

# Sachin Prabhakar

Junior Research Fellow

## Personal Info

### Address

Space Physics Laboratory (SPL)

Vikram Sarabhai Space Centre (VSSC)

Indian Space Research Organisation (ISRO)

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## Skills & Abilities

### Experimental

- Experience with experiments involving femto-second Laser pulse (800 nm, 30 fs, 100 TW)
- Handling optical components and optical alignment
- Magneto static electron spectroscopy(ESM)
- Radiation detectors (scintillation detectors (NaI, LaBR3), CCD, ICCD, Photomultiplier tube)
- Basic physics and nuclear lab skills
- SEM (Karl Zeiss SEM with EDS)
- XRD (Rigaku Smartlab)
- Micro-fluidic devices (PDMS devices, syringepump, goniometer)
- Micro-nano characterization (AFM, SEM, XPS, Raman and MicroPL system, Zeta Potential (ZetaPals)
- Nano fabrication exposure (Photo-lithography)
- STM, PVD, CVD, Sputtering

### Computational

Fortran	●●●●● Excellent
C++	●●●●○ Good
Mathematica	●●●●○ Very Good
Matlab	●●●●○ Good
ImageJ	●●●●● Excellent

## Scholarships & Awards

### Inspire SHE Scholarship

- Rs. 80000 per year
- Duration: August 2012-May 2017

### CSIR-UGC NET

- Qualified UGC-CSIR NET exam (JRF) – June 2017
- All India Rank – 82

### GATE

- Qualified Graduate Aptitude Test in Engineering (GATE) 2017 and 2019
- Discipline – Physics

Junior Research Fellow at Ionosphere, Thermosphere and Magnetosphere Physics (ITMP) branch, Space Physics Laboratory (SPL) .

## Research Details

### Junior Research Fellow (JRF) | Space Physics Laboratory (SPL), VSSC, Thiruvananthapuram | December 2019-Present

- Research Area: Ionosphere, Thermosphere and Magnetosphere Physics
- Research Supervisor: Dr. C. Vineeth, SPL, VSSC, ISRO, Thiruvananthapuram

## Experience

### Research Scholar | Indian Institute of Science Education and Research (IISER TVM), Thiruvananthapuram | August 2019-Dec 2019

- Topic: Transition metal dichalcogenes based nano-device fabrication and characterisation
- Advisors: Dr. Bikas C. Das, IISER Thiruvananthapuram

### Research Scholar/Junior Research Fellow (JRF) | Indian Institute of Science (IISc), Bangalore | August 2017-July 2018

- Topic: Using magnetically driven nano swimmers to combat ovarian cancer
- Advisors: Prof. Ambarish Ghosh and Prof. Ramray Bhat, IISc Bangalore

### Master's Thesis Project | Tata Institute of Fundamental Research (TIFR), Mumbai | May-December 2016

- Topic: Study of hot electron transport in solids and multi-mega gauss magnetic field measurements
- Guide: Prof. G. Ravindra Kumar, TIFR Mumbai

### Co-curricular Project | Tata Institute of Fundamental Research(TIFR), Mumbai | January-April 2016

- Topic: An attempt to understand fast electron transport in solids
- Guide: Prof. G. Ravindra Kumar, TIFR Mumbai

### Co-curricular Reading Project | UM-DAE Centre for Excellence in Basic Sciences(CEBS), Mumbai | August-November 2015

- Topic: Phase locking of electron bunch in laser wakefield acceleration
- Guide: Dr. Brijesh Prithvi, UM-DAE CBS Mumbai

### Summer Project | Tata Institute of Fundamental Research (TIFR), Mumbai | May-July 2015

- Topic: Angular distribution of cascaded gamma rays from Cobalt-60
- Guide: Prof. Indranil Mazumdar, TIFR Mumbai

### Summer Project | National Institute of Science Education and Research (NISER), Bhubaneshwar | May-July 2014

- Topic: Polarization and spatial filtering of two superposed beams
- Guide: Dr. Ashok Mohapatra, NISER Bhubaneshwar

## Education

### Master's in science (Five-year integrated M.Sc.) | August 2012-April 2017 | UM-DAE Centre for Excellence in Basic Sciences(CEBS), Mumbai

- Discipline: Physics

### Higher Secondary School (AISSCE) | June 2010-April 2012 | St. Antony's Public School, Anakkal

- Branch: Science (with Biology and Maths)