

Nitesh Raj Jaladurgam

CONTACT INFORMATION

Materials Microstructure Division, Department of Physics
Chalmers University of Technology.
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RESEARCH INTERESTS

- Investigation of deformation mechanisms of high temperature materials using neutron scattering experiments
- Thermomechanical behavior of high temperature materials
- Microstructure characterization using XRD, EBSD-SEM and TEM
- Crystallographic texture evolution using MTEX, a quantitative MATLAB[®] toolbox for analyzing and modeling crystallographic texture from EBSD, pole figure data

EDUCATION

Chalmers University of Technology, Gothenburg, Sweden

PhD in Materials Microstructure Division, Department of Physics (01 August 2017 - Present)
Supervisor: Prof. Magnus Hörnqvist Colliander

Indian Institute of Technology Madras (IIT Madras), Chennai, India

M.S (By Research) in Metallurgical and Materials Engineering (2014 - 2017)
CGPA - 8/10
Supervisor: Prof. Anand Krishna Kanjarla

Jawaharlal Nehru Technological University, Hyderabad, India

B.Tech in Metallurgical and Materials Engineering (2010 - 2014)
Marks - 76.44%

PUBLICATIONS

Nitesh R Jaladurgam, Anand K Kanjarla. Hot deformation characteristics and microstructure evolution of Ni based superalloy C-276, Materials Science and Engineering: A in June 2017. **DOI**

Balakrishnan M, **Nitesh R Jaladurgam**, Mangesh J, Narayanan R, Lakshman Neelakantan. Improved corrosion protection of titanium implant material by crystallographic texturing of calcium phosphate electrodeposits, Thin Solid Films in May 2018. (Under review)

AWARDS

- Full time PhD Position in Chalmers University of Technology funded by Swedish Foundation for Strategic Research (SSF), August 2017 - Present
- Recipient of Scholarship from the Ministry of Human Resource and Development, Government of India during M.S. (By Research) program, 2014 - 2017

CONFERENCE PRESENTATIONS

Nitesh Raj Jaladurgam, Anand Krishna Kanjarla. Study on thermomechanical behavior with texture evolution of Ni based superalloy C-276. Materials Science and Engineering 2016, September 2016, Darmstadt, Germany (*Oral presentation*)

Nitesh Raj Jaladurgam, Anand Krishna Kanjarla. Hot deformation characteristics of Ni based superalloy C-276. Indian Institute of Metals – Annual Technical Meeting, November 2015, Coimbatore, India (*Oral presentation*)

Nitesh Raj Jaladurgam, Ravi Bollina, Malobika Karanjai. Consolidation of composite iron powder by spark plasma sintering for soft magnetic applications. Powder Metallurgy Short Course 2014, January 2014, Chennai, India (*Oral presentation*)

PROJECTS AND
RESEARCH
EXPERIENCE

In-situ neutron scattering on high temperature materials (PhD) **August 2017 - Present**

- Effect of Heat treatment and deformation studies on Eutectic High Entropy Alloy and Haynes 282

Dynamic recrystallization and microstructure evolution of Ni-based superalloy C-276 (Masters thesis) at IIT Madras **July 2014 - April 2017**

- Hot deformation studies on C-276 using Thermo-mechanical simulator, DSI Gleeble[®] 3800.
- Developed a MATLAB[®] script for deformation processing maps, which can identify defect free microstructure zones for a given set of hot deformation conditions.
- Study of dynamic recrystallization and softening mechanisms using EBSD-SEM and TEM.

Development of Iron-Silica Composite Iron Powders for Soft Magnetic Applications by Particulate Materials Technology (B.Tech thesis) at International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad, India

May - July 2013 and December 2013 - March 2014

- Powder consolidation using spark plasma sintering followed by density measurements and fundamental characterization.
- Optimize the chemical composition of Fe-xSi by AC and DC magnetic measurements.

TEACHING
ASSISTANTSHIP

- Transmission Electron Microscopy Laboratory- assisting students in performing TEM experiments and train them on sample preparation and microscopy. **January 2016 - April 2017**
- Mentored B.Tech Thesis on *Effect of initial grain size on processing maps of Ni based superalloy C-276* **August 2015 - May 2016**
- Mechanical Metallurgy course- assisted in the evaluation of assignments and helped instructor in the preparation of question paper. **January - May 2015**
- Mechanical Metallurgy & Tribology Laboratory- handled room temperature tension and compression tests for undergrads. **August - November 2014 and 2015**

EXPERIMENTAL
SKILLS

- Transmission electron microscopy on Philips CM12 (120 kV) and FEI TecnaiTMG² T20 (200 kV)
- EBSD (FEI QuantaTM200), SEM EDS/BSE/SE and XRD-Bruker D8
- INSTRON[®] 30 kN Tensile testing machine, Zwick/Roell[®] 10 kN & 100 kN Universal testing machines.
- Wire-Electrical Discharge Machine
- Metallography- specimen preparation techniques for XRD, EBSD-SEM and TEM.

CO-CURRICULAR
ACTIVITIES

- Mitr student volunteer, a guidance and counselling unit for students of IIT Madras.
- Student volunteer for International Symposium for Research Scholars 2014, held on December 2014, IIT Madras, Chennai.
- Student co-ordinator for Metallon'13, a National level technical symposium held on December 2013, MGIT, Hyderabad.
- Student Volunteer for Powder Metallurgy Short Course 2012, held during December 2012 in association with MGIT and Powder Metallurgy Association of India in MGIT, Hyderabad.

REFERENCES

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