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# **Gallium Nitride and Related Materials II**

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## PREFACE

This symposium, one in a continuing series of MRS symposia dedicated to III-nitrides, focused on recent developments in GaN, InN, AlN and their alloys that are now finding application in short-wavelength lasers (~400 nm, cw at room temperature) and high-power electronics (2.8 W/mm at GHz). This proceedings is an accurate representation of the meeting in that approximately 70% of the presented papers are included.

The most controversial topic of the meeting involved the recent report of enhanced conductivity in p-type material through co-doping of oxygen and Mg. A model used to explain this behavior elicited several minutes of lively discussion. The topic of In-segregation and quantum dot formation came up throughout the meeting and is also an area of controversy. Convincing evidence was presented showing inhomogeneous emission from the edge of InGa<sub>N</sub> quantum well structures. Reports that In composition modulations in the quantum well give rise to quantum dots and their potentially positive impact on laser performance was mentioned by several speakers, though theoretical calculations reported at the meeting suggest that readsorption may cause an increase in the threshold current. While much of the symposium reported on advances in material preparation and understanding of defect issues, similar advances in material and device processing were also reported.

Because of the strong attendance and diversity of topics covered, we believe this proceedings represents an accurate and informative picture of the present status of III-nitride science and technology.

C.R. Abernathy  
H. Amano  
J.C. Zolper

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We would also like to thank our invited speakers who contributed greatly to the success of the meeting.

|               |                     |
|---------------|---------------------|
| T. Azuhata    | S.J. Rosner         |
| W.W. Chow     | R.J. Shul           |
| S.P. DenBaars | M. Shur             |
| K. Kim        | M. Suzuki           |
| R.J. Molnar   | S. Tanaka           |
| S.J. Pearton  | M. van Schilfgaarde |
| F.A. Ponce    |                     |

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