

CURRICULUM VITAE

Name: Rajsekhar Bhattacharyya

Father's Name: Ashoke Kumar Bhattacharyya

Present Status and designation:

Associate Professor
Dinabandhu Andrews College,
(Affiliated to Calcutta University),
54, Raja S.C. Mallick Road, Baishnabghata,
Garia, Kolkata 700084

Academic Qualifications and Work Experiences

- Joined in the Department of Physics, Dinabandhu Andrews College (affiliated to Calcutta University), Kolkata, in July 2006.
- Joined as a Post-doctoral fellow in Stellenbosch Institute for Advanced Studies, University of Stellenbosch, South Africa, in September 2004. Ph.D degree has been awarded by Jadavpur University in May 2004.
- Joined in the department of Physics, Dinabandhu Andrews College (affiliated to Calcutta University), Kolkata, in March 2000.
- Joined the Ph.D programme in Department of Physics of Jadavpur University as Junior Research Fellow Under the awarded fellowship 'UGC JRF Scheme in Science' in August 1996
- Master's Degree in Science with Specialization in Nuclear Physics from Calcutta University in the year 1995.

Service, Visit and Schools / Conferences / Workshops Attended

1. Reviewer of **American Mathematical Society (AMS)**(Reviewer Number 46986).
2. Formerly, Member of the Editorial Board of **Discrete Mathematics**.
For the profile, view <http://www.hindawi.com/79506724/>
3. Guest faculty of Ramakrishna Mission Residential College, Narendrapure, Kolkata.
4. Visited School of Physics at **University of Witwatersrand**, Johannesburg, South Africa, 3-17 January, 2008.
5. Visited Department of Mathematics at **TIFR**, Mumbai, during 1-21 November, 2007.
6. Visited Department of Mathematics at **IIT Bombay**, Mumbai, during 15-16 November, 2007.

7. Workshop/Conference on *Local Cohomology*, Supported by National Centre for Mathematics, ATM Schools and International Mathematical Union in the Department of Mathematics, St. Joseph's College, Irinjalakuda, Kerala during 20th June to 2nd July 2016.
8. ATM Workshop in *Commutative Algebra on Local Cohomology* in the Department of Mathematics of IIT Bombay, Mumbai during 1-12 July, 2011.
9. A Satellite Conference of *International Congress for Mathematicians (ICM)* in the Department of Mathematics at NEHU, Shillong during 29th August to 3rd September 2010.
10. *Commutative Algebra and Algebraic Geometry* Conference (**CAAG**) in Indian Statistical Institute, Bangalore during 16-20 July, 2007.
11. ATM Workshop in *Commutative Algebra and Algebraic Geometry* in Department of Mathematics of IIT Madras, Chennai during 10-23 June, 2007.
12. Introductory Lectures on *Algebraic Geometry* at Satyendra Nath Bose National Centre for Basic Sciences, Kolkata during 15-25 April, 1997
13. Introductory Lectures in *Commutative Algebra and Differentiable Manifolds* at Indian Statistical Institute, Kolkata during 4-11 April, 1997
14. XII-th SERC school on *Theoretical High Energy Physics (Advanced)* held at Centre for Theoretical studies, IISc, Bangalore during February 17-March 8, 1997.

List of Papers/Preprints

1. On local cohomology modules over ramified regular local rings
Rajsekhar Bhattacharyya
e-Print Archive: 2312.06489
(communicated)
2. Eisenstein extension, connectedness and the second vanishing theorem
Rajsekhar Bhattacharyya
e-Print Archive: 2004.02075v5
(communicated)
3. The second vanishing theorem in Stanley-Reisner ring with topological interpretation
Rajsekhar Bhattacharyya
e-Print Archive: 2102.05270v3
(communicated)

