

# Wednesday, May 29

8:30-11:40 AM | Keller Hall, Room 2-260

## Ultra-wide Gap Materials for High-powered Electronics

Electronic Materials and Devices (EMD)

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Ultrawide-bandgap (UWG) semiconductors have been of significant interest lately due to their potential to improve the figure of merit of power electronics beyond those possible using more conventional materials such as GaN and SiC. For instance, materials such as  $\beta$ -Ga<sub>2</sub>O<sub>3</sub>, AlGa<sub>N</sub>, diamond and oxide semiconductors all have potential to provide enhanced power-handling capabilities and have reached a point where their potential to realize their intrinsic advantages appears within reach. However, in each case, significant outstanding challenges for each material system still need to be addressed before their true capabilities can be realized in a commercial setting. In this workshop, several leading groups in the area of wide-gap materials and devices will provide a discussion of the latest results and remaining challenges on a variety of UWG materials for realizing the next generation of ultra-compact, highly-efficient high-power electronics.

### AGENDA

<u>Time</u>	<u>Title</u>	<u>Authors</u>
<b>8:30 AM</b>	High-power Rectifiers Using CVD-grown Diamond	<b>Grotjohn, Tim</b> -Mich State Univ
<b>9:00 AM</b>	Growth of Homoepitaxial $\beta$ -Ga <sub>2</sub> O <sub>3</sub> by MOCVD	<b>Alema, Fikadu</b> - Agnitron
<b>9:30 AM</b>	Epitaxial Issues for AlGa <sub>N</sub> Ultra-wide-gap Materials	<b>Chandrashekhar, MVS</b> ;- Univ So. Carolina
<b>10:00 AM</b>	<b>Break</b>	
<b>10:30 AM</b>	SrSnO <sub>3</sub> - a New Platform for Functional, High-power Electronics?	<b>Koester, Steven</b> - UMN