



Session Title: [TuP] 2026-07-14(Tue.)
Session Date: July 14 (Tue.), 2026
Session Time: 16:00-17:40
Session Room: Room C (Event Hall A)
Session Chairs

[TuP-1] 16:00-17:40

Evolution of Surface Morphology of AlN on Low Dimensional Carbon Material Grown by HVPE
 Hae-Gon Oh, Young-Jun Choi, and Hae-Yong Lee, LumiGNtech Co., Ltd., Korea

[TuP-2] 16:00-17:40

Enhanced Responsivity of β -Ga₂O₃-Based Solar-Blind UV Photodetectors via Inductively Coupled CF₄ Plasma Treatment

An-Na Cha¹, Geop Lee¹, Sunjae Kim^{1,3}, Dae-Woo Jeon³, Ji-Hyeon Park³, Wan-Sik Hwang², and Jun-Seok Ha¹, ¹Chonnam National University, Korea, ²Korea Aerospace University, Korea, ³Korea Institute of Ceramic Engineering and Technology, Korea

[TuP-3] 16:00-17:40

Epitaxial Alignment and Substitutional Defect Control in Large-Area WS₂ Monolayers

Yunjung Cho, Wonchan Lee, Seohee Park, and Seunguk Song, Sungkyunkwan University, Korea

[TuP-4] 16:00-17:40

Two-Step Growth of Spatially Controlled WS₂-MoSe₂ Heterostructure

Chaehui Lim, Wonchan Lee, Yunjung Cho, Seohee Park, Taeyoung Jeon, and Seunguk Song, Sungkyunkwan University, Korea

[TuP-5] 16:00-17:40

The Growth of Hexagonal Boron Nitride on Graphene by Metal-Organic Chemical Vapor Deposition

Changuk Ji¹, Seokho Moon², Semi Im¹, Jawon Kim¹, Jaesub Song¹, S yeon Pak¹, and Jong Kyu Kim¹, ¹Pohang University of Science and Technology, Korea, ²Ajou University, Korea

[TuP-6] 16:00-17:40

Effect of Sn Doping Concentration on the Structural Properties of β -Ga₂O₃ Thin Films Grown on Off-Axis Sapphire by Mist-CVD

Jae-Hyeok LIM¹, Tae-Yong PARK¹, Yun-Ji SHIN¹, Seong-Min JEONG¹, Chang-Mo KANG², and Si-Young BAE³, ¹Korea Institute of Ceramic Engineering and Technology, Korea, ²Pusan National University, Korea, ³Pukyong National University, Korea

[TuP-7] 16:00-17:40

Improved Crystalline Quality and Surface Morphology of β -Ga₂O₃ Epilayer on Sapphire Enabled by Nucleation Layer

Sang Hyeon Ahn, Geop Lee, An-Na Cha, Sung Jin Son, Young-Boo Moon, Myung Sik Kim, and Jun-Seok Ha, Chonnam National University, Korea



[TuP-8]

16:00-17:40

Low-Temperature Transfer-Free Graphene Formation via Catalytic Metal-Assisted Graphitization for Remote Epitaxy

Soohyun Kim, Joonghoon Choi, Won Kwang Yang, and Young Joon Hong, Sungkyunkwan University, Korea

[TuP-9]

16:00-17:40

Control of α -Ga₂O₃ Growth Mode via Surface Energy Modulation for Enhanced UV Photodetection

Hee Won Shin, Jang Hyeok Park, and You Seung Rim, Sejong University, Korea

[TuP-10]

16:00-17:40

Localized Strain Control of MoS₂ Using GaN Pyramidal Structures for Single Photon Emission

Jun Woo Lee¹, Su Jin Kim², Joonghoon Choi¹, Dong Hyun Cho², Jeongwon Park³, Kibum Kang^{3,4}, Hyun Seok Lee², and Young Joon Hong¹, ¹ Sungkyunkwan University, Korea, ² Chungbuk National University, Korea, ³ Korea Advanced Institute of Science and Technology, Korea, ⁴ TDS Innovation Inc., Korea

[TuP-11]

