

# Vivek Tewary

## Curriculum Vitae

### Contact

#### Present Address

C332, Hostel 12  
Indian Institute of Technology Bombay  
Mumbai, Maharashtra 400076  
Phone: +91 7045 008 501  
Email: vivekt@iitb.ac.in

#### Address of Next of Kin

Alok Tewary  
Ram Niwas  
Motinagar  
Lucknow 226004  
Contact: +91 522 269 3960

### Education

- 2011-\* **Ph.D. in Mathematics** *Thesis Submitted*  
expected completion by January 2020  
*Broad Area of Research* Homogenization of Partial Differential Equations  
Since 2014 Indian Institute of Technology Bombay, CPI 9.5\*  
Advisor Prof. Sivaji Ganesh Sista
- 2011-2014 Indian Institute of Technology Kanpur  
Advisors Prof. Nandini Nilakantan and Prof. Sivaji Ganesh Sista
- 2009-2011 **M.Sc., Mathematics**, July 2011  
Indian Institute of Technology Kharagpur, CGPA 8.68  
*Project Title* Bounds on Zeros of Polynomials  
*Project Advisor* Prof. V.K. Jain
- 2006-2009 **B.Sc. Mathematics**, May 2009  
St. Xavier's College, Mumbai, Affiliated to University Of Mumbai  
Overall Percentage 84%
- 2003-2005 *GCE Advanced Levels, Edexcel*, August 2005  
Northolt High School, Middlesex, U.K.  
Overall Percentage 92.3%

### Publications & Preprints

1. Sivaji Ganesh Sista & Vivek Tewary, *Bloch wave homogenization of quasiperiodic media*, preprint, arXiv:1910.12724
2. Sivaji Ganesh Sista & Vivek Tewary, *Bloch wave approach to almost periodic homogenization and approximation of effective coefficients*, preprint, arXiv:1908.07977
3. Sivaji Ganesh Sista & Vivek Tewary, *Generic Simplicity of Spectral Edges and Applications to Homogenization, Asymptotic Analysis*, <https://content.iospress.com/articles/asymptotic-analysis/asy191542>, preprint at arXiv:1807.00917
4. V.K. Jain & Vivek Tewary, *A refinement of Cauchy's bound for the moduli of zeros of a polynomial.*, *Bull. Math. Soc. Sci. Math. Roumanie (N.S.)* 61(109) (2018), no. 2, 173–185.

## Academic Activities (in reverse chronological order)

- 6 September 2019 Presented a talk titled “*Simplicity of Spectral Edges and Applications to Homogenization*” at *Discussion Meeting on Multi-scale Analysis and Theory of Homogenization*. International Centre for Theoretical Sciences, TIFR, Bengaluru.  
*Organizers* Patrizia Donato, Editha Jose, Akambadath Nandakumaran and Daniel Onofrei.
- 26 Aug- 6 Sep '19 Participant, *Discussion Meeting on Multi-scale Analysis and Theory of Homogenization*. International Centre for Theoretical Sciences, TIFR, Bengaluru.  
*Organizers* Patrizia Donato, Editha Jose, Akambadath Nandakumaran and Daniel Onofrei.
- 5 January 2019 Presented a talk titled “*Simplicity of Spectral Edges and Applications to Homogenization*” at the Diamond Jubilee Symposium, Department of Mathematics, Indian Institute of Technology Bombay.
- 4-6 January 2019 Member, Organizing Committee, Diamond Jubilee Symposium, Department of Mathematics, Indian Institute of Technology Bombay.
- 5-9 July 2018 Presented a talk titled “*Perturbation Theory of Bloch Eigenvalues and Applications to Homogenization*” at the 12<sup>th</sup> AIMS Conference on Dynamical Systems, Differential Equations and Applications in Taipei, Taiwan, organized by the National Center for Theoretical Sciences (NCTS), Taiwan and the American Institute of Mathematical Sciences (AIMS).
- 8 July 2018 Chaired a session titled “*PDEs and Applications*” at the 12<sup>th</sup> AIMS Conference on Dynamical Systems, Differential Equations and Applications in Taipei, Taiwan, organized by the National Center for Theoretical Sciences (NCTS), Taiwan and the American Institute of Mathematical Sciences (AIMS).
- Feb-March 2016 Participant, *Advanced Workshop on Homogenization and Control: Theory & Application, National Programme on Differential Equations (NPDE-TCA)*. Indian Institute of Technology Kanpur.  
*Convener* Prof. T. Muthukumar.
- November 2015 Participant, *Advanced Level Workshop on Controllability Of Heat And Wave Equations, National Programme on Differential Equations (NPDE-TCA)*. Indian Institute of Technology Mandi.  
*Convener* Prof. M. Malik.
- June-July 2015 Participant, *Advanced School and Workshop on Control and Numerics for Fluid-Structure Interaction Problems*. TIFR Centre for Applicable Mathematics, Bengaluru.
- December 2013 Participant, *Advanced Workshop on Homogenization, National Programme on Differential Equations (NPDE-TCA)*. Indian Institute of Space Science and Technology, Thiruvananthapuram.  
*Convener* Prof. N. Sabu.
- June-July 2013 Participant, *Advanced Level Training Programme, National Programme on Differential Equations (NPDE-TCA)*, Department of Mathematics, Indian Institute of Science Bangalore.
- May-June 2013 *Summer Internship, National Programme on Differential Equations (NPDE-TCA)*, Indian Institute of Technology Bombay.  
*Advisor* Prof. Sivaji Ganesh Sista.
- December 2012 Participant, *Winternship, National Programme on Differential Equations (NPDE-TCA)*. Indian Institute of Technology Bombay.  
*Advisor* Prof. Sivaji Ganesh Sista.

