

Ebtsam Taha

Curriculum Vitae

Personal Data

Full name Ebtsam Hassan Taha
Affiliation Department of Mathematics, Faculty of Science, Cairo University, Giza, Egypt.
Date of birth 01/01/1989
Gender Female
Nationality Egyptian
Marital status Married
Contact Department of Mathematics, Faculty of Science, Cairo University, 12613 Giza, address EGYPT.
Phone No. ☎ +2 0122 9627691 ☎ +91 7081848991
Email ✉ ebtsam.h.taha@hotmail.com ✉ ebtsam.taha@sci.cu.edu.eg

Education

Nov. 2013 – Jul. 2018 **Doctor of Philosophy**, *Pure Mathematics, Mathematics Department, Faculty of Science, Cairo University, Giza, Egypt.*
Aug. 2011 – Apr. 2013 **Master of Science**, *Pure Mathematics, Mathematics Department, Faculty of Science, Cairo University, Giza, Egypt.*
Sep. 2009 – July 2011 **Master Courses**, *Pure Mathematics, Mathematics Department, Faculty of Science, Cairo University, Giza, Egypt.*
Sep. 2005 – May 2009 **Bachelor of Science**, *Mathematics and Physics, Mathematics Department, Faculty of Science, Cairo University, Giza, Egypt.*

Doctoral Thesis

Title Some Problems in Finsler and Teleparallel Geometries
Supervisor Prof. Nabil. L. Youssef (Cairo University).
External examiners Prof. Zoltan Muzsnay, University of Debrecen, Department of Geometry, Institute of Mathematics, Debrecen, Hungary and Prof. Tom Mestdag, University of Antwerp, Department of Mathematics and Computer Science, Faculty of Science, Antwerp, Belgium.

Master Thesis

Title On the Geometry of Finslerized Parallelizable Manifolds
Supervisors Prof. Nabil. L. Youssef and Dr. Amr Sid-Ahmed (Cairo University).
External Prof. Vladimir Balan, University Politehnica of Bucharest, Faculty of Applied Sciences,
examiner Department of Mathematics-Informatics, Romania.

Academic Positions

Dec. 2018 – **Lecturer**, *Department of Mathematics, Faculty of Science, Cairo University, Giza, Egypt.*
present
Jan. 2019 – **Post-doctoral fellow**, *Department of Mathematics, Harish Chandra Research Institute, Allahabad, India.*
Mar. 2021
June 2013 – **Assistant Lecturer**, *Department of Mathematics, Faculty of Science, Cairo University, Giza, Egypt.*
Dec. 2018
Apr. 2010 – **Demonstrator**, *Department of Mathematics, Faculty of Science, Cairo University, Giza, Egypt.*
May 2013

Teaching Experiences

During M.Sc. and Ph.D. I was teaching assistant for under graduate courses: Calculus on single variable I, II; Calculus in multi-variables I, II; Complex analysis, Real analysis; Ordinary differential equations; Partial differential equations, Mathematical methods; Differential geometry (Curves and surfaces) in Department of Mathematics , Faculty of Science, Cairo University, Giza, Egypt.
After my first postdoc I am teaching Calculus I, II course so far in Department of Mathematics , Faculty of Science, Cairo University, Giza, Egypt.

Research Interests

Differential geometry and its applications: Finsler geometry, Finsler metrizable problem, Lagrangian geometry, Teleparallel geometry, Harmonic manifolds, geometric analysis, PDE on manifolds and sub-Riemannian geometry.

Doctoral Courses

- Sub-Riemannian Geometry
- Lie Algebras and Lie Groups
- Geometry of Sprays and variational principles
- Super manifolds

Master Courses

- Differential Geometry
- General Theory of Relativity
- Analysis
- Algebra
- Mathematical Logic

Computer Skills

Operating Systems Unix, Linux and Windows
Platforms Ubuntu and Windows 10
Languages Mathematica, MATLAB, Maple, LaTeX

Languages

Arabic Mother Tongue
English 2nd language, very good reading, writing and speaking

