nanocrystalline Composite Al₂O₃/SiC
R. Paszkiewicz et al.

H3. Study of epitaxially overgrown pyramids developed for active tips in scanning force microscopy
J. Šoltýs et al.

H4. Transport properties of high-energy LAO barriers prepared on InGaP/AlGaAs/GaAs heterostructure
J. Martaus et al.

H5. Effect of Different Sputter Power on ITO/p-GaN and their Interface Investigation
C. H. Lan et al.

H6. Gd implanted GaN for spintronics
Z. Sofer et al.

H7. Atomic force nanolithography of InP for site control growth of InAs nanostructures
H. D. Fonseca-Filho et al.

H8. AALD mechanisms in the growth of amorphous Al₂O₃ onto different substrates.
E. Ghiraldelli et al.

H9. Growth of 3-D GaAs heterostructure photonic crystals by variant CVD
M. Bardosova et al.

Poster Session I Quantum dots and nanowires

I1. Controlling the Polarization of 1.55-µm Columnar InAs Quantum Dots by Their Height and Tensile-strained InGaAsP Barrier Thickness
K. Kawaguchi et al.

I2. Optimal GaAs Nanowires Achieved by a Two-Temperature Growth Procedure
H. Joyce et al.
I3. InP-quantum dots in Al$_x$Ga$_{1-x}$InP on Distributed Bragg Reflectors
   W.-M. Schulz et al.

I4. InAs/InGaAlAs Quantum Dot Structures for Infrared Photodetection
   P. L. Souza et al.

I5. Formation mechanism and luminescence features of sub-µm pitch pyramidal quantum dot arrays
   grown on patterned substrates
   P. Gallo et al.

I6. VLS-growth of III-As nanowire heterostructures
   J. Bauer et al.

I7. Properties of single and double InAs quantum dot structures with strain reducing In$_x$Ga$_{1-x}$As matrix
   and covering layers
   A. Hospodkova et al.

I8. Nanodots GaN arrays using MOVPE nano Selective Area Growth
   J. Martin et al.

I9. Self-catalyzed growth and properties of InP nanowires
   M. Mattila et al.

I10. Au-catalysed MOVPE Growth of GaAs/AlGaAs Core-Shell Nanowires
    N. Lovergine et al.

12:45 Closing ceremony

13:00 Lunch