

Bento Joseph

M.Sc.(Physics)



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Career Objective:

A suitable position in an established firm where my expertise, creative talents and commitment to excellence will have valuable application.

To contribute organization effectiveness through emphasis on efficient utilization of Technical knowledge experience skill to enhance my job performance.

Current Job Profile:

Lab Officer

**Department of Applied Physics & Astronomy,
University of Sharjah, UAE.**

Period: Since August 1, 2016 – Till Date

- Organizing Science and Engineering students in their Physics laboratory courses, Setting up the lab in preparation for experiments, day-to-day laboratory maintenance, organizing lab essentials laboratories, following up on experiments and grading of lab assignments and marking lab quizzes.
- Handling major and minor physics experiments in Mechanics, Electricity and Magnetism, Electronics and instrumentation, Modern Physics, Medical Science, Medical imaging, Solar and renewable, thermal properties and analysis, Spectroscopy and Acoustics. Sophisticated Experiments like Spectrum of Hydrogen atom, Speed of light measurement, Specific charge of electron e/m , Frank-Hertz Experiment, Radiation Detection and G-M Tube, Absorption of Gamma and Beta, Photoelectric Effect, X-Ray Diffraction, Zeeman Effect.
- Provide assistance with the maintenance of equipment and/or request repairs, and will be expected to receive, unload, unpack, inspect, and inventory supply equipment, including hazardous, radioactive, infectious and other scientific materials. Reinforce and adhere to safety and safeguarding protocols and maintain cleanliness of laboratories and workspaces. Maintaining equipment in good working order and recommending/implementing improvements as appropriate to maintaining standards of accuracy and reliability, Developing and maintaining an electronic database of equipment, sessions handbooks and logbooks.

Professional Experiences

Scientific Officer-B

Homi Bhabha Centre for Science education,
Tata Institute of Fundamental Research,
Mumbai, India.

Period: March 10, 2016 – July 29, 2016

- Working as Physics Educational Researcher, Designing and Developing new Physics experiments, Innovative laboratory teaching concepts, and organizing national level experimental programs like NIUS (National Initiative in Undergraduate Science) and SCEP(Summer Course in Experimental Physics)
- Involving new Experimental Development, calibration of Study of Polarization by Reflection, Study of Rolling Motion. Maintaining physics education research labs in NIUS facility. Handling modern engineering physics development Tools in experimental development laboratory cum workshop.
- Mentor of experiments (LED Efficiency and Diffraction of light) in SCEP-2016 conducted by Homi Bhabha Centre for Science Education.
- Organize and administrative assistance in NIUS-2016.

Works Under :

Dr. Rajesh B. Khaparde, Reader (F)
HBCSE-TIFR, Mumbai, India

Technical Assistant

School of Physics,
Indian institute of Science Education and Research
(IISER), Thiruvananthapuram, Kerala.
(Under MHRD India)

Period : February 2, 2015 – February 29, 2016

Handling Powder X Ray Diffractometer (PANalytical Empyrean) in Research lab.

- Operating X-ray Powder Diffractometer in Normal, High Temperature, Low temperature Modes, including sample preparation for each modes, setting and changing attachments for various modes, instrument operation, and the Developing machine running program for each measurement.
 - Analyzing the P-XRD Data for phase identification, determination of unit cell dimension using PANalytical Highscore Plus, ICDD 2014 and Origin 8.0.
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- Day today maintenance of X Ray Diffractometer like, Breeding of X-Ray Tube, Maintenance of supporting equipments like Chiller Unit, Air Compressor, Vacuum Pumps and assisting officials for PANalytical service maintenance etc.

Assisting BS-MS course in Teaching Lab

- Assisting BS-MS students in Physics laboratory courses, day-to-day laboratory maintenance, organizing lab essentials laboratories, Taking students viva-voce after completing each experiments, evaluating student's lab records.
- Handling major and minor physics experiments like Hall Effect measurement, AFM (Nano surf),STM (Nano surf), X-Ray Diffraction(Le-Bold) Two slit interference–Single photon at a time (Teach spin), Geiger-Muller counter and Gamma ray spectrometer, Nuclear Magnetic Resonance, B-H Curve, Electron Spin Resonance, Zeeman Effect, Velocity of light–Foucault's Method, Contact angle measurement and various Mechanics, electromagnetic, Optics, Acoustics and Thermodynamic experiments.
- Handling various computer interfaced experiments like Pasco experiments (with 850 interface and Capstone Software), Lebold experiments (with Lebold interface and CASSI Lab software), Multisim with NI Elvis 2.

