

## Curriculum Vita

### Personal Details

**Name:** Kamal Ataalla Saleh Al-Banawi  
**Date of Birth:** 09/06/1971  
**Place of Birth:** Al-Ghuwayr /Al-Karak / Jordan  
**Nationality:** Jordanian  
**National Number:** 9711038828  
**Marital Status:** Married  
**Address:** Prof Dr Kamal Ataalla Saleh Al-Banawi  
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Mu'tah University  
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### Qualifications

Certificate	Special Field	General Field	Institute	Place	Date Awarded
PhD	Differential Geometry	Pure Mathematics	The University of Leeds	Leeds / United Kingdom	2004
MPhil	Applied Differential Geometry	Applied Mathematics	The University of Huddersfield	Huddersfield/ United Kingdom	2001
***BSc	-----	Mathematics (95.54%)	The University of Jordan	Amman/ Jordan	1995
High School	-----	Scientific Stream (94.7%)	Prince Al-Hassan School	Al-karak/ Jordan	1989

**\*\*\* The registrar general at the University of Jordan testifies that the average (95.54%) obtained for the BSc degree is the highest average obtained at the university of Jordan.**

**Title of Master thesis:**

*Generating a three dimensional animation of a noisy disc brake using laser holographic interferometry.*

(The University of Huddersfield/ West Yorkshire/ UK)

**Title of PhD thesis:**

*Generating frames and normal holonomy of transnormal submanifolds in Euclidean spaces.*

(The University of Leeds / West Yorkshire/ UK)

**Academic and Professional Background**

July 2014-Present : Professor of Geometry/ Department of Mathematics and Statistics, Mu'tah University.

July 2015-August 2015 : Dean of College of Graduate Studies, Mu'tah University.

September 2014-July 2015 : Vice Dean / College of Graduate Studies, Mu'tah University.

September 2012-August 2014 : Vice Dean / Faculty of Science, Mu'tah University.

July 2009-June 2014 : Associate Professor/ Department of Mathematics and Statistics, Mu'tah University.

September 2006-August 2007 : Head of Department of Mathematics and Statistics/ Faculty of Science, Mu'tah University, Al-Karak, Jordan, P.O.Box 7.

September 2005-August 2006 : Dean Assistant/ Faculty of Science, Mu'tah University.

July 2004-June 2009 : Assistant Professor/ Department of Mathematics and Statistics, Mu'tah University.

September 2001- June 2004 : Mathematics Tutor/ Department of Pure Mathematics, Leeds University, Leeds, UK (LS2 9JT).

September 2001- June 2004 : Exams' Coordinator / Exam Office, Leeds University.

August 1995- August 1999 : Mathematics Teacher/ Ministry of Education, Jordan.

Additional Work : A lecturer at the Arab Open University (part time)/ Al-Karak, Jordan.

**Membership**

(1) Member of the American automotive engineering research group (till 2002).

(2) Member of Huddersfield automotive engineering research group (till 2001).

(3) Member of the YDGG (Yorkshire Differential Geometry Group) (till 2005).

(4) Member of the LMS (London Mathematical Society) (till 2005).

(5) Member of the University of Leeds exam office (2002-2004).

(6) Member of the editorial board of the IJMA (International Journal of Mathematics and Analysis)/ School of Mathematical Sciences, Faculty of Science and Technology, Universiti Kebangsaan Malaysia, Malaysia.

- (7) Member of the department of mathematics and statistics council/faculty of science/ Mu'tah University (2004-Now).
- (8) Member of the postgraduate studies committee of the department of mathematics and statistics / faculty of science/ Mu'tah University (2012-Now).
- (9) Member of the faculty of science council / Mu'tah University (2005-2007, 2012-2014).
- (10) Member of the postgraduate studies committee of the faculty of science / Mu'tah University (2006-2007).
- (11) Head of the postgraduate studies committee of the faculty of science / Mu'tah University (2012-2014).
- (12) Member of the student union elections committee / Mu'tah University for many times.
- (13) Member of the organizing committee of the yearly scientific week of the faculty of science / Mu'tah University (May 2009).
- (14) Member of the postgraduate studies committee at Mu'tah University (2012-2014).
- (15) Head of committees for the discussion of master theses at the department of mathematics / Mu'tah University many times.
- (16) Member of committees for the discussion of master theses at the department of mathematics / Mu'tah University many times.
- (17) External examiner for the discussion of master theses at many universities for many times.
- (18) Member of the comprehensive exam committee for master students at the department of mathematics / Mu'tah University many times.
- (19) Member of the disciplinary committee for students at the faculty of science / Mu'tah University (2005-2006,2009-2010).
- (20) Member of the disciplinary committee for students at Mu'tah University (2012-2014).
- (21) Member of the disciplinary committee for employees at Mu'tah University for many times.
- (22) Member of the disciplinary committee for staff at Mu'tah University many times.
- (23) Member of the organizing committee of the yearly scientific week of the faculty of science / Mu'tah University (May 2013).
- (24). Member of the editorial board of Mu'tah Lil-Buhuth Wad\_Dirasat Journal, Natural and Applied Sciences Series (ISSN 1022-6812) published by Mu'tah University (2015-2016).
- (25) Member of the committee of revision of master and PhD theses for postgraduate students at Mu'tah University (2015-2016).
- (26) Member of the committee of distinguished researchers in collaboration with the scientific research deanship (2020-2021).
- (27) Member of the scientific committee of the Second International Conference on Mathematics and Applications (SICMA), Antalya, Turkey (November 2023).

