

[WeP] Poster 2

Session Date	July 15 (Wed.), 2026
Session Time	17:10–18:40
Session Room	Room C (Event Hall A, 1F)

[WeP–1]

17:10–18:40

Selective–Area Growth of InGaAs Nanowires on SOI Using a SiON/W/SiO₂ Composite Mask

Keita Taniyama, Yuki Azuma, Kai Fujimoto, Doma Hachimiya, and Katsuhiro Tomioka, Hokkaido University, Japan

[WeP–2]

17:10–18:40

Characterization of Thermal Annealing Process in Selective–Area Growth of InGaAs Nanowires

Ryuta Nakamura, Keita Taniyama, Yuki Azuma, Doma Hachimiya, and Katsuhiro Tomioka, Hokkaido University, Japan

[WeP–3]

17:10–18:40

Reduced Subthreshold Swing and Improved Uniformity in p–GaN MOSFETs Enabled by Atomic Layer Etching

Zixian Jiang and Xiaohang Li, King Abdullah University of Science and Technology, Saudi Arabia

[WeP–4]

17:10–18:40

Room Temperature Exciton–Polariton in GaN Triangular Structure Grown by Metal Organic Chemical Vapor Deposition

Chan Young Sung¹, Hyun Gyu Song², and Yong–Hoon Cho¹, ¹Korea Advanced Institute of Science and Technology, Korea, ²Korea Institute of Science and Technology, Korea

[WeP–5]

17:10–18:40

First Demonstration of 200 mm AlGaIn/GaN HEMT Epitaxy on Semi–Insulating 4H–SiC by MOCVD for Power and RF Applications

Young–Hun Han^{1,2}, Yu–Hyeon Bak², Hyun–Chul Lim², Moon–Uk Cho¹, Min–Ki Hong¹, Hyung–Sun Yun¹, Sung–Nam Lee², Yoon–Seok Kim², and June–O Song¹, ¹Wavelord Inc., Korea, ²Tech University of Korea, Korea

[WeP-6]

17:10-18:40

Strain-Balanced InGaAs/InGaP Multiple Quantum Wells for the Intermediate Junction of Triple Junction Solar Cells

Jéssica de O. Lorenzi¹, Rudy M. S. Kawabata¹, Daniel N. Micha², Luciana D. Pinto¹, Mauricio P. Pires³, Patricia L. Souza³, and Guilherme M. Torelly¹, ¹Pontifícia Universidade Católica do Rio de Janeiro, Brazil, ²Centro Federal de Educação Tecnológica Celso Suckow da Fonseca, Brazil, ³Universidade Federal do Rio de Janeiro, Brazil

[WeP-7]

17:10-18:40

MOCVD Regrowth of Step-Graded n+-AlGaIn Contact Layers for Low-Resistance Ohmic Contacts in Al-Rich AlGaIn Channel HEMTs

Hyogeun Cho, Joocheol Jeong, Shyam Mohan, Jaejin Heo, Minyeong Kim, Mingoo Jo, and Okhyun Nam, Tech University of Korea, Korea

[WeP-8]

17:10-18:40

Investigation of Two-Dimensional Hole Gas (2DHG) Transport in p-(Al)GaIn/AlGaIn/AlN Heterostructures Grown by MOCVD

Minyeong Kim, Joocheol Jeong, Shyam Mohan, Jaejin Heo, Hyogeun Cho, Mingoo Jo, and Okhyun Nam, Tech University of Korea, Korea

[WeP-9]

17:10-18:40

InGaIn Micro-LEDs Integrated with CsPbBr₃ Perovskite Nanocrystals for Dual-Wavelength Visible Light Communication

Tae-Yong Park^{1,3}, Yue Wang¹, Omar Alkhazragi¹, Jung-Hong Min², Tien Khee Ng¹, and Boon S. Ooi¹, ¹King Abdullah University of Science and Technology, Saudi Arabia, ²Korea Photonics Technology Institute, Korea, ³Korea Institute of Ceramic Engineering and Technology, Korea

[WeP-10]

17:10-18:40

Strain-Induced Band Structure Engineering in MOVPE-Grown NearInfrared VCSEL Structures

