

VINAYAKA HARSHOTHAMA DAMLE

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Objective

To work in an inspiring, competitive and challenging environment so as to contribute the best of my abilities as well as my sincere efforts towards the eminence and prosperity of the organization. To grow as a person, procure proficient skilled training and hence emerge as an experienced, efficient and successful professional.

Educational Qualifications

- Doctor of Philosophy (Expected 2021) in Nanometrology
Bar Ilan University, Ramat Gan, Israel.
Research Domain: Semiconductor Nanometrology with Applied Spectroscopy, Atomic Force Microscopy and Scanning Tunnelling Microscopy.
- Master of Science (2014) in **Physics**
National Institute of Technology Karnataka (NITK), Surathkal, India
Specialization: Nanomaterial synthesis, Thin film preparation techniques (PVD, CVD), Electron Microscopy, X-Ray diffraction
- Bachelor of Science (2012) in Physics, Mathematics & Chemistry (triple major)
St. Aloysius College Mangalore- Mangalore University, India

Awards and Accomplishments

- All India Rank 369 in IIT -Joint Admission for Masters 2011
- All India Rank 98 in IIT - Joint Admission for Masters- 2012
- Best scientific designer National Level Science fest IMPRINTS-2010
- Best scientific designer National Level Science fest IMPRINTS-2011
- 1st prize in Mangalore zonal level quiz on Astrophysics by AIR(PRASAR-BHARATHI)

Publications

- **Vinayaka H. Damle**, Laxman Gouda, Shay Tirosh, and Yaakov R. Tischler (2018) Structural Characterization and Room Temperature Low-Frequency Raman Scattering from MAPbI₃ Halide Perovskite Films Rigidized by Cesium Incorporation ACS Applied Energy Materials Article ASAP (<https://pubs.acs.org/doi/10.1021/acsaem.8b01539>)

- Elias L, **Damle V H** and Hegde C A (2016) Electrodeposited Ni-P Alloy Thin Films for Alkaline Water Splitting Reaction. IOP conference proceedings. (<http://dx.doi.org/10.1088/1757-899X/149/1/012179>)
- Alan Feinstein; Roman Yasinov; Nir Karasikov; Omree Kapon; **Vinayaka H. Damle**; Tal Ben Uliel; Yaakov Tischler
Spectroscopic gas identification using piezo tuned micro-cavity enhanced Raman scattering. SPIE Digi Lib (<https://doi.org/10.1117/12.2526300>)

Posters talks:

- Laxman Gouda, **Vinayaka Harshothama Damle**, Bradley Widawer, Orin Kigner, Omri Kapon, and Yaakov R. Tischler “MAPbI₃ and MAPbBr₃ Halide Perovskite Super-Lattices towards Infrared Emission Applications” MRS Fall meet 2018, Boston, MA, USA
- **Vinayaka Harshothama Damle**, Tal Ben-Uliel, Dr. Hagit Aviv, Dr. Yaakov R. Tischler “Applications of Low-Frequency Raman Spectroscopy for Nanostructure Characterization”, MDM Annual Conference-2018, Applied Materials, Israel.

Talks Given

- Spectroscopic Tools to Understand Phase Transformation Induced Stability in Organometal Halide Perovskites (INL, Braga, Portugal 2018)
- Spectroscopic GIS tagging of Chemical Effluence in The Water Bodies of Suburban Bangalore (Lake Conference, Alva’s Institute, Mangalore, India 2016)
- Statistical Ensembles and Energy calculations (SAC, Mangalore University, India, 2014)
- Electromagnetic Materials, Properties and Advancements in Piezoelectric material applications (NITK, Surathkal, India, 2015)

Employment Summary

Worked in Material synthesis and characterization- Biodegradable polymers, composite materials for Biomedical sensor applications. **(1 Year)**

Employer : Department of Research & Development, Vagdevi Vilas Institutions
 Location : Bangalore, India
 Designation : Research facilitator
 Date of Employment : July 2016 - July 2017

Worked in Electron Microscopy, Material Characterization & Testing **(1 year, 6 months)**.

Employer : Jeol India Pvt Ltd under AMC of NITK Surathkal
 Location : NITK Surathkal
 Designation : Facility Technologist
 Date of Employment : January 2015 to June 2016

Professional / Research Experience Summary

- **Biodegradable polymers and composite material synthesis**

Role : Research facilitator

As a research facilitator, my responsibility was to involve extensively in setting up a state of the art R&D laboratory in material science domain along with writing for grants and undertaking minor research projects. As a part of project deliverables we had successfully synthesised biodegradable polymer composites with desired electric properties and biocompatibility as required by the industrial counterpart. Further flexible electronics and biomedical sensor were fabricated.

- **Electron Microscopy**

Role : Operator

As a technologist, I was responsible for daily operation of electron microscopes to fulfil the research requirements. The work mainly involved preparing the samples and developing new techniques to acquire the required data using sophisticated characterization tools Mainly TEM, SEM along with EDS, SAED, EBD, XRD etc. along with training UG, PG & Research students with the techniques

- **Material Characterization**

Role: Technologist

Here, the responsibility took a step further in terms of the technical competency that was needed to carry out the tasks in research teams which mainly focused on synthesis of new materials for different applications viz, Sensors, Biocompatible Membranes, Metal Composites, Semiconductor Devices etc . The work was highly competent and challenging that involved characterization of materials at nano-scale and acquiring research data using EDS, SAED, EBD, XRD techniques

- **Analysis**

Role: Technologist

The work primarily dealt with analysis of the acquired data and implementing the results in designing new protocols for device design and fabrication along with material synthesis. At this stage various computational and analytical tools were made use of including FEM based Comsol, Mat lab & R software. The role was involved but was not limited to with the responsibility of scheduling meetings with various corporate and academic professionals, understanding their requirements and carrying out detailed material characterization and analysis to meet the same. Simultaneously, training students in order to appreciate the requirements and undertake accompanying research was to be taken care of.

Work Experience - Roles & Responsibilities

- Requirement Analysis, Design and development of protocols for device design
- Data Acquisition & Analysis
- Handling sophisticated and sensitive high-end research equipment

Functional Skills

- Proficient knowledge of FEM based simulations
- Professional experience in TEM based data analysis
- Working knowledge of R-Software

Technical Skills

- Computational Skills Python–Basic, Comsol- Multiphysics, Origin
- Operating Systems Windows, Linux,
TEM, SEM, XRD, SAED, EDS, LFRS, SERS, SRS,
- Nanometrology & Nano-FabTERS, AFM, PVD, Photolithography, Cold Plasma

Personal skills & interests

- Confident, Team player, fast learner, determination to improve, Good communication skills, commitment towards responsibilities and optimistic attitude
- A vivid traveller and photographer with a pinch of interest in literature Passionate about Data Analytics!

Extracurricular activities during studies and work

- Secretary of Physics Forum National institute of Technology Karnataka, Surathkal
- Editor of Scientific News Letter “Physics Prime” NITK- Surathkal
- Student Representative of Physical Sciences Association, St. Aloysius College
- Secretary of Astro-Club (Astro Physics Societ) of St. Aloysius College
- Secretary of Samskritha Sangha St. Aloysius College, Mangalore
- Member of Students Council – NITK

Conferences and Seminars Attended

- EURASMUS MUNDUS (Eurasmus+ KA107)- 2019
 - Hellenic Mediterranean University, Crete, Greece
 - Institute of Plasma Physics and Lasers, Rethinmo, Crete, Greece
 - Foundation for research and technology Hellas, Heraklion, Crete, Greece
 - Technological Institute of Crete, Chania, Greece
- COST Action MP1403, Nanoscale Quantum Optics - ESR Workshop, INL Braga, Portugal 2018
- Agritech Israel, Tel Aviv, Israel, 2018
- Fuel Choices and Smart Mobility Summit, Tel Aviv, Israel, 2017
- Solar Energy in Israel WHAT'S NEW IN HALIDE PEROVSKITE RESEARCH? Weizmann Institute of Science Israel- 2017

- The 10th Biennial Lake Conference: Wetlands for Our Future 2016 organised by IISC Bangalore
- National Workshop on Computational Materials –NITK-2015
- Conference on Conservation and Sustainable Management of Wetland Ecosystems in Western Ghats (Lake 2014)
- Workshop on Quantum Mechanics and Application – NITK- 2013
- International Winter School on Organic Electronic Materials and Devices –NITK-2013
- International Workshop on Nanotechnology – SAC Mangalore- 2011
- Workshop On Cryptography and Number Theory- SAC Mangalore-2010
- Workshop on Darwin's Theory of evolution- SAC Mangalore-2009

Personal Profile

Father's Name : Balakrishna Damle

Mother's Name : Late. Sumathi M

Date of Birth : 5th December 1990

Gender : Male

Marital Status : Married

Nationality : Indian

Languages Known : English, Kannada, Hindi, Malayalam, Sanskrith, Tulu, Tamil

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Declaration:

I affirm that the information given in this application is true and correct. I request you to please accept my application and give me an opportunity to render my best services to the company

(Vinayaka Harshothama D.