## **Taught Courses**

### **(a). School of Mathematics, Leeds University ( September 2001- June 2004).**

- (1) Mathematics Foundations.
- (2) Calculus
- (3) Linear Algebra.
- (4) Differential Equations and Modeling.
- (5) Group Theory.
- (6) Real Analysis.

### **(b). Department of Mathematics , Mu'tah University ( July 2004- Now).**

- (1) Calculus1 (101).
- (2) Calculus2 (102).
- (3) Calculus3 (201).
- (4) Calculus 4 (205) (Vector Analysis).
- (5) Decimal Numbers System (106).
- (6) Principles of Mathematics (112).
- (7) Probability and Statistics (131).
- (8) Foundations of Mathematics (150).
- (9) Set Theory (151).
- (10) Differential Equations1 (203).
- (11) Differential Equations2 (301).
- (12) Linear Algebra1 (242).
- (13) Linear Algebra2 (342).
- (14) Abstract Algebra1 (241).
- (15) Abstract Algebra2 (341).
- (16) Euclidean and NonEuclidean Geometry (262).
- (17) Differential Geometry (362) (My special field).
- (18) Number Theory (343).
- (19) General Topology1 (361).
- (20) General Topology2 (461).
- (21) History of Mathematics (381).
- (22) Algebraic Topology (763) (Master course).
- (23) General Topology (761) (Master course).
- (24) Special Topics in Topology (769) (Master course).
- (25) Special Topics in Algebra (747) (Master course).

## **Special Attended Courses**

- (1) The Teaching Assistant Preparation Program. The University of Huddersfield, October-December 1999.
- (2) Riemannian Geometry. The University of Leeds, September-December 2001.
- (3) Algebraic Varieties. The University of Leeds, September-December 2001.

## Areas of Research

- (1) Differential Geometry of Transnormal Submanifolds in Euclidean Spaces.
- (2) Classical Differential Geometry : Curves and Surfaces.
- (3) Curves and Surfaces in Fitting and Design.
- (4) Morse Theory and its Applications.
- (5) Image Processing Techniques: Edge Detection Operators and Hough Transform.
- (6) Torsion in Vibrational Surfaces.
- (7) Fractional Hyperbolic Partial Differential Equations.
- (8) Fuzzy Topological Spaces.
- (9) Algebraic study of differentiable manifolds.
- (10) Curves and Surfaces in Minkowski space.

## Conferences and Workshops

- (1) Huddersfield Colloquium of Computing and Mathematic, The University of Huddersfield, July 2000.
- (2) The 25th International Conference on Noise Vibration Engineering (ISMA25), Katholieke Universiteit, Leuven, Belgium, September 2000 (A paper submitted in common with Dr Chris Talbot).
- (3) The 18th SAE Brake Colloquium and Engineering Display, San Diego, USA, October 2000 (A paper submitted in common with Dr Chris Talbot).
- (4) The Yorkshire Differential Geometry Group workshops (UK):  
The YDGG workshop at the University of Leeds / March 2001.  
The YDGG workshop at the University of Hull / May 2001.  
The YDGG workshop at the University of York / September 2001.  
The YDGG workshop at the University of Hull / November 2001.  
The YDGG workshop at the University of Leeds / January 2002.  
The YDGG workshop at the University of York / April 2002.  
The YDGG workshop at the University of Hull / June 2002.  
The YDGG workshop at the University of Leeds / September 2002.  
The YDGG workshop at the University of York / January 2003.  
The YDGG workshop at the University of Hull / May 2003.  
The YDGG workshop at the University of York / November 2003.  
The YDGG workshop at the University of Hull / March 2004.  
The YDGG workshop at the University of York / June 2004.
- (5) The LMS/EPSRC Short Instructional Course: Differential Geometry, Homogeneous Spaces and Integrable Systems, The University of Durham (UK), September 2002.
- (6) The 50th BMC (British Mathematical Colloquium), The University of Birmingham (UK), April 2003.
- (7) The International Conference on Differential Geometry ( The 60th birthday of Prof. Bang-Yen Chen), Katholieke Universiteit, Leuven, Belgium, June 2003 ( A paper submitted in common with Dr Sheila Carter).
- (8) The Scientific Week ( SW 2009), Mu'tah University, May 2009.

