

# Vaishnavi Ananthanarayanan

## PERSONAL DETAILS

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*Phone* (+91) 80-22932671  
*Mail* vaish@be.iisc.ernet.in, Vaishnavi@mrdg.iisc.ernet.in  
*Website* [www.be.iisc.ernet.in/~vaish/](http://www.be.iisc.ernet.in/~vaish/)

## EMPLOYMENT

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**DST INSPIRE Faculty Fellow** 2014-present  
*Indian Institute of Science, Bangalore, India*

**Postdoctoral Fellow (bridging)** 2013-2014  
*National Centre for Biological Sciences, Bangalore, India*  
Project title: The role of microtubules and associated proteins in clathrin-independent endocytosis

**Research Associate** 2009-2010  
*Microsoft Research India, Bangalore*  
Project title: Towards a high-level programming language for standardizing and automating biology protocols

## EDUCATION

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**Ph.D. Biophysics** 2010-2013  
*Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany*  
Thesis title: Dynein dynamics during meiotic nuclear oscillations of fission yeast

**M.Sc. (Hons.) Biological Sciences** 2004-2009  
*Birla Institute of Technology and Science, Pilani, India*  
Thesis title: The role of activity in the maintenance of larval olfactory receptor neurons of *Drosophila*, CGPA: 9.28/10

**B.E. (Hons.) Computer Science** 2004-2009  
*Birla Institute of Technology and Science, Pilani, India*  
Thesis title: The BioCoder programming language for expressing and automating Biology protocols, CGPA: 9.28/10

**Higher Secondary - Class XII** 2003-2004  
*St. Patrick Matriculation Higher Secondary School, Pondicherry, India*  
Final score: 97.08%

**Matriculation - Class X** 2001-2002  
*St. Patrick Matriculation Higher Secondary School, Pondicherry, India*  
Final score: 94.45%

## PUBLICATIONS

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Activation of the motor protein upon attachment: Anchors weigh in on cytoplasmic dynein regulation

**Ananthanarayanan\***

Bioessays 38(6): 514-25 (2016)

Single-molecule imaging of cytoplasmic dynein in vivo

**Ananthanarayanan\*** and Tolić

Methods in Cell Biology 125 (2015)

A divide-and-conquer strategy for the maximum likelihood localization of low intensity objects

Krull, Steinborn, **Ananthanarayanan**, Ramunno-Johnson, Petersohn, Tolić-Nørrelykke

Optics Express 22(1), 210-228 (2014)

Dynein Motion Switches from Diffusive to Directed upon Cortical Anchoring

**Ananthanarayanan**, Schattat, Vogel, Krull, Pavin, Tolić-Nørrelykke

Cell 153: 1526-1536 (2013)

Biocoder: A programming language for standardizing and automating Biology protocols

**Ananthanarayanan\*** and Thies

Journal of Biological Engineering 4: 13 (2010)

\*Corresponding author

## AWARDS AND ACHIEVEMENTS

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- SERB Early Career Research Award 2015
- Innovative Young Biotechnologist Award 2014
- DST INSPIRE Faculty Award 2013
- DST International Travel Support to present a poster at the Microtubules: Structure, Regulations and Functions Conference 2014, Heidelberg, Germany
- Max Planck Society Travel Grant to participate in the 64th Lindau Nobel Laureate Meeting 2014, Germany
- MPI-CBG Travel Grant for an oral presentation at the Annual Meeting of the American Society for Cell Biology 2012, San Francisco, USA
- FEBS Travel Grant for an oral presentation at the 27th Cytoskeletal Forum Meeting 2012, Pecs, Hungary
- IRB Barcelona Travel Grant to present a short talk at the 2nd IRB Student Symposium 2011, Barcelona, Spain
- Pombe 2011 Travel Grant to present a poster at the 6th International Fission Yeast Meeting 2011, Boston, USA
- SynBERC Travel Grant for an oral presentation at the International Workshop on Biodesign Automation 2009, San Francisco, USA

- JNCASR Summer Research Fellowship 2007 (awarded and accepted) and 2008 (awarded but declined)
- Title of Rajiv Gandhi National Talent Science Research Fellow 2007