Awards and Fellowships

Jan. 2019 – Mar. 2021 Post-doctoral fellow (Mathematics) at Harish Chandra Research Institute.
June 2019 International Publication Award for 2018, Cairo University, Giza, Egypt.
Feb. 18 – July 20, 2017 Scholarship under a program named "Erasmus+ Mobility Project for Higher Education Students and Staff with Partner Countries" to be Erasmus+ Ph.D. student at Faculty of Mathematics, Alex. I. Cuza University, Iasi, Romania.
Feb. 15 – May 27, 2016 Scholarship under a program named "Erasmus+ Mobility Project for Higher Education Students and Staff with Partner Countries" to be Erasmus+ Ph.D. student at Faculty of Mathematics, Alex. I. Cuza University, Iasi, Romania.
June 2014 International Publication Award for 2013, Cairo University, Giza, Egypt.
Feb. 2012 – Nov. 2013 M. Sc. Fellowship from the Centre for Theoretical Physics, the British University in Egypt.

List of Publications in Refereed Journals

- [1] O. Constantinescu and Ebtsam H. Taha, "*Alternative Lagrangians obtained by scalar deformations*," Int. J. Geom. Meth. Mod. Phys., 17 (4) (2020) 2050050. DOI: 10.1142/S0219887820500504.
- [2] Nabil L. Youssef, S. G. Elgendi and Ebtsam H. Taha, "*Semi-concurrent vector field in Finsler geometry*," Differ. Geom. Appl., 65 (2019), 1-15.
- [3] I. Bucataru, G. Cretu and Ebtsam H. Taha, "*Frobenius integrability and Finsler metrizable for 2-dimensional sprays*," Differ. Geom. Appl., 56 (2018), 308-324. DOI: 10.1016/j.difgeo.2017.10.002.
- [4] Nabil L. Youssef, A. Soleiman and Ebtsam H. Taha, "*New conformal invariants in absolute parallelism geometry*," Int. J. Geom. Meth. Mod. Phys., 15 (1) (2018), 1850012. DOI: 10.1142/S0219887818500123.
- [5] Nabil L. Youssef and Ebtsam H. Taha, "*Connections in sub-Riemannian geometry of parallelizable distribution*," Int. J. Geom. Meth. Mod. Phys., 14 (3) (2017) 1750039. DOI: 10.1142/S0219887817500396.
- [6] Ebtsam H. Taha, "*On the geometry of Finslerized Parallelizable manifolds*," LAP Lambert Academic publishing, 2017. ISBN: 978-3-659-71758-1.

- [7] Nabil L. Youssef, Amr M. Sid-Ahmed and Ebtsam H. Taha, "Gravity theory in SAP-geometry," Tensor, N. S., 76 (2016).
- [8] Nabil L. Youssef, Amr M. Sid-Ahmed and Ebtsam H. Taha, "On Finslerized Absolute Parallelism Spaces," Int. J. Geom. Meth. Mod. Phys., 10 (7) (2013) 1350029. DOI: 10.1142/S0219887813500291.

Preprints

- [1] Hemangi M. Shah and Ebtsam H. Taha, "On harmonic and asymptotic harmonic Finsler manifolds", 2020. Submitted. arXiv:2005.03616v1 [math.DG].
- [2] Hemangi M. Shah and Ebtsam H. Taha, "Busemann functions in asymptotically harmonic Finsler manifolds", 2020. Submitted.
- [3] Ebtsam H. Taha, "On Finsler surfaces with certain flag curvatures", 2020. Submitted. arXiv:2011.02467 [math.DG].
- [4] Ebtsam H. Taha and Banktreshwar Tiwari, "On almost rational Finsler metrics", 2021. Submitted. arXiv: 2101.01764 [math.DG].
- [5] A. Soleiman and Ebtsam H. Taha, "Tripathi connection in Finsler geometry", 2021. Submitted. arXiv: 2106.05431 [math.DG].
- [6] Ebtsam H. Taha, "Harmonic Finsler manifolds of (α, β) -type", 2021. Submitted.