- (9). The International Conference on Sciences (ICS-2012). Al Al-Bayt University (Jordan), November 2012.
- (10) The Scientific Week ( SW 2013), Mu'tah University, May 2009.
- (11) The Mathematical Olympiad, Al-Hussein bin Talal University (Jordan), November 2016.
- (12) The 8<sup>th</sup> International Conference on Recent Advances in Pure and Applied Mathematics (ICRAPAM2021) with the support of Mugla University, Bodrum/Mugla, Turkey, September 2021.
- (13) The 5<sup>th</sup> International Conference on Mathematics and Related Sciences (ICMRS2022) with the support of Duzce University, Antalya, Turkey, October 2022.
- (14) The 6<sup>th</sup> International Conference on Life and Engineering Sciences (ICOLES2023) with the support of Bayburt University and Kocaeli University, Antalya, Turkey, November 2023.

### **Papers and Articles**

- (1) Kamal Al-Banawi and Chris Talbot, Three Dimensional Animations of a Real Disc Brake Generating Noise, *Proceedings of the 25th International Conference on Noise Vibration Engineering (ISMA25)*, Katholieke Universiteit, Leuven, Belgium, September 2000.
- (2) Kamal Al-Banawi and Chris Talbot, Generating 3-Dimensional Animations of Vehicle Brake Noise, *Proceedings of the 18th SAE Brake Colloquium and Engineering Display*, San Diego, USA, October 2000.
- (3) Kamal Al-Banawi, Transnormal Compact Surfaces in  $R^4$ , Department of Mathematics, Leeds University, February 2002.
- (4) Kamal Al-Banawi and Sheila Carter, Generating Frames of Transnormal Curves, *Soochow Journal of Mathematics*, Volume 30(3), 261-268 (2004).
- (5) Kamal Al-Banawi and Sheila Carter, Transnormal Partial Tubes, *Contributions to Algebra and Geometry*, Volume 46(2), 575-580 (2005).
- (6) Kamal Al-Banawi, A Tale of Two Normals, Department of Mathematics, Mutah University, May 2005.
- (7) Kamal Al-Banawi, Curves of Constant Width in  $R^2$ , Department of Mathematics, Mutah University, May 2006.
- (8) Kamal Al-Banawi, Geometry of Ovals in  $R^2$  in Terms of the Support Function, *Journal of applied Sciences*, Volume 8(2), 383-386 (2008).
- (9) Kamal Al-Banawi, Focal Points of 4-Transnormal Tori in  $R^4$ , *Georgian Mathematical Journal*, Volume 16(2), 211-218 (2009).
- (10) Kamal Al-Banawi, On Closed Convex Surfaces of Revolution in  $R^3$ , *Mu'tah Lil-Buhuth Wad\_Dirasat*, Volume 24(1), 63-72 (2009).
- (11) Kamal Al-Banawi and Rateb Al-Btoush, Some Geometric and Analytic Properties of Closed Convex Curves in  $R^2$ , *Dirasat, Pure Sciences*, Volume 38(1), 81-84 (2011).
- (12) Kamal Al-Banawi, On the Approximation of Ovaloids in  $R^3$ , *Mu'tah Lil-Buhuth Wad\_Dirasat*, Volume 27(1), 133-143 (2012).

- (13) Kamal Al-Banawi, On Transnormal Surfaces in the Euclidean Spaces  $R^3, R^4$ , *Mu'tah Lil-Buhuth Wad\_Dirasat*, Volume 27(2), 23-32 (2012).
- (14) Omar K. Jaradat, Kamal A. Al-Banawi and Anas Abu Joudeh, Solving Fractional Hyperbolic Partial Differential Equations by the Generalized