4. The second vanishing theorem for Stanley-Reisner ring
Rajsekhar Bhattacharyya
e-Print Archive: 2102.05270v1
(Pre-print)
5. A note on the second vanishing theorem
Rajsekhar Bhattacharyya
e-Print Archive: 2004.02075v1
(Pre-print)
6. When almost CohenMacaulay algebras map into big CohenMacaulay modules
Rajsekhar Bhattacharyya
Communications in Algebra
Vol 46:12, 5373-5380 (2018)
DOI: 10.1080/00927872.2018.1468902
arXiv: 1609.03133
7. Existence of almost Cohen-Macaulay algebras implies the existence of big Cohen-Macaulay algebras
Rajsekhar Bhattacharyya
Journal of Algebra
Vol 457 (1-6), (2016)
arXiv: 1601.03335 (2016)
8. Examples of local Cohomology Modules for Ramified Regular Local Rings having Finite Set of Associated Primes
Rajsekhar Bhattacharyya
arXiv: 1512.05695 (2015)
(Pre-print)
9. A Note on Associated Primes and Bockstein Homomorphisms of Local Cohomology Modules for Ramified Regular Local Rings
Rajsekhar Bhattacharyya
arXiv: 1512.05686 (2015)
(Pre-print)
10. Behaviour of the Support of Lyubeznik Functors under Ring Extensions
Rajsekhar Bhattacharyya
arXiv: 1512.05678 (2015)
(Pre-print)
11. Behaviour of Finiteness of the Set of Associated Primes under Ring Extensions
Rajsekhar Bhattacharyya
arXiv: 1512.05672 (2015)
(Pre-print)
12. Smooth Algebra and Finiteness of the Set of Associated Primes of Local Cohomology Modules
Rajsekhar Bhattacharyya

- arXiv: 1512.04873 (2015)
(Pre-print)
13. Flat extension and Phantom homology
 Rajsekhar Bhattacharyya
 Algebra and Discrete Mathematics
 Vol. 24, Issue 1, 90-98 (2017)
 14. Applications of closure operations on big Cohen-Macaulay algebras
 Mohsen Asgharzadeh and Rajsekhar Bhattacharyya
 Journal of Algebra and its Application
 Vol. 11, No. 4 (2012)
 arXiv: 1009.1454 (2010)
 15. Exact multi-restricted Schur polynomial correlators
 Rajsekhar Bhattacharyya, Robert de Mello Koch and Michael Stephanou
 JHEP06(2008)101
 arXiv: 0805.3025
 16. Exact Multi-Matrix Correlators
 Rajsekhar Bhattacharyya, Storm Collins and Robert de Mello Koch
 JHEP03(2008)044
 arXiv: 0801.2061
 17. Space-time Dependent Lagrangians And Barriola-Vilenkin Monopole Mass
 Debashis Gangopadhyay, Rajsekhar Bhattacharyya and L. P. Singh
 Gravitation and Cosmology, Vol.13(2007),No.4(52).
 arXiv: hep-th/0208097
 18. Brane Intersections in the Presence of a Worldvolume Electric Field
 Rajsekhar Bhattacharyya, Jamila Douari
 JHEP12(2005)012
 e-Print Archive: hep-th/0509023
(Pre-print)
 19. Fluctuating Fuzzy Funnels
 Rajsekhar Bhattacharyya, Robert de Mello Koch
 JHEP10(2005)036
 arXiv: hep-th/0508131
 20. A Short Note on Multi-bion Solutions
 Rajsekhar Bhattacharyya
 arXiv: hep-th/0505103 (2005)
(Pre-print)

21. Vacuum Expectation Value of the Higgs field and Dyon Charge
Quantisation from spacetime Dependent Lagrangians
Rajsekhar Bhattacharyya, Debashis Gangopadhyay
Mod.Phys.Lett. A18:2207(2003)
arXiv: hep-th/0210174
22. String in Noncommutative Background: Another Approach
Rajsekhar Bhattacharyya
arXiv: hep-th/0210084 (2002)
23. Non-singular Solutions of Flux Brane in M-Theory
and Attractor Solutions.
Rajsekhar Bhattacharyya
arXiv: hep-th/0209018 (2002)
(Pre-print)
24. Space-time Dependent Lagrangians And Weak-Strong Duality:
Sine-Gordon and Massive Thirring Models
Rajsekhar Bhattacharyya and Debashis Gangopadhyay
Mod.Phys.Lett. A17:729(2002)
arXiv: hep-th/0111149
25. Duality in equations of motion from Space-time Dependent Lagrangians
Rajsekhar Bhattacharyya and Debashis Gangopadhyay
Mod.Phys.Lett. A15:901(2000)
arXiv: hep-th/9810017

For updation (qualitative and quantitative) get me in Researchgate
Review Work (as a reviewer of AMS)

(Reviewed the following papers and the reviews are available on MathSciNet,
<http://www.ams.org/mathscinet/>.)