Justyna Olejnik¹, Mikołaj Badura¹, Wojciech Dawidowski¹, Jan M. Śmigiel¹, Damian Radziejewicz¹, Adriana Łozińska¹, Wojciech Kijaszek¹, Iwona Sankowska², Marcin Gębski³, Magdalena Marciniak³, Marta Więckowska³, Zofia Foryś³, Michał Wasiak³, Tomasz Czystanowski³, and Beata Ściana¹, ¹Wrocław University of Science and Technology, Poland, ²Łukasiewicz Research Network, Poland, ³Łódź University of Technology, Poland

[WeP-11]

17:10-18:40

Control of Areal Density and Emission Wavelength of MOVPE-Grown InAs/InP Quantum Dots

J. M. Śmigiel, M. Badura, A. Szyszka, D. Radziejewicz, B. Ściana, P. Mrowiński, and M. Syperek, Wrocław University of Science and Technology, Poland

[WeP-12]

17:10-18:40

MOCVD Growth of Apex-Localized InGaN Quantum Dots on GaN Pyramid Structures for Directional Photon Emission

Jeongho Kim and Yong-Hoon Cho, Korea Advanced Institute of Science and Technology, Korea

[WeP-13]

17:10-18:40

InGaN Quantum Dots Red LED based on Post-Annealing of the Quantum Barrier

Anda Cheng, Haoxuan Yang, Lujing Wang, Changzheng Sun, Zhibiao Hao, Bing Xiong, Yanjun Han, Jian Wang, Hongtao Li, Lin Gan, Yi Luo, and Lai Wang, Tsinghua University, China

[WeP-14]

17:10-18:40

Efficiency Enhancement of InGaN/GaN Nanowire Emitters through Localized Laser Recrystallization

Ha-Neul Eom¹, Sung-Un Kim¹, Chandran Bagavath¹, Geon-Yeong Kim¹, Si-Won Park¹, Ui-Seong Hong¹, Dae-Young Um², and Yong-Ho Ra¹, ¹Jeonbuk National University, Korea, ²Kumoh National Institute of Technology, Korea

[WeP-15]

17:10-18:40

Enhancement of Color-Conversion Efficiency via Double-Sided Epitaxial Structure with Quantum Dots-Embedded Porous GaN

Jaeyoung Baik¹, Je-Sung Lee¹, Jeongwoon Kim¹, Hoe-Min Kwak², Jin-Soo Kim¹, Yu-Jin Park¹, Jaeyoung Kwon¹, Woo-Lim Jeong¹, Hyeondong Lee³, JoonSeop Kwak³, Chang-Mo Kang⁴, and Dong-Seon Lee¹, ¹Gwangju Institute of Science and Technology, Korea, ²Electronics and Telecommunications Research Institute, Korea, ³Korea Institute of Energy Technology, Korea, ⁴Pusan National University, Korea

[WeP-16]

17:10-18:40

In-Situ SiNx Interlayer for Improved Ohmic Contacts in Al-Rich AlGaN Channel HEMTs

Joocheol Jeong, Shyam Mohan, Hyogeun Cho, Minyeong Kim, Mingoo Jo, and Okhyun Nam, Tech University of Korea, Korea

[WeP-17]

17:10-18:40

Toward High Threshold Voltage, High Carrier Density p-GaN/AlGaIn/GaN HEMTs

Moon Uk Cho¹, Min-Ki Hong¹, Yuhyeon Bak^{1,2}, Hyunchul Lim¹, Young-Hun Han^{1,2}, and June-O Song¹,
¹Wavelord Inc., Korea, ²Tech University of Korea, Korea

[WeP-18]

17:10-18:40

Bright Room-Temperature Telecom-Band GaN Single-Photon Emitters on Patterned Sapphire Substrates

Hyemin Kim^{1,2}, Dong Seok Shin¹, Yong-Ho Song¹, Young-Ho Ko², and Yong-Hoon Cho¹, ¹Korea Advanced Institute of Science and Technology, Korea, ²Electronics and Telecommunications Research Institute, Korea

[WeP-19]

17:10-18:40

Nano Voids Formed through Nano-Silica for Mechanical Lift-Off of III-Nitrides

Da-Young Kim, Tae-Hoon Chung, Sam-Seok Jang, and Jung-Hong Min, Korea Photonics Technology Institute, Korea

[WeP-20]

17:10-18:40

InGaIn-Based Red LEDs for All-Nitride R/G/B Micro-LEDs

Won Kwang Yang, Joonghoon Choi, Joohan Bae, and Young Joon Hong, Sungkyunkwan University, Korea

[WeP-21]