16:00-17:40

Fabrication of Quasi-Vertical α -Ga₂O₃ Schottky Barrier Diodes on Sapphire

Jang Hyeok Park, Kanghee Shin, and You Seung Rim, Sejong University, Korea

[TuP-12]

16:00-17:40

Complete Removal of Subsurface Damage in (010) β -Ga₂O₃ Single Crystals via a Two-Step Chemical Mechanical Polishing Process

Eun-Jeong An¹, Eun-Seo Lee¹, Sang-Jin Bae¹, Ho-Gyun Yun¹, Kwang-Hee Jung¹, Jung-Gon Kim¹, Mi-Seon Park¹, Dong-Jin Lee², Jin-Ki Kang², and Won-Jae Lee¹, ¹ Dong-Eui University, Korea, ² Axel, Korea

[TuP-13]

16:00-17:40

Metalorganic Vapor Phase Epitaxy of Van Der Waals Indium Selenides

Jihwan Jeon, Yerin So, Kyungwu Kwon, and Seunguk Song, Sungkyunkwan University, Korea

[TuP-14]

16:00-17:40

Ga Pre-Deposition Assisted Heteroepitaxial Growth of Gallium Oxide Thin Films on Sapphire Substrates by MOCVD

Mi-Rim Lim¹, Tae-Hun Gu¹, A-Ran Shin¹, Jae-Hyuk Lim^{2,3}, and Si-Young Bae¹, ¹ Pukyong National University, Korea, ² Korea Institute of Ceramic Engineering and Technology, Korea, ³ Pusan National University, Korea

[TuP-15]

16:00-17:40

Low-Temperature MOCVD Growth of Hexagonal Boron Nitride for High-Performance Memristors with CMOS Compatibility

Seonghyeon Pak¹, Seokho Moon², Jaesub Song¹, Semi Im¹, Jawon Kim¹, Changuk Ji¹, and Jong Kyu Kim¹, ¹ Pohang University of Science and Technology, Korea, ² Ajou University, Korea



[TuP-16] 16:00-17:40

Enhancement of Breakdown Voltage in β -Ga₂O₃/NiO Heterojunction Diodes by Modulating p-NiO/p+NiO Widths

SangHun Kim, TaiYoung Kang, YuSup Jung, TaeJun Park, JoonHui Park, and SinSu Kyoung, Powercubesemi Inc., Korea

[TuP-17] 16:00-17:40

Improved Homoepitaxial Growth of β -Ga₂O₃ (001) by MOCVD Using Plasma-Treated Substrates

Gieop Lee¹, An-Na Cha¹, Sang Hyeon Ahn¹, Sung Jin Son², Young-Boo Moon², Myung Sik Kim², and Jun-Seok Ha¹, ¹Chonnam National University, Korea, ²UJL Inc., Korea

[TuP-18] 16:00-17:40

Improving Heat Dissipation of the GaN HEMTs Using a Nanocrystalline Diamond Capping Layer

Han-Hsin Shih, Yi-An Chen, and WenCheng Ke, National Taiwan University of Science and Technology, Taiwan

[TuP-19] 16:00-17:40

Nanoporous Aluminum Anodic Oxide Chip-Based Optical Immunosensor

Sehyuk Yeom, ByoungHo Kang, Sanghoon Jung, Jaesung Lee, Sae-Wan Kim, and Wang-Hoon Lee, Gumi Electronics and Information Technology Research Institute, Korea

[TuP-20] 16:00-17:40

Highly Sensitive UV Photodetectors based on PVK/ZnO Hybrid Layers via Doping-Controlled Charge Dynamics

Sanghoon Jung, ByoungHo Kang, Jaesung Lee, Saewan Kim, Sehyuk Yeom, and Wanghoon Lee, Gumi Electronics and Information Technology Research Institute, Korea

[TuP-21] 16:00-17:40

TGV-to-PCB Interconnect for Flip-Chip Micro-LED FSA Transfer with Transparent Backside Polarity Inspection

Yoonmo Koo, Jae Min Jung, and Daewon Lee, Hanyang University, Korea

[TuP-22] 16:00-17:40

PDMS-Based Thermal Control Platform for Improving Reliability of 3D Integrated Si Photonics Packages