Conferences, Schools and Workshops Attended

- Summer 2020 "International Workshop 2020 Virtual Workshop on Ricci and Scalar Curvature" (ONLINE).
- July 7–15, 2020 "Discussion Meeting On Zero Mean Curvature Surfaces (ONLINE)" International Center for theoretical sciences (ICTS) Bangalore, India.
- March 13, 2020 National Conference on "Nonlinear Dynamics and its Applications" (NLDA - 2020), Department of Mathematics, Faculty of Science, Jadavpur University, Kolkata, India.
- February 8–9, 2020 National Conference "Recent Trends in Geometry and their Applications" (NCRTGA - 2020), Department of Mathematics, Institute of Science, Banaras Hindu University, Varanasi, India.
- December 5–15, 2019 CIMPA School on Finsler Geometry and Applications, Banaras Hindu University, Varanasi, India.
- July 6–8, 2017 Romanian national Conference for Ph.D. student, Cuza Univesity, Iasi, Romania.
- June 13–14, 2017 The Romanian national workshop "Workshop on Geometry and PDEs", West Timisoara University, Timisoara, Romania.
- June 03–14, 2013 ICTP-SISSA-Moscow "School on Geometry and Dynamics", ICTP, Trieste, Italy.
- July 23 – Aug. 3, 2012 Poisson 2012 summer school and conference, Utrecht University, Netherlands.
- June 25 – July 1, 2012 8th international conference "Finsler extensions of Relativity Theory" FERT-2012, Moscow, Russia.

June 2010 Egypt-France Mathematical Conference, the French center of culture and cooperation in Egypt.

June 2009 Summer school of Mathematics,(for six weeks), Department of Mathematics, Faculty of Science, Cairo University, Giza, Egypt with the cooperation of the British University in Egypt, under the auspices of the Egyptian Mathematical Society.

Talks Given in Conferences and Workshops

August 2020 An introduction to harmonic Finsler manifolds, 2020 Virtual Workshop on Ricci and Scalar Curvature. (online seminar) <https://youtu.be/tuLS3QG4Ppk>

March 2020 Deformations of Lagrangians, Department of Mathematics, Faculty of Science, Jadavpur University, Kolkata, India.

February 2020 Semi-concurrent vector fields in Finsler geometry, Department of Mathematics, Institute of Science, Banaras Hindu University, Varanasi, India.

December 2019 Some topics on Finsler geometry, CIMPA School on Finsler Geometry and Applications, DST-center, Banaras Hindu University, Varanasi, India.

July 2017 Some topics on Finsler and absolute parallelism geometries, Romanian national Conference for Ph.D. student, Cuza Univesity, Iasi, Romania.

June 2017 Frobenius integrability and Finsler metrizable for two-dimensional sprays, the Romanian national workshop "Workshop on Geometry and PDEs", West Timisoara University, Timisoara, Romania.

June 2012 On Finslerized parallelizable spaces, 8th international conference "Finsler extensions of Relativity Theory" FERT-2012, Moscow, Russia.

Seminars have been Given

Jan. Feb. 2021 Four seminars on the theory of connections and Finsler metrics, DST-CIMS, Institute of Science, Banaras Hindu University, Varanasi 221005, India (Online).

April 2020 The inverse problem of Lagrangian mechanics and Frobenius integrability, Jyväskylä Geometry Seminar, Department of Mathematics and Statistics, University of Jyväskylä, Finland. (online seminar)

November 2019 Frobenius integrability and metrizable problem, Department of Mathematics, The Institute of Mathematical Sciences (IMSc), Chennai, India.

October 2019 Harmonic and asymptotically harmonic manifolds in the Finslerian settings, Department of Mathematics, Harish-Chandra Research Institute (HRI), Allahabad, India.

April 2019 The geometry of sprays and Finsler geometry, Department of Mathematics, Harish-Chandra Research Institute (HRI), Allahabad, India.

2012-2018 I have given many differential geometry seminars in Department of Mathematics, Faculty of Science, Cairo University.

References

Prof. Nabil L. Youssef, *Department of Mathematics, Faculty of Science, Cairo University, Giza, Egypt.*

E-mail: nlyoussef2003@yahoo.fr, nlyoussef@sci.cu.edu.eg.

Prof. Ioan Bucataru, *Faculty of Mathematics, Alexandru Ioan Cuza University, Iasi, Romania.*

E-mail: bucataru@uaic.ro.

Prof. Banktesh Tiwari, *DST-Centre for Interdisciplinary Mathematical Sciences, Institute of Science, Banaras Hindu University, Varanasi-221005, INDIA.*

E-mail: banktesht@gmail.com

Prof. Oana Constantinescu, *Faculty of Mathematics, Alexandru Ioan Cuza University, Iasi, Romania.*

E-mail: oanacon@uaic.ro.