



**Session Title:** [WeA2] Polarity-Engineered Epitaxy

**Session Date:** July 15 (Wed.), 2026

**Session Time:** 13:30-15:15

**Session Room:** Room A (Baekrok Hall B-1, 1F)

**Session Chairs**

**[WeA2-1] [Invited] 13:30-14:00**

**AlN-based Field-Effect Transistors Enabled by Polarization-Engineered Structures**

Masanobu Hiroki, NTT, inc.

**[WeA2-2] 14:00-14:15**

**Suppression of Mn Segregation in N-Polar GaN on Mn-Doped GaN Substrates**

Shigeki Yoshida, Maui Hino, Isao Makabe, Kozo Makiyama, Junji Kotani, and Ken Nakata, Sumitomo Electric Industries, Ltd., Japan

**[WeA2-3] 14:15-14:30**

**Metalorganic Vapor Phase Epitaxy of N-Polar GaN on Ga-Polar GaN**

Kazuhisa Ikeda<sup>1</sup>, Masahiro Uemukai<sup>2</sup>, Tomoyuki Tanikawa<sup>2</sup>, Ryuji Katayama<sup>2</sup>, and Atsushi Kobayashi<sup>1</sup>, <sup>1</sup>Tokyo University of Science, Japan, <sup>2</sup>The University of Osaka, Japan

**[WeA2-4] 14:30-14:45**

**Polarity-Guided Epitaxy of h-BN on AlN Using MOVPE for 2D-3D Integration**

Yuning Wang<sup>1</sup>, Ryota Akaike<sup>1</sup>, Kosuke Takagi<sup>1</sup>, Tomohiro Tamano<sup>1</sup>, Hiroki Yasunaga<sup>1</sup>, Wentao Zhang<sup>2</sup>, Ke Xu<sup>2,4,5</sup>, and Hideto Miyake<sup>1</sup>, <sup>1</sup>Mie University, Japan, <sup>2</sup>Chinese Academy of Sciences, China, <sup>3</sup>University of Science and Technology of China, <sup>4</sup>Suzhou Nanowin Science and Technology Co., Ltd., China, <sup>5</sup>Jiangsu Institute of Advanced Semiconductors, China,

**[WeA2-5] 14:45-15:00**

**Fabrication of Polarity-Inverted AlN Structure Using Oxidation Processes**

Tomohiro Tamano<sup>1</sup>, Ryota Akaike<sup>1</sup>, Hiroki Yasunaga<sup>1</sup>, Zentaro Akase<sup>2</sup>, Shigetaka Tomiya<sup>2</sup>, and Hideto Miyake<sup>1</sup>, <sup>1</sup>Mie University, Japan, <sup>2</sup>Nara Institute of Science and Technology, Japan

**[WeA2-6] 15:00-15:15**

**High-Quality N-Polar GaN Growth on Silicon for Fully-Vertical GaN-on-Si Power Devices**

Pineda Padilla, A., Veux, G., Barbier, F., Guy, K., Plaza Argüello, D., Vergnaud, C., Dussaigne, A., Dupont, F., and Charles, M., CEA-Leti, France