

Curriculum Vitae

Mohammad Hassan Murad

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Academic Employment

Fall 2024–Spring 2025	Graduate Teaching Associate, The University of Texas at Dallas
Fall 2020–Summer 2024	Graduate Teaching Assistant, The University of Texas at Dallas
July 2019–July 2020	Assistant Professor of Mathematics (On Study Leave), Brac University
July 2016–June 2019	Senior Lecturer of Mathematics, Brac University
June 2014–June 2016	Lecturer of Mathematics, Brac University
Sep 2013–May 2014	Senior Lecturer of Mathematics, Daffodil International University
May 2011–Aug 2013	Lecturer in Mathematics, Daffodil International University

Education

2020–2025	PhD (Continuing), The University of Texas at Dallas
2020–2024	Master of Science in Mathematics, The University of Texas at Dallas
2006–2007	Master of Science in Mathematics (Applied), University of Chittagong, Bangladesh Thesis Title: <i>On Some Exact Static Spherically Symmetric Perfect Fluid Solutions of Einstein's Equations</i>
2002–2006	Bachelor of Science (Honors) in Mathematics, University of Chittagong, Bangladesh.

Service

January 2020–July 2020	Undergraduate Mathematics Program Coordinator Department of Mathematics and Natural Sciences Brac University
June 2014–July 2020	Members of various committees, Brac University

Teaching Activities

- **2021–Present**
 - MATH 1314 College Algebra Teaching Associate, Teaching Assistant
 - MATH 1316 Trigonometry Teaching Assistant
 - MATH 1325 Applied Calculus I Teaching Associate
 - MATH 2419 Calculus II Teaching Assistant
 - MATH 2420 Differential Equations with Applications Teaching Assistant
 - MATH 3351 Advanced Calculus Teaching Assistant
 - MATH 3379 Complex Variables Teaching Assistant
- **2014–2020**
 - MAT092 Remedial Course in Mathematics Instructor
 - MAT101 Fundamentals of Mathematics Instructor
 - MAT103 Basic Concepts in Mathematics Instructor
 - MAT104 Mathematics Instructor
 - MAT105 Calculus Instructor
 - MAT110 MATH I: Differential Calculus & Coordinate Geometry Instructor
 - MAT120 MATH II: Integral Calculus & Differential Equations Instructor
 - MAT203 Matrices, Linear Algebra & Differential Equations Instructor
 - MAT204 Complex Variables & Fourier Analysis Instructor
 - MAT211 Calculus II Instructor

- MAT215 MATH III: Complex Variables & Laplace Transformations Instructor
- MAT216 MATH IV: Linear Algebra & Fourier Analysis Instructor
- MAT221 Real Analysis I Instructor
- MAT222 Differential Equations I Instructor
- MAT301 Group Theory Instructor
- MAT303 Tensor Analysis Instructor
- MAT311 Abstract Algebra Instructor
- MAT321 Real Analysis II Instructor
- MAT322 Differential Equations II Instructor
- MAT325 Mathematical Methods Instructor
- **2011–2014**
- MATH101 Basic Mathematics Instructor
- MAT111 Mathematics-I Instructor
- MAT121 Mathematics-II Instructor
- MAT131/MAT134 Mathematics-III Instructor
- MAT221 Mathematics-II Instructor

Research Areas and Interests

Algebraic Geometry, Mathematical Physics.