Hyunjun Kim, SeungSu Kim, and Daewon Lee, Hanyang University, Korea

[TuP-23] 16:00-17:40

Photoresist-Assisted Sequential Fluidic Self-Assembly for Heterogeneous Particles

Jaesung Park, Jubin Lee, and Daewon Lee, Hanyang University, Korea

[TuP-24] 16:00-17:40

Photoresist-Defined Selective Heterogeneous MicroLED Assembly via Sequential Fluidic Self-Assembly

Jimin Park, Chaewon Kim, and Daewon Lee, Hanyang University, Korea



[TuP-25] 16:00-17:40

Two-Step Dip-Soldering Strategy for Reliable Fluidic Self-Assembly of Micro-LED Displays

Yongjae Song, Hyunjun Kim, Siyun Song, and Daewon Lee, Hanyang University, Korea

[TuP-26] 16:00-17:40

Selective Area Epitaxy of Ge Nanowires for Active Photonics Applications

Ludovica Lunghi, Nuño Amador-Mendez, Santhanu Panikar Ramanandan, Thomas Vincent Bour, Kamil Artur Wodzislowski, Alok Rudra, and Anna Fontcuberta i Morral, École polytechnique fédérale de Lausanne, Switzerland

[TuP-27] 16:00-17:40

Fundamental Study of Gallium Nitride Epitaxial Growth Behavior on Non-Circular Substrates toward Advanced Epitaxial Processes

Samseok Jang, Da-Young Kim, and Tae-Hoon Chung, Korea Photonics Technology Institute, Korea

[TuP-28] 16:00-17:40

Site-Selective InAs/InP Quantum Dots Epitaxy with Engineered Low Fine Structure Splitting

Christian C. Ruiz Madera^{1,2}, Paweł Holewa^{1,2}, Paweł Wyborski¹, Meng Xiong^{1,2}, Battulga Munkhbat¹, and Elizaveta Semenova^{1,2}, ¹Technical University of Denmark, Denmark, ²Technical University of Denmark, Denmark

[TuP-29] 16:00-17:40

Fabrication of InGaN/GaN Core-Shell Nanorod LEDs through Hybrid Etch/Regrowth Method

Junhyun Bae¹, Joonghoon Choi¹, Chang Soo Kim¹, Hak-Jong Choi², Hyungjun Lim², Youngyoon Lim², Jongwoo Kim², and Young Joon Hong¹, ¹Sungkyunkwan University, Korea, ²Korea Institute of Machinery & Materials, Korea

[TuP-30] 16:00-17:40

Selective Area Growth of Strain-Relaxed GaN Nanorods for Blue-to-Green Pixels on a Single Substrate

Jong-Su Kim¹, Min-Seok Lee¹, Sung-Un Kim¹, Jeong-Kyun Oh¹, Hussain Musharraf¹, Ji-Min Kang², Dae-Young Um², and Yong-Ho Ra¹, ¹Jeonbuk National University, Korea, ²Kumoh National Institute of Technology, Korea

[TuP-31] 16:00-17:40

8-Inch Wafer-Scale Uniform Growth of GaN-on-Silicon Epilayers for Near-Eye Micro-Displays

Shenyu Xu, Chenxue Li, Zhe Zhuang, and Bin Liu, Nanjing University, China

[TuP-32] 16:00-17:40

Safety Protocols and Environmental Sustainability in Emerging Low-Cost MOVPE Systems: A Systematic Review of Best Practices

Dhanashri Burungale¹, Chaewon Seong², Hyojung Bae³, Jin-woo Ju³, and Jun-Seok Ha¹, ¹Chonnam National University, Korea, ²Korea Institute of Industrial Technology, Korea, ³Korea Photonics Technology Institute, Korea



[TuP-33]

16:00-17:40

Lithography-Free Metal Droplet Patterning for Multi-Color Core-Shell InGaN/GaN Nanorod LEDs

In-Seo Na, Jae-Hong Ju, Jeong-Kyun Oh, Sung-Un Kim, Min-Seok Lee, Seo-Gyeong Eun, Woo-Hyuk Choi, and Yong-Ho Ra, Jeonbuk National University, Korea