Works Under:

Research Lab:

Dr. Ramesh Chandra Nath,
Associate Professor, School of Physics.
IISER TVM

Teaching Lab

Prof. V Unnikrishnan Nayar
Visiting Professor, School of Physics
IISER TVM

Teaching Assistant

**Zephyr Med/Eng Entrance Coaching Centre,
Thoruvanthapuram, Kerala, India**

Period: September 1, 2014 – December 31, 2014

- Preparing and presenting and study program, Preparing Egg/Med Mock Question papers for Physics, Assisting Proofers in class sessions.
- Conducting examinations and ensure test center guidelines are maintained and no malpractices happens, Evaluating Answer sheets.
- Planning, evaluating, and revising curricula, course content, and course materials and methods of instruction.

Teacher

Brilliant Study Centre Pala,
Kottayam, Kerala, India

Period: September 1, 2012 – December 31, 2012

Teaching Higher Secondary level physics for JEE Mains coaching Students.

- Preparing and presenting and study programme, Preparing Egg/Med Mock Question papers for Physics, Assisting Proofers in class sessions.
- Conducting examinations and ensure test center guidelines are maintained and no malpractices happens, Evaluating Answer sheets.
- Planning, evaluating, and revising curricula, course content, and course materials and methods of instruction.

Academic Qualifications:

<i>Course</i>	<i>University/ Board</i>	<i>Year of passing</i>	<i>Score</i>
M.Sc. Physics (Opt. paper: Photonics)	Mahatma Gandhi University	2012	74 %
B.Sc. Physics	Kannur University	2010	78 %
HS	Govt. of Kerala	2007	79 %
SSLC	Govt. of Kerala	2005	75 %

Academic Experiences

Master Degree Project

I have done my Post Graduate project based on a newly developed electronic equipment expEYES (experiments for young engineers and scientists) constructed by Dr. Ajith Kumar (Scientist, IUAC, New Delhi). Aim of my project is to calibrate the machine for varies mechanical, electrical and electronics experiments, and done new experiments by writing Python programs.

Attended Workshops

- 1. Introductory workshop on “Nanofabrication Technologies”** conducted at the Centre for Nano Science and Engineering (**CeNSE**) Under INUP , Indian Institute of Science, Bangalore, from 21st – 23 rd May 2014 (Part of Research work on **Fabrication of Solar cells based on CZTS nanocrystals** under Dr. Ison Vanchipurackal, Assistant Professor, St.Thomas College, Pala, Kottayam, Kerala, India)
- 2. One day Acquaintance program of Inter University Accelerator Centre (IUAC), New Delhi, India** on 12 December 2011 and one day workshop on **Computer Interfaced Science Experiments**, a hands-on training using expEYES on 13 December 2011 conducted at St. Thomas College Pala,Kottayam (Part of Project work on **Computer Interfaced Science Experiments using ExpEyes** Under the guidance of Dr. Ison Vanchipurackal, Assistant Professor, St.Thomas College, Pala, Kottayam, Kerala, India)

Technical Skills

Instrumentation Skills

- X-Ray Diffractometer -PANalytical EMPYREAN(All attachments).
- X-Ray Diffractometer -LD Dedactic.
- Atomic Force Microscope -Nanosurf
- Scanning Tunneling Microscope –Nanosurf
- ExpEYES full with programming, National instruments NI ELVIS II
- Basic Knowledge in Lithography, Glow Box, Sputter, Evaporator etc.
- Physics Laboratory instruments provided by Pasco, LD Dedactic, PHYWE, Holmarc Opto-Mechatronics.
- Engineering Tools Driller, Bench Grinder & Polisher, Cutter, Lathe HOBBY MATE Universal.

Computer languages and Softwares known

- C & C++ 03, Python 3.2, Java 6.0
- Origin 8.0, Video Tracker 4.93, LaTeX3, Gnu Plot, MultiSim 10.0, Basic Mathlab.
- CASSI Lab 2.0 LD Dedactic, Pasco Capstone 1.0, Pasco Data studio 1.9
- Microsoft Office Tools, Visual Basic.

Operating Systems known

- Linux (Ubuntu Upto 16.04.1)
- Microsoft OS (Xp, Windows 7, Windows 8, Windows 10)

Personal Details

Father's Name : Joseph Abraham
Date of birth : May 15, 1989
Sex : Male
Marital Status : Single
Nationality : Indian
Languages Known : English, Hindi, Tamil, Malayalam (Mother Tongue)

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