Research Publications

- (with S. Fatema and Ksh N. Singh) *New exact anisotropic static spherically symmetric stellar models satisfying the Eiesland condition*, Annals of Physics (2019) 402:1 DOI [10.1016/j.aop.2019.01.007](https://doi.org/10.1016/j.aop.2019.01.007)
- *Some families of relativistic anisotropic compact stellar models embedded in pseudo-Euclidean space E^5* , Eur. Phys. J C (2018) 78:285 DOI [10.1140/epjc/s10052-018-5712-5](https://doi.org/10.1140/epjc/s10052-018-5712-5)
- (with Ksh N. Singh and N. Pant) *A 4D spacetime embedded in a 5D pseudo-Euclidean space describing interior of compact stars* Eur. Phys. J A (2017) 53:21 DOI [10.1140/epja/i2017-12210-1](https://doi.org/10.1140/epja/i2017-12210-1)
- *Some analytical models of anisotropic strange stars* Astrophys. Space Sci. (2016) 361:20 DOI [10.1007/s10509-015-2582-2](https://doi.org/10.1007/s10509-015-2582-2)
- (with N. Pant and N. Pradhan) *A class of relativistic anisotropic charged stellar models in isotropic coordinates* Astrophys. Space Sci. 355:137 (2015) DOI [10.1007/s10509-014-2156-8](https://doi.org/10.1007/s10509-014-2156-8)
- (with S. Fatema) *Anisotropic charged stellar models in Generalized Tolman IV spacetime* Eur. Phys. J. PLUS 130:3 (2015) DOI [10.1140/epjp/i2015-15003-y](https://doi.org/10.1140/epjp/i2015-15003-y)
- (with P. Bhar and N. Pant) *Relativistic anisotropic stellar models with Tolman IV spacetime* Astrophys. Space Sci., 359:13 (2015) DOI [10.1007/s10509-015-2462-9](https://doi.org/10.1007/s10509-015-2462-9)
- (with S. Fatema) *Some new Wyman–Leibovitz–Adler type static relativistic charged anisotropic fluid spheres compatible to self-bound stellar modeling* Eur. Phys. J. C (2015) 75:533 DOI [10.1140/epjc/s10052-015-3737-6](https://doi.org/10.1140/epjc/s10052-015-3737-6)
- (with P. Bhar) *Relativistic compact anisotropic charged stellar models with Chaplygin equation of state* Astrophys. Space Sci. (2016) 361:334 DOI [10.1007/s10509-016-2923-9](https://doi.org/10.1007/s10509-016-2923-9)
- Murad, M.H., Pant, N. *A Class of Exact Isotropic Solutions of Einstein’s Equation and Relativistic Stellar Models in General Relativity* Astrophys. Space Sci. 350:349 (2014) DOI [10.1007/s10509-013-1713-x](https://doi.org/10.1007/s10509-013-1713-x)
- (with S. Fatema) *Some Static Relativistic Compact Charged Fluid Spheres in General Relativity* Astrophys. Space Sci. 350:293 (2014) DOI [10.1007/s10509-013-1722-9](https://doi.org/10.1007/s10509-013-1722-9)
- (with M. Rahman) *Some Electrically Charged Relativistic Stellar Models in General Relativity* Astrophys. Space Sci. 351:255 (2014) DOI [10.1007/s10509-014-1823-0](https://doi.org/10.1007/s10509-014-1823-0)

- (with N. Pant and N. Pradhan) *A Family of Exact Solutions of Einstein-Maxwell Field Equations in Isotropic Coordinates: An Application of Optimization of Quark Star Mass* *Astrophys. Space Sci.* 352:135 (2014) DOI [10.1007/s10509-014-1904-0](https://doi.org/10.1007/s10509-014-1904-0)
- (with N. Pant and N. Pradhan) *A Class of Super Dense Stars Models Using Charged Analogues of Hajj-Boutros Type Relativistic Fluid Solutions* *Int. J. Theor. Phys.*, 53:3958 (2014) DOI [10.1007/s10773-014-2147-0](https://doi.org/10.1007/s10773-014-2147-0)
- *A new well behaved class of charge analogue of Adler's relativistic exact solution* *Astrophys. Space Sci.* 343:187 (2013) DOI [10.1007/s10509-012-1258-4](https://doi.org/10.1007/s10509-012-1258-4)
- (with S. Fatema) *A family of well behaved charge analogues of Durgapal's perfect fluid exact solution in general relativity* *Astrophys. Space Sci.* 343:587 (2013) DOI [10.1007/s10509-012-1277-1](https://doi.org/10.1007/s10509-012-1277-1)
- (with S. Fatema) *A family of well behaved charge analogues of Durgapal's perfect fluid exact solution in general relativity II* *Astrophys. Space Sci.* 344:69 (2013) DOI [10.1007/s10509-012-1320-2](https://doi.org/10.1007/s10509-012-1320-2)
- (with S. Fatema) *An Exact Family of Einstein–Maxwell Wyman–Adler Solution in General Relativity* *Int. J. Theor. Phys.* 52: 2508 (2013). DOI [10.1007/s10773-013-1538-y](https://doi.org/10.1007/s10773-013-1538-y)
- (with S. Fatema) *Some Exact Relativistic Models of Electrically Charged Self-bound Stars* *Int. J. Theor. Phys.* 52:4342 (2013). DOI [10.1007/s10773-013-1752-7](https://doi.org/10.1007/s10773-013-1752-7)

Submitted

- (with V. Dragović) *Poncelet Pairs of a Circle and Parabolas From a Confocal Family and Painlevé VI Equations*

Articles in Preparation

- (with V. Dragović) *Bicentric Polygons: Generalized Fuss Relations*
- (with V. Dragović) *Triangles inscribed in a Confocal Conics and Circumscribed about a Unit Circle*
- (with V. Dragović) *Parable of the Parabolas*

Conference Talks

- *Triangles Circumscribed about a Unit Circle and Inscribed in a Conic from a Given Confocal Pencil* in the 7th Annual Meeting of SIAM Conference Texas-Louisiana Section, Oct 12, 2024 at Baylor University.

Undergraduate Senior Thesis Supervision

2015 Tazkera Haque,

Brac University

Web Profile

Google Scholar <https://scholar.google.com/citations?user=sHwLOBkAAAAJ&hl=en>
 ResearchGate <https://www.researchgate.net/profile/Mohammad-Murad-3>

Scopus Author ID [58133505900](https://orcid.org/0000-0002-8293-5242)

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