10th International Workshop on Bulk Nitride Semiconductors (IWBNS-X)

17.-23.9.2017, Nuuksio, Espoo, Finland

Detailed schedule

Saturday 16.9. and Sunday 17.9.: Arrival of conference participants to Helsinki.

Sunday 17.9.: Bus transportation from Helsinki to Nuuksio, Espoo at 16:00. Dinner on-site.

Scientific program

Monday 18.9.

Morning session (chair Siddha Pimputkar): Ammonothermal

9:00-9:30 Opening, welcome words.

9:30-10:30 Edward Letts, SixPoint Materials, Inc.: GaN wafers for High Power High Frequency Devices *(SCENE SETTER)*

10:30-11:00 Break

11:00-11:45 Makoto Saito, Tohoku University: Recent progress of acidic ammonothermal growth of GaN

11:45-12:30 Anna-Carina Kimmel, University of Erlangen: Influence of different autoclave setups on ammonothermal experiments

12:30-14:00 Lunch

14:00-14:30 Okmetic presentation

Afternoon session (chair Leo Schowalter): Homoepitaxy

14:30-15:30 Travis Anderson, Naval Research Laboratory: Vertical GaN Devices Enabled by Ion Implanted p-type Doping *(SCENE SETTER)*

15:30-16:15 Manato Deki, Nagoya University: Deep Levels in Homoepitaxial m-plane GaN Schottky Barrier Diodes

16:15-16:45 Break

16:45-17:45 Hiroshi Fujioka, University of Tokyo: PSD growth of nitride materials on bulk GaN *(SCENE SETTER)*

17:45-18:30 Jennifer Hite, Naval Research Laboratory: Homoepitaxial MOCVD GaN Growth on Free-Standing Substrates

19:00 Dinner

Tuesday 19.9.

Morning session (chair Mikołaj Amilusik): HVPE

9:00-10:00 Tomasz Sochacki, Institute of High Pressure Physics PAS: Status, perspectives, and trends in HVPE growth of bulk gallium nitride *(SCENE SETTER)*

10:00-10:45 Troy Baker, Eta Research Ltd.: Vertical 4" HVPE System

10:45-11:15 Break

11:15-12:00 Akinori Koukitu, Tokyo University of Agriculture and Technology: THVPE of GaN - current topics-

12:00-12:45 Michał Fijałkowski, Institute of High Pressure Physics PAS: Comparison of structural, optical, and electrical properties of highly conductive HVPE-GaN doped with Si or Ge and grown on native seeds

12:45-14:15 Lunch

Afternoon session (chair Zuzanna Liliental-Weber): Characterization and properties

14:15-15:15 Jaime Freitas, Jr, Naval Research Laboratory: Homoepitaxial HVPE GaN: A potential substrates for high performance devices *(SCENE SETTER)*

15:15-16:00 Izabella Grzegory, Institute of High Pressure Physics PAS: GaN synthesis in metallic systems used for crystal growth of diamond

16:00-16:30 Break

16:30-17:15 Sylwester Porowski, Institute of High Pressure Physics PAS: Melting of tetrahedrally coordinated semiconductors (TCS) and anomaly of phase diagram of GaN

17:15-18:00 Antonio Ferreira da Silva, Universidade Federal da Bahia: The effect of Cr concentration on the magnetic moment of the InCrN: a first principle study

19:00 Dinner

Wednesday 20.9.

Morning session (chair Izabella Grzegory): Characterization and properties

9:00-10:00 Ilja Makkonen, Aalto University: Point and extended defects in GaN from the point of view of positron annihilation *(SCENE SETTER)*

10:00-10:45 Clas Persson, Oslo University: Hydrogen decorated defects in GaN and ZnO

10:45-11:15 Break

11:15-12:00 Sami Suihkonen, Aalto University: Vacancy-hydrogen complexes in GaN

12:00-12:45 Vera Prozheeva, Aalto University: Be in GaN

12:45-13:30 Lunch

13:30 Excursion (back at around 18:30)

19:00 Banquet

Thrusday 21.9.

Morning session (chair Jaime Freitas, Jr): AlN

9:00-10:00 Leo Schowalter, Crystal IS, Inc.: Development of Two-inch, High Transparency AlN Single Crystal Growth for Commercial Applications *(SCENE SETTER)*

10:00-10:45 Carsten Hartmann, Leibniz Institute for Crystal Growth Berlin, In-situ doping of AlN bulk crystals during physical vapor transport

10:45-11:15 Break

11:15-12:00 Mitsuru Funato, Kyoto University: An environmentally friendly method to grow AlN thick layers

12:00-12:45 Hae Yong Lee, LumiGNtech Co., Ltd.: AlN Epi-layer on Cylindrical Patterned Sapphire grown by HVPE

12:45-14:15 Lunch

Afternoon session (chair Anna-Carina Kimmel): Ammonothermal

14:15-15:15 Marcin Zając, Ammono LAB, IHPP PAS: GaN crystals grown by basic ammonothermal method - state of the art, perspectives and challenges *(SCENE SETTER)*

15:15-16:00 Thomas Malkowski, University of California, Santa Barbara: High Temperature Growth of Bulk GaN in a Molybdenum Alloy Autoclave

16:00-16:30 Break

16:30-17:15 Saskia Schimmel, FAU Erlangen-Nuremberg: Insights into the ammonothermal growth process of GaN by in situ x-ray visualization

17:15-18:00 Siddha Pimputkar, Lehigh University: Effect of Internal Fluid Temperatures on Gallium Nitride Growth in Supercritical Ammonia-Sodium Solutions

19:00 Dinner

Friday 22.9.

Morning session (chair Ilja Makkonen): Characterization and properties

9:00-10:00 Elke Meissner, Fraunhofer IISB: Theoretical Aspects and Microstructural Investigations on V-pit defects in HVPE grown GaN *(SCENE SETTER)*

10:00-10:45 Zuzanna Liliental-Weber, Lawrence Berkeley National Laboratory: The influence of the substrate misorientation on the structural quality of GaN layers grown by HVPE

10:45-11:15 Break

11:15-12:00 Jaime Freitas, Jr, Naval Research Laboratory: Efficient iron doping of HVPE GaN

12:00-12:45 Joonas Holmi, Aalto University: 3D Raman imaging of bulk nitrides

12:45-14:15 Lunch

Afternoon session (chair Michał Fijałkowski): HVPE

14:15-15:15 Hajime Fujikura, SCIOCS Co. Ltd.: HVPE-growth of thick, high-purity GaN layers on free-standing GaN substrates *(SCENE SETTER)*

15:15-16:00 Mikołaj Amilusik, Institute of High Pressure Physics PAS: Highly resistive HVPE-GaN grown on native seeds

16:00-16:30 Break

16:30-17:15 Hisashi Murakami, Tokyo University of Agriculture and Technology: Tri-Halide Vapor Phase Epitaxy of Thick InGaN and AlGaN Ternary Alloys

19:00 Dinner

Saturday 23.9.: Bus transfer to airport and then Helsinki at 9:00.