## CONFERENCE PARTICIPATION

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- Oral presentation at the Meeting on Mechanical Forces in Cell Biology 2016, Bangalore, India, *Fission Yeast Myo1 Facilitates PI(4,5)P<sub>2</sub>-Mediated Anchoring of Cytoplasmic Dynein to the Cortex*
- Poster presentation at the Microtubules: Structure, Regulations and Functions Conference 2016, Heidelberg, Germany, *PI(4,5)P<sub>2</sub> Mediates the Anchoring of Cortical Dynein in Fission Yeast*
- Poster presentation at the Microtubules: Structure, Regulations and Functions Conference 2014, Heidelberg, Germany, *The role of microtubules and associated proteins in clathrin-independent endocytosis*
- Nominated by the Max Planck Society and selected by the Council for the Lindau Nobel Laureate Meetings to participate in the 64th Lindau Nobel Laureate Meeting 2014, Germany
- Poster presentation at the Young Investigator Meeting, Hyderabad, 2014, *Life of a single dynein in vivo*
- Oral presentation at the Annual Meeting of the American Society for Cell Biology 2012, San Francisco, USA, *Characterization of dynein by single-molecule investigations in vivo*
- Oral presentation at the 27th Cytoskeletal Forum Meeting 2012, Pecs, Hungary, *Characterization of dynein by single-molecule investigations in vivo*
- Short talk at the Microtubules: Structure, Regulations and Functions Conference 2012, Heidelberg, Germany, *Characterization of dynein by single-molecule investigations in vivo*
- Oral presentation at the 35th Annual Meeting of the German Society for Cell Biology 2012, Dresden, Germany, *Characterization of dynein by single-molecule investigations in vivo*
- Short talk at the 2nd IRB Student Symposium 2011- Life in Dynamics, Barcelona, Spain, *Dynein dynamics during meiotic nuclear oscillations of fission yeast*
- Poster presentation at the 6th International Fission Yeast Meeting 2011, Boston, USA, *Dynein dynamics during meiotic nuclear oscillations*
- Oral presentation at the International Workshop on Biodesign Automation 2009, San Francisco, USA, *Towards a High-Level Programming Language for Standardizing and Automating Biology Protocols*

## INVITED TALKS

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- Computational and Experimental Studies of Microtubules and Microtubule based Motor Proteins, IIT Bombay, 2016, *The Curious Case of Cytoplasmic Dynein : Regulation of Localization and Activity by Myosin I*

- Molecular Biophysics Unit, Indian Institute of Science, Bangalore 2016, *The Curious Case of Cytoplasmic Dynein : Regulation of Localization and Activity by Myosin I*
- 15<sup>th</sup> Anniversary Symposium of the Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany, 2016, *The Curious Case of Cytoplasmic Dynein : Regulation of Localization and Activity by Myosin I*
- Birla Institute of Technology and Science (BITS) Pilani, Goa Campus, 2016, *Anchors weigh in on cytoplasmic dynein regulation*
- Indian Institute of Science Education and Research (IISER), Pune, 2013, *Life of a single dynein in vivo*
- Department of Molecular Reproduction, Development and Genetics of the Indian Institute of Science, Bangalore, 2009, *Towards a High-Level Programming Language for Standardizing and Automating Biology Protocols*

## OTHER ACHIEVEMENTS

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- Member of the Graduate Admissions Committee of the Dresden International Graduate School for Biomedicine and Bioengineering
- General Secretary of Symbionts, the Biological Sciences Association and Cultural Secretary at Birla Institute of Technology and Science, Pilani (Goa)
- Secretary of the Organizing Committee of the National Workshop on Radiochemistry and the Applications of Radio isotopes in Science, held at Birla Institute of Technology and Science, Pilani (Goa)
- Member of the college Throwball and Basketball teams
- Member of the Placement Committee at Birla Institute of Technology and Science, Pilani (Goa)
- Taught basic French to fellow students (approx. 100) at Birla Institute of Technology and Science, Pilani (Goa)
- Diplôme élémentaire de langue in French from Alliance Francaise, Pondicherry
- Grade 2 in Piano playing certified by the Trinity School of Music, London
- 'Best Student' title in class X and class XII
- 'Best Athlete of 2004' title at school-level
- 'Best Quizzer of the Year 2004' at Pondicherry-level
- 2nd rank in Pondicherry (district-level) in Class X Matriculation Exam (1st in school)
- 2nd rank in Tamil Nadu (state-level) in French as a second language in Class X Matriculation Exam (1st in school)