

Curriculum Vitae - Kartik Ayyer

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Education

- 2014 PhD in Physics, Cornell University
- 2012 MS in Physics, Cornell University
- 2009 BTECH in Engineering Physics, Indian Institute of Technology (IIT) Delhi

Research Experience

- 2018– Max Planck Research Group Leader, MPSD, Hamburg, Germany
- 2014–18 Postdoctoral Research Associate, CFEL, DESY, Hamburg, Germany
Group Leader: Henry Chapman
- 2010–14 Graduate Research Assistant, Cornell University, Ithaca, NY, USA
Advisor: Veit Elser
Title: Reconstructing Images from Sparse Data
- 2008-09 Bachelor's Thesis, IIT Delhi, New Delhi, India
Advisor: J.P. Singh
Title: Study of carbon nanotube-based optomechanical actuators
- 2008 Research Assistant, Free University, Berlin, Germany
Advisor: Christiane Koch
Title: Generation of ultracold Rb₂ molecules by photoassociation
- 2007 Research Assistant, University of Nottingham, Nottingham, UK
Advisor: Peter Beton
Title: Molecular dynamics simulation of fullerene clusters on a gold substrate

Honors & Awards

- 2016 FEL Science and Applications Award for Young Researchers
- 2005–09 IIT Delhi Academic Excellence Award (5 semesters)
- 2005 Gold Medal, Indian National Physics Olympiad
- 2005 Gold Medal, Indian National Chemistry Olympiad

Service

- 2023 Peer Reviewer, Alexander von Humboldt Foundation
- 2023– International Advisory Committee, Coherence–International Workshop on Phase Retrieval and Coherent Scattering
- 2023– Proposal Review Panel, Linac Coherent Light Source (LCLS)
- 2023– Board Member, The Hamburg Center for Ultrafast Imaging (CUI)
- 2023– Instrument Advisory Panel, Tender X-ray Instrument (TXI), Linac Coherent Light Source (LCLS)
- 2022– Member of European XFEL User Organization Executive Committee (UOEC)
- 2021 Chair, Ultrafast X-ray Summer School (UXSS)
- 2020 Co-chair, Ultrafast X-ray Summer School (UXSS)
- 2019– Institute Representative, IMPRS-UFAST Graduate School, University of Hamburg
- 2014– Reviewer for: Nature Photonics, Nature Communications, Optica, ACS Nano, IUCrJ, Structural Dynamics, Scientific Reports, Optics Express, J. Appl. Crystallography, J. Synch. Radiation

Invited Talks

- 2023 Internation Union of Crystallography (IUCr) 2023, Melbourne, Australia (August)
- 2023 Biology and Synchrotron Radiation 14, Lund, Sweden (June)
- 2022 Science at FELs, Hamburg, Germany (September)
- 2022 RÅC International Summer School, Varberg, Sweden (August)
- 2022 Coherence 2022, Shanghai, China (July)
- 2022 Erice School of Crystallography on Diffuse Scattering, Erice, Italy (May)
- 2022 International Conference on Synchrotron Radiation Instrumentation (SRI), Hamburg, Germany (April)
- 2021 Center for Ultrafast Imaging (CUI) Annual Meeting, [Remote] (November)
- 2021 Hamburg-Harvard Crystallographic Curiosities Seminar Series, [Remote] (September)
- 2021 European XFEL AI/ML Workshop, [Remote] (June)
- 2021 European XFEL Users' Meeting, [Remote] (January)
- 2019 BioXFEL Conference 2019, San Diego, CA, USA (February)
- 2018 LCLS-II-HE Advanced X-ray Methods and Instrumentation Workshop, Menlo Park, CA, USA (October)
- 2018 5th Ringberg Workshop on Structural Biology with FELs, Ringberg, Germany (February)
- 2017 Center for Ultrafast Imaging (CUI) Annual Meeting, Hohwacht, Germany (October)
- 2017 MIT-PIER Workshop, Boston, MA, USA (January)
- 2016 Department Seminar, Center for Bioimaging Sciences (CBIS), National University of Singapore, Singapore (November)
- 2016 Helmholtz Virtual Institute Annual Meeting, Berlin, Germany (September)
- 2016 Science at FELs, Trieste, Italy (September)
- 2016 RÅCIRI Summer School, St. Petersburg, Russia (August)
- 2016 Gordon Research Conference on Diffractive Methods in Structural Biology, Lewiston, ME, USA (July)
- 2016 Coherence 2016, St. Malo, France (June)

- 2016 3rd Ringberg Workshop on Structural Biology with FELs, Ringberg, Germany (February)
- 2016 7th Ringberg Workshop on Physics with FELs, Ringberg, Germany (February)
- 2015 Single Particle Imaging Workshop at LCLS Users' Meeting, Menlo Park, CA, USA
- 2015 29th European Crystallography Meeting (ECM), Rovinj, Croatia (July)
- 2014 Coherence 2014, Evanston, IL, USA (September)
- 2014 American Crystallographers Association (ACA) Meeting, Albuquerque, NM, USA (May)
- 2014 CLASSE Departmental Seminar, Cornell University, Ithaca, NY, USA (March)
- 2013 Gordon Research Conference on X-ray Science, Easton, MA, USA (August)

Academic supervision

- 2021– Postdoctoral advisor for Dr. Shen Zhou
- 2020– Ph.D. supervisor for Abhishek Mall
- 2020–22 Postdoctoral advisor for Dr. Yulong Zhuang (currently at Trimble Geospatial)
- 2019– Postdoctoral advisor for Dr. Parichita Mazumder
- 2019– Ph.D. supervisor for Tamme Wollweber
- 2017– Mentor for Fabian Trost (DESY)

Teaching

- 2022 Röntgen Ångström Cluster International Summer School, Varberg, Sweden, “*Diffraction imaging of ultrafast dynamics in nanoscale systems*”
- 2022 Helios Graduate School, “*Diffraction Imaging*”
- 2020 CryoEM Course, University of Hamburg, “*Image Formation and Electron Optics*”
- 2016 RACIRI Summer School, St. Petersburg, Russia, “*Coherent Diffraction Imaging*”
- 2009–14 Teaching Assistant for multiple undergraduate physics courses (8 semesters)
Each non-lab course consisted of 2 contact hours per week for 2-3 discussion sections of 20 students each.
Courses include:
 - *Physics I: Mechanics*
 - *Physics III: Oscillations, Waves and Quantum Physics*
 - *Fundamentals of Physics II for Pre-medical students*
 - *Modern Experimental Optics Laboratory*

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