- July 2012 Participant, *Advanced Training in Mathematics Workshop in Riemannian Geometry*.  
Tata Institute of Fundamental Research Centre for Applicable Mathematics, Bengaluru.  
Convener Prof. C.S. Aravinda, Prof. H. Sheshadri.
- January 2012 Participant, *Advanced Training in Mathematics Workshop in Harmonic Analysis*.  
Indian Institute of Technology Kanpur.  
Convener Prof. Shobha Madan, Prof. P. Mohanty.
- May - June 2008 Participant, *Mathematics Training and Talent Scheme - Level O - Mysore*.  
Organized by National Board of Higher Mathematics.
- April - May 2008 Summer Student, *Summer Student Programme in Physics*.  
Institute of Mathematical Sciences, Chennai.  
Nonlinear Dynamics: Coupled Map Lattices under Prof. Sudeshna Sinha.

### Teaching Assistantship

- Autumn 2015 MA 205 Complex Analysis (IIT Bombay).
- Spring 2017 MA 108 Differential Equations (IIT Goa).
- Spring 2018 MA 106 Linear Algebra (IIT Dharwad).
- Spring 2018 MA 108 Differential Equations (IIT Dharwad).

### Departmental Activities

- 2016-present *System Administrator*: Responsible for maintaining the Departmental Website and the M.Sc. Laboratory, Department of Mathematics, IIT Bombay.
- 2016-present *Member Webpage Committee & Computer Lab Committee*, Department of Mathematics, IIT Bombay.

### References

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| Prof. Sivaji Ganesh Sista<br>Department of Mathematics<br>IIT Bombay   | <i>siva@math.iitb.ac.in</i><br>Phone +91 22 2576 7476  |
| Prof. Muthusamy Vanninathan<br>Department of Mathematics<br>IIT Bombay | <i>muthu.vanni@gmail.com</i><br>Phone +91 22 2576 9468 |
| Prof. Harsha Hutridurga<br>Department of Mathematics<br>IIT Bombay     | <i>hutri@math.iitb.ac.in</i><br>Phone +91 22 2576 9474 |
| Prof. Nandini Nilakantan<br>Department of Math. & Stat.<br>IIT Kanpur  | <i>nandini@iitk.ac.in</i><br>Phone +91 512 259 7066    |

### Programming Skills

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| Proficient in                            | Familiar with                          |
| - C and C++ programming, $\text{\LaTeX}$ | - Matlab, Mathematica, Java, HTML, PHP |

November 27, 2019