# 2015 15th International Workshop on Junction Technology (IWJT 2015)

**Kyoto, Japan**
**11 – 12 June 2015**

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# Program/Contents

IWJT2015, Kyoto, Japan, June 11-12, 2015

## June 11 (Thursday)

9:00 **Registration**
10:00 **Opening Remarks**

### Keynote Speech (1)

10:15 KN-1 **Ge and III-V CMOS Technologies – Trends and Challenges in Material Doping and Contact Formation** N/A
Cor Claeys (IMEC)

10:55 Break (10min)

### Session 1 Doping Technologies (1)

11:05 S1-1 **Recent developments on PULSION® PIII tool : FINFET 3D doping, High temp implantation, III-V doping, contact and silicide improvement, solar cells doping** 1
[Invited] Frank Torregrosa (IBS)

11:35 S1-2 **High temperature ion implanter for SiC and Si devices** 6
[Invited] Naoya Takahashi (Nissin)

12:05 S1-3 **Formation of Ge pn-junction diode by phosphorus doping with liquid immersion laser irradiation** 8
Kouta Takahashi (Nagoya University)

12:25 Lunch (80min)

### Keynote Speech (2)

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### Session 2 Advanced Annealing

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John Borland (J.O.B. Technologies)

14:55 S2-2 **Investigation of Resistivity Dependent Microwave Annealing on Si Substrates**
Peng Xu (Fudan University) 19

15:15 S2-3 **Formation of Ge n+/p junction shallower than 20 nm by using Flash Lamp Annealing (FLA)** 22
Hikaru Kawarazaki (SCREEN Semiconductor Solutions)

15:35 S2-4 **Crystallization of Amorphous Silicon on Glass Substrate by Microwave**

**Annealing for Thin-Film-Transistor Applications** 26
Chaochao Fu (Fudan University)

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[Invited] Shigefusa Chichibu ()

16:40 S3-2 **Photoluminescence Characterization of Si Crystals for Microelectronic and Photovoltaic Devices** 34
[Invited] Michio Tajima (Meiji Uiversity)

17:10 S3-3 **Room Temperature Photoluminescence Characterization of Si Surface Passivation and Dielectric/Si Interface Quality** 40
Woo Sik Yoo (WaferMasters)

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**Keynote Speech (3)**

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Hiroshi Iwai (Tokyo Institute of Technology)

19:00 **Banquet**

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[Invited] Vivek Rao (AMAT)

9:45 S4-2 **Schottky Barrier Height Tuning via Nickel Silicide as Diffusion Source Dopant Segregation Scheme with Microwave Annealing** 50
Xiangbiao Zhou (Fudan University)

10:05 S4-3 **InGaAs Surface Pretreatment prior to Metal Solid-State Reactions for Low Resistance Contacts** 54
Ph. Rodriguez (Univ. Grenoble Alpes)

10:25 S4-4 **Elaboration of Ni/InP contacts: Solid state reactions and associated Mechanisms** 58
Elodie Ghegin (ST Microelectronics)

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## Session 5 Silicide and Contact Technology (2)

11:00 S5-1 **Ultrathin Ni(Pt) Silicide Formation by Laser Annealing** 61
[Invited] Yu-long Jiang (Fudan University)

11:30 S5-2 **Recent progress of Ge junction technology** 65
[Invited] Tomonori Nishimura (The University of Tokyo)

12:00 S5-3 **Schottky barrier height modulation at NiGe/Ge interface by phosphorous ion implantation and its application to Ge-based CMOS devices** 69
Takuji Hosoi (Osaka University)

12:20 Lunch (90min)

## Special Speech

13:50 SS-1 **Junction technology in GaN LED** **N/A**
Hiroshi Amano ()

15:20 Break (15min)

## Session 6 Junction Technology for Novel Devices (1)

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[Invited] Tomoki Oku (Mitsubishi Electric Corporation)

16:05 S6-2 **Automotive Semiconductor Device Trend**
**- Current Status and Future Outlook -** N/A
[Invited] Shigemitsu Fukatsu (Denso)

16:35 Break (10min)

**Session 7 Junction Technology for Novel Devices (2)**

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