1. MR2188859
Uniform behaviour of the Frobenius closures of ideals generated by regular sequences.
Katzman, Mordechai; Sharp, Rodney Y.
J. Algebra 295 (2006), no. 1, 231–246.
2. MR2477609
A new version of α -tight closure.
Vraciu, Adela
Nagoya Math. J. 192 (2008), 1–25.
3. MR2512624
Structure on the set of closure operations of a commutative ring.
Vassilev, Janet C.
J. Algebra 321 (2009), no. 10, 2737–2753.
4. MR2549545
Formulas of F-thresholds and F-jumping coefficients on toric rings.

- Hirose, Daisuke
Kodai Math. J. 32 (2009), no. 2, 238–255.
5. MR2567419
Multigraded rings, diagonal subalgebras, and rational singularities.
Kurano, Kazuhiko; Sato, Ei-ichi; Singh, Anurag K.; Watanabe, Kei-ichi
J. Algebra 322 (2009), no. 9, 3248–3267.
6. MR2832633
On the (non)rigidity of the Frobenius endomorphism over Gorenstein rings.
Hailong Dao, Jinjia Li and Claudia Miller
Algebra Number Theory 4 (2010), no. 8, 1039–1053.
7. MR2823865
Generic bounds for Frobenius closure and tight closure
Holger Brenner and Helena Fischbacher-Weitz
Amer. J. Math. 133 (2011), no. 4, 889–912.1080–6377.

Paper Presented in Seminar or Conference

1. Behaviour of Finiteness of the Set of Associated Primes under Ring Extensions
Rajsekhar Bhattacharyya
Talk Presented in **Workshop/Conference on Local Cohomology**, Supported by
National Centre for Mathematics, ATM Schools and International Mathematical Union, at
Department of Mathematics, St. Joseph's College, Irinjalakuda, Kerala
during 20th June to 2nd July 2016.
2. Tensor Product and Quantum Entanglement
Rajsekhar Bhattacharyya
Talk Presented in the **National seminar** in the
Department of Physics of Narasnha Dutta College
on 25 November 2011.
3. Monomial Conjecture and its present status
Rajsekhar Bhattacharyya
Three Talks Presented in the Sattelite Conference of
International Congress for Mathematicians, (ICM) at
Department of Mathematics at NEHU, Shillong
during 29th August to 3rd September 2010.
4. Phantom Exactness, Flatness and Phantom Homology
Rajsekhar Bhattacharyya
Talk Presented in the **Seminar** at
Department of Mathematics at IIT Bombay, Mumbai
on 16 November 2007.
5. A Brief Review of Tight Closure Theory
Rajsekhar Bhattacharyya

Talk Presented in the **Colloquium** at
Department of Mathematics at IIT Bombay, Mumbai
on 15 November 2007.

6. Phantom Exactness, Flatness and Phantom Homology
Rajsekhar Bhattacharyya
Talk Presented in the **Conference** of
Commutative algebra and Algebraic Geometry (**CAAG**) at
ISI Bangalore, Bangalore
during 16-20 July, 2007.

7. A Review of Tight Closure Theory
Rajsekhar Bhattacharyya
Talk Presented in **ATM Workshop** in
Commutative algebra and Algebraic Geometry at
Department of Mathematics, IIT Madras, Chennai
during 10-23 June, 2007.

8. Brain Intersection and Fluctuating Funnels
Rajsekhar Bhattacharyya
Talk Presented at
Department of Physics, University of Stellenbosch,
Stellenbosch, South Africa
in February, 2006.

List of Books

1. The Aspects of Non-Perturbative Gauge Theories;
Rajsekhar Bhattacharyya
LAP Lambert Academic Publishing, July, 2011