

# Rakshit Jain

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CONTACT INFORMATION	Department of Physics Indian Institute of Technology Bombay #233, Hostel 04, IIT Bombay Powai, Mumbai, India 400 076	Phone: (+91) 8828294852 E-Mail: <a href="mailto:rakshit.jain@iitb.ac.in">rakshit.jain@iitb.ac.in</a> <a href="mailto:rakshit28081996@gmail.com">rakshit28081996@gmail.com</a> Webpage: <a href="http://home.iitb.ac.in/~rakshit.jain">http://home.iitb.ac.in/~rakshit.jain</a>
RESEARCH INTERESTS	My research interests lie in the field of experimental solid state physics and photonics. I am broadly interested in experimental quantum sensing, optics, control and information.	
EDUCATION	<b>Indian Institute of Technology Bombay</b> , Mumbai, India <span>July 2014 – Present</span> Final Year (Bachelor of Technology in Engineering Physics with honors), Department of <b>Physics</b> <ul style="list-style-type: none"><li>• <b>Major Cumulative Performance Index (CPI):</b> 9.37/10 (<a href="#">Detailed List of Courses</a>)</li><li>• <b>Minor Degree:</b> Department of <a href="#">Electrical Engineering</a></li></ul>	
PUBLICATIONS AND PREPRINTS	<ul style="list-style-type: none"><li>• <b>Jain R.</b>, Poonia V.S, Ganguly S.; <i>Sensitive magnetic compass in the presence of decohering nuclear environment</i> . <a href="#">arXiv:1712.04623 [quant-ph]</a> (to be submitted to Phys. Rev. E)</li><li>• <b>Jain R.</b>, Poonia V.S, Saha K.; <i>Sensing decoherence in radical pair by a single spin in diamond</i> (in preparation)</li></ul>	
KEY RESEARCH WORK	<b>Quantum Sensing Lab, University of Basel, Department of Physics</b> <b>Nonlinear Fano resonance to probe weak coherent couplings of a single spin with a mechanical oscillator</b> <i>Guide: Prof. Patrick Maletinsky</i> <span>Summer 2017</span> <b>Side Project: Using Dynamical Decoupling pulses to probe the depth of NV centers</b> <i>Guide: Prof. Patrick Maletinsky and Dr. James Wood</i> <span>Summer 2017</span>  <b>Photonics And Quantum Enabled Sensing Technology Lab, Indian Institute of Technology Bombay</b> <b>Sensing Radical Pair by single defect centers in Diamond</b> <i>Guide: Prof. Kasturi Saha, with Vishvendra Singh Poonia</i> <span>May 2017 -</span>  <b>Quantum Biology and Biomimetics Group, Indian Institute of Technology Bombay</b> <b>Sensitivity and Coherence in a realistic Radical Pair model</b> <i>Guide: Vishvendra Singh Poonia and Prof. Swaroop Ganguly; Junior Thesis</i>	
ACHIEVEMENTS AND AWARDS	<ul style="list-style-type: none"><li>• Received <b>DAAD WISE</b> Scholarship for 10 weeks internship in Germany. (offered)</li><li>• Received <b>AP grade</b> for <b>exceptional performance</b> in 3 courses done at IITB - Introduction to Condensed Matter Physics, Introduction to Renewable Technologies and Electronic Devices and Circuits</li><li>• Awarded with Medhawi Vidyarthi Protsahan Scholarship for being among the top candidates in High School Certificate Exam</li></ul>	
KEY COURSEWORK	<b>Physics</b> <i>Advanced Magnetic Materials, Applied Solid State Physics, Photonics, Quantum Information and Computing, Electromagnetic Theory, Quantum Mechanics I and II, Introduction to Condensed Matter Physics, Introduction to Atomic and Molecular Physics, Analytical Techniques</i>  <b>Electrical Engineering and Energy</b> <i>Electronic Devices, Analog Circuits, Digital Systems, Signal and Systems, Introduction to Renewable Technologies</i>	
TECHNICAL SKILLS	<b>Programming</b> <b>Software Packages</b> <b>Science Software</b>	Mathematica, C/C++, Python, Matlab, HTML/CSS, L <sup>A</sup> T <sub>E</sub> X COMSOL, T-CAD, Origin, Inkscape, Illustrator Python packages: QuTip, NumPy, SciPy and Matplotlib