17:10-18:40

Fabrication of High-Brightness GaN Nanorod LEDs for AR Display Applications

Chang Soo Kim¹, Joonghoon Choi¹, Joohan Bae², Inseok Ju², Hak-Jong Choi³, and Young Joon Hong^{1,2}, ¹Sungkyunkwan University, Korea, ²Korea Institute of Machinery & Materials, Korea

[WeP-22]

17:10-18:40

Suppression of S-Droop in AlGaInP Micro-LEDs via Sidewall Native Oxide Substitution with Sulfide Layers

Je-Sung Lee¹, Jaeyong Kwon¹, Jaeyoung Baik¹, Seung Hyeok Lee¹, Sugyeong Cha¹, Chang-Mo Kang², and Dong-Seon Lee¹, ¹Gwangju Institute of Science and Technology, Korea, ²Pusan National University, Korea

[WeP-23]

17:10-18:40

Lg=60nm AlGaIn/GaN HEMTs on Si for 6G Applications

Ji-Seung Seo, Jin-sup Kim, and Hyeon-Bhin Jo, Korea Electronics Technology Institute, Korea

[WeP-24]

17:10-18:40

Selective Area Growth of InGaIn/GaN Quantum Dots via Focused Ion Beam Patterning

Baul Kim and Yong-Hoon Cho, Korea Advanced Institute of Science and Technology, Korea

[WeP-25]

17:10-18:40

Processing Aspects of MOVPE Grown Monolithic High Contrast Grating VCSELs for Near-Infrared Applications

Joanna Prażmowska¹, Emilia Baczewska¹, Mikołaj Badura¹, Magdalena Marciniak², Marcin Gębski², Tomasz Czystanowski², and Regina Paszkiewicz¹, ¹Wrocław University of Science and Technology, Poland, ²Lodz University of Technology, Poland

[WeP-26]

17:10-18:40

Comparative Study of GaN-Based Planar Micro-LEDs and Nanorod LEDs Fabricated by Top-Down Etching

Joohan Bae, Chang Soo Kim, Joonghoon Choi, and Young Joon Hong, Sungkyunkwan University, Korea

[WeP-27]

17:10-18:40

Surface Protection by Temporary SiO₂ Passivation During High-Temperature Rapid Thermal Annealing Improves E-Mode AlGaIn/GaN HEMTs

Min-Ki Hong¹, Hyunchul Lim¹, Yuhyeon Bak^{1,2}, Moon Uk Cho¹, Young-Hun Han^{1,2}, and June-O Song¹, ¹Wavelord Inc., Korea, ²Tech University of Korea, Korea

[WeP-28]

17:10-18:40

DC Characteristics Depending on Device Dimension about Quasi-Vertical GaN Schottky Barrier Diodes

Seongmin Kang, Jinsup Kim, and Hyeon-bhin Jo, Korea Electronics Technology Institute, Korea

[WeP-29]

17:10-18:40

Suppression of Trap-Induced Kink Effect in RF AlGaIn/GaN HEMTs through Optimized Buffer Layer Engineering

Yuhyeon Bak^{1,2}, Moon Uk Cho¹, Min-Ki Hong¹, Hyunchul Lim¹, Young-Hun Han^{1,2}, Sung-Nam Lee², Yoon Seok Kim², and June-O Song¹, ¹Wavelord Inc., Korea, ²Tech University of Korea, Korea

[WeP-30]

17:10-18:40

Optimization of Thin Epi-Layer Structure for 200V-Class GaN-on-Si HEMTs with Enhanced Breakdown Characteristics

Hyunchul Lim¹, Young-Hun Han^{1,2}, Yuhyeon Bak^{1,2}, Moon Uk Cho¹, Min-Ki Hong¹, and June-O Song¹, ¹Wavelord Inc., Korea, ²Tech University of Korea, Korea

[WeP-31]

17:10-18:40

Growth and Characterization of In₂Te₃ Thin Films

Hoki Son¹, Wonjung Choi¹, Yeoson Sim², and Jinsung Kwak¹, ¹Changwon National University, Korea, ²Argonne National Laboratory, United States

[WeP-32]

17:10-18:40

High-Efficiency and Narrow Linewidth Green CdSe/CdZnS Quantum Dots via Steric Hindrance-Controlled Core Engineering

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

[WeP-33]

17:10-18:40

Al-Induced Self-Passivation for Enhanced Stability of CdSe/ZnS QD-Based QLEDs

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

[WeP-34]

17:10-18:40

Fabrication and Characterization of Resistive Memory Device based on Quantum Dots (QDs)/PVK Hybrid Nanocomposites

Sae-Wan Kim¹, Byoung-Ho Kang¹, Jae-Sung Lee¹, Sang-Hoon Jung¹, Se-Hyuk Yeom¹, Jin-Beom Kwon², Dong-Geon Jung³, and Wang-Hoon Lee¹, ¹Gumi Electronics and Information Technology Research Institute, Korea, ²Kyungwoon University, Korea, ³Korea Institute of Industrial Technology, Korea

[WeP-35]

17:10-18:40

Vibrational and Strain Properties of Semipolar (11-22) AlN Films on M-Sapphire

Bei Ma^{1,2}, Kensei Oya², Ryota Akaike², Yoshihiro Ishitani¹, and Hideto Miyake², ¹Chiba University, Japan, ²Mie University, Japan

[WeP-37]

17:10-18:40

Modeling Study of Composition and Thickness Uniformity of AlGaIn Layers in UVC LED Structures

Yury Shustrov and Aleksa Galić, Semiconductor Technology Research d.o.o. Beograd, Serbia

[WeP-38]

17:10-18:40

Structure-Property Relationship of Morphology-Controlled CuS Nanostructures on Cu-Modified Gas Diffusion Electrodes

Jiwon Heo¹, Vishal Burungale¹, Chaewon Seong², Pratik Mane³, Hyojung Bae¹, and Jun-Seok Ha¹, ¹Chonnam National University, Korea, ²Korea Institute of Industrial Technology, Korea, ³Korea Photonics Technology Institute, Korea

[WeP-39]

17:10-18:40

MOVPE-Grown InGaAs-Based Strain-Balanced Multi-Quantum-Well 0.66-eV Absorber Material for Thermophotovoltaics

D. Lackner¹, A. Darwish^{1,2}, A. W. Bett^{1,2}, and H. Helmers¹, ¹Fraunhofer Institute for Solar Energy Systems ISE, Germany, ²University of Freiburg, Germany

[WeP-41]

17:10-18:40

Etch Resistance of Nitride MOCVD Reactor Components

Tomoe Yamamoto¹, Takayuki Togawa¹, Neal Gaffin², Taohid bin nur Tuhser², Creighton Tomek², Wei Fan², Yani Sun², Bowen Dong², and Jon Leist², ¹Momentive Technologies Japan K.K, Japan, ²Momentive Technologies, Inc., USA

[WeP-42]

17:10-18:40

Interface-Engineered Van der Waals BN/AlN Templates for High-Performance AlGaIn/GaN HEMTs

Haidi Wu^{1,2}, Jing Ning^{1,2}, Yue Hao^{1,2}, and Jincheng Zhang^{1,2}, ¹The State Key Laboratory of Wide-Bandgap Semiconductor Devices and Integrated Technology, China, ²Xidian University, China

[WeP-43]

17:10-18:40

A First Look of Arsenic Incorporation into AlN for Wurtzite AlAsN

Xu Yang¹, Xinhua Wang¹, Xinyu Liu¹, and Markus Pristovsek², ¹Institute of Microelectronics, Chinese Academy of Sciences, China, ²Institute of Materials and Systems for Sustainability, Nagoya University, Japan

[WeP-44]

17:10-18:40

**Quantum Barrier Height Optimization for Efficient Far-UVC AlGaIn MQW LEDs:
A Comparison to the Thick Single-Layer Active Region Design**

Zhekai Gu^{1,2}, Yanan Guo^{1,2}, Jianchang Yan³, Jinmin Li^{1,4}, and Junxi Wang^{1,2}, ¹Institute of Semiconductors, Chinese Academy of Sciences, China, ²University of Chinese Academy of Sciences, China, ³Beihang University, China, ⁴Advanced Ultraviolet Optoelectronics Co., Ltd., China

[WeP-45]

17:10-18:40

Visible-InGaIn-Based Long-Single Nanowire Laser for Future Photonic Applications

Sung-Un Kim¹, Dae-Young Um², Jeong-Kyun Oh¹, Min-Seok Lee¹, Cheul-Ro Lee¹, and Yong-Ho Ra¹, ¹Jeonbuk National University, Korea, ²Kumoh National Institute of Technology, Korea

[WeP-46]

17:10-18:40

The Origin of Efficiency in III-Nitride Micro Light-Emitting Diodes

Illi Hwang, Minji Ryu, and Dong-Pyo Han, Pukyong National University, Korea