

5-8, July 2021

Organized by

SSN Research Center, SSN College of Engineering, SSN Institutions
Kalavakkam, Chennai-603110, Tamilnadu, India

In association with

Indian Association for Crystal Growth & Indian Science and Technology Association
MCGPD-2021 International Organization for Crystal Growth



About the Symposium

The four day "2nd International Symposium on Modeling of Crystal Growth Processes and Devices" is highly beneficial for the researchers who are working in the field of modeling and simulation of various crystal growth processes, semiconductor devices, NLO and Piezoelectric devices. The development of modern devices requires materials with a high degree of crystallographic perfection, low defect density and uniform dopant distribution throughout the crystals. Numerical modeling plays a vital role in developing optimised process conditions for growing high quality crystals and designing device structures for efficient electronic and optoelectronic devices. The ultimate goal of the symposium is to give a basic understanding for the young researchers to explore the advance developments of modeling on crystal growth processes and devices, to evolve guidelines for their further research. The symposium includes Keynote/ Invited lectures by eminent experts from various foreign and Indian institutions, poster & oral presentations from the researchers.

About SSN Research Centre

SSN Research Centre (SSN RC), founded by Dr. Shiv Nadar, Chairman of HCL Corporation, is a not-for-profit entity managed by SSN Institutions. Presently, the focus of research activities is on the development of crystalline and thin film silicon materials and their applications in the fabrication of solar cells, Dye Sensitized Solar Cells (DSSCs), melt and solution crystal growth. Modeling and Simulation activities are seriously taken for the past 10 years in melt crystal growth and DSSC activities. Research activities in photovoltaic devices are being carried out by a team of 8 well qualified and trained scientists. Mc-silicon ingots are successfully grown by Directional Solidification (DS) process with the help of modeling and simulation results using first Indian made DS furnace under "Make in India" initiative. More than 30 Ph.D. students and 40 SRF & PDF are pursuing their research. Efforts are being made to strengthen research on quantum dot and Perovskite based solar cells and Hetero-junction with Intrinsic thin film solar cells.

Focusing Areas

- Nucleation and kinetics
- Solution growth processes
- Melt growth processes
- Molecular dynamics
- Heat and mass transfer
- Numerical methods (FDM, FEM, FVM)
- Density Functional Theory (DFT)
- Substrate crystals
- Vapor growth of epitaxial layers
- Thin films by CVD
- CFD in melt growth process
- Band gap and defects engineering
- Charge transport mechanism
- Crystal based solar cell devices
- Dopants, impurities, dislocations
- Piezoelectric devices
- Silicon based solar cells
- Nano, meso, poly crystals
- Optoelectronic devices
- Industrial crystallization process

Abstracts

The authors are requested to mail their abstracts in word format for oral/poster presentations to mcpd2021@gmail.com. The abstract is limited to one page including figures, tables and references. The title of the paper should be in Times New Roman with the font size of 14 and the rest of the text in 12 font with 1.5 line spacing. The selected all abstracts will be allowed for ORAL presentation.

Important Dates

Abstract submission : 15.06.2021
Acceptance notification: 25.06.2021
Registration deadline : 30.06.2021

Full Length Article

Submission Start : 15.07.2021
Submission Deadline : 15.09.2021

Address for Communication

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Journal Publication

Full length articles will be published in
(after peer review)
(Impact factor : 1.632)

"Journal of Crystal Growth"

Registration Fee

There is no registration fee.

Registration Link



<https://forms.gle/aJ56yDmdwFR7UkbU6>

Website: <http://www.mcpd.com/>

Keynote Speakers



Prof. Koichi Kakimoto
President
International organization for Crystal growth,
Kyushu University, Japan

Prof. P. Ramasamy
President
Indian association for Crystal growth
SSN Institutions, Chennai
India



Prof. Jeffrey J. Derby
Chief Editor, Journal of Crystal Growth
University of Minnesota
USA

Prof. Peter Rudolph
Editor, Journal of Crystal Growth
Crystal Technology Consulting (CTC)
Germany



Prof. Lijun LIU
Editor, Journal of Crystal Growth
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National Central University
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Prof. Mathis Plapp
École Polytechnique
CNRS
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Prof. Noritaka Usami
Nagoya University
Japan



Prof. Yoshikawa Akira
Institute for Materials Research
Tohoku University
Japan

Dr. Wolfram Miller
Leibniz Institute for Crystal Growth
(IKZ)
Germany



Prof. Dr. Daniel Vizman
West University of Timisoara
Romania

Prof. Rita John
University of Madras
India



Prof. Liliana Braescu
President, Matelligence Inc,
Canada

Prof. P. Ravindran
Central University of Tamilnadu
India



Dr. Kentaro Kutsukake
RIKEN
Japan

Dr. Kader ZAIDAT
Grenoble Institute of Technology
France



Dr. Madhav Ranganathan
IIT Kanpur
India

Dr. Andrey Smirnov
Semiconductor Technology Research
Group, St. Petersburg
Russia



The best presentation awards will be given separately to
Process Modeling as well as Devices Modeling.