Chinna Devarapu

Cork, Ireland | 0035389441091 | Chinna.bhu@amail.com
Visa Status :Stamp 4 [Eligible to work in Ireland]

Profile

I am an experienced engineer and scientist. I am highly skilled in free space optics, nanophotonics, optoelectronics, data communications and spectroscopy. I have over 11 years of experience in design, simulation, fabrication, and characterization of photonic devices. My programming languages and software tools include Lumerical, K-layout, Python, Fortran, Matlab, ZEMAX, Maple and Eagle. I am solution and client focused and have excellent organizational skills. I am a good communicator and team player and foster a collaborative environment working co-operatively with others.

Education

PhD	2014	Physics	University of Exeter, Exeter, UK
M.Tech	2010	Applied Optics	Institute of Technology Delhi, India & TU Berlin, Germany
M.Sc	2008	Physics	Banaras Hindu University (BHU), Banaras, India

Work Experience

2016-Present: Research Scientist, Tyndall Institute and Munster Technological University, Ireland

Leading two commercialisation of projects and several industrial projects related to nanophotonics, biophotonnics, data communication devices, spectroscopy and sensors. My responsibilities include designing of nanophotonic devices according to the specifications of the fabrication facilities across the Europe. Played a key role in the success of two international projects DANCer and COSMICC, where novel lasers based on Si and SiN materials were designed and fabricated.

Oct 2014-Aug 2016 Research Fellow, University of St Andrews, St Andrews, UK.

Investigated vertical integration of photonic and electronic circuits to achieve faster data communications, by employing deposited polycrystalline Silicon and Amorphous Silicon. Also, developed a wafer-scale characterization set-up for nanophotonic circuit elements in collaboration with Stanford University and Industrial partners.

Professional competencies

Optics	Free space optics, Lens, Lasers, Filters, Photodiodes, Spectral sensors, LEDs Spectroscopy: Fluorescence, Raman, UV-Vis, IR
Nanophotonics	Design: Lumerical, K-layout, CNST-Mat lab, ZEMAX Simulation: Lumerical, MEEP, MPB, Fortran, Mat lab, Maple Fabrication: Electron Lithography, Photolithography, Reactive Ion Etching Characterization: Ellipsometry, SEM, AFM, Resonance scattering spectroscopy, End-Fire
Digital Fabrication	CAD Design (Open Scad, Autodesk Fusion), Rendering and 3D Printing PCB design (Eagel, Fritzing), assembly and testing
Commercialisation	IP development, Business plan development, Lean Canvas User surveys, Business Pitch Deck development

Problem Solving

- I have strong analytical skills which support the identification of potential issues in actionable time. This enables me to provide efficient solutions and recognise the source of problems to prevent re-occurrence
- Use of multi-disciplinary expertise in Photonics, Electronics, Biology and Computer Science to address problems such as interpretation and visualisation of complex linked-data

Research Project Management Experience

- Key player on research projects funded by EU, SFI, Enterprise Ireland and EPSRC
- Write reports and deliver work packages on time and within budget
- Assist with research project management and timely completion of project work packages
- Participating in troubleshooting meetings regarding the project within the group and with collaborators and industry partners
- Effectively working on own initiative, independently and as responsible member of the team

Communication Skills

- Scientific Writing: patents, pre-patent applications, research articles and review articles
- Oral presentations of results with collaborators, industry partners, and at seminars and workshops
- Productive relationship with collaborating groups
- Persuading and negotiating with potential collaborators on new initiatives

Leadership and People Development

- Provide technical assistance to students and colleagues
- Participation in Education and Public Engagement activities
- Lead Principal Investigator

Achievements

- 11 Research articles, 7 Invention Disclosure Forms and 2 Patents
- Invention of the year award at MTU (2021)
- TTSI3 Pipeline Fund (TPF) of € 14,996 at MTU (2021)
- Direct industry funding of € 60,000 at MTU (2020)
- Commercialisation Fund, "FloDX" of € 255,022 at MTU (2020)
- Best Publication award from Irish Photonic Integration Centre (2019)
- Marie Curie Research Fellowship with a grant of € 244,800 at MTU (2018)
- Winner of the Young Innovators Challenge (£2,000 prize) Scotland, UK (2015)
- PhD studentship and travel grant from University of Exeter (2010-2013)
- IIT Master Sandwich fellowship from German Academic Exchange Service (DAAD) (2009-2010)

Patents

1. A Grating Structure for a Comb Laser, GB 2020458.2 (2020)
2. System for detecting SARS Coronavirus in water, GB 2020425.1 (2020)

Publications/Scientific writing

- Author or co-author of 11 international peer-reviewed journal articles, 3 conference papers
- H-index: 6, Total citations: 126 from Google Scholar database

Link: https://scholar.google.com/citations?user=v5iO4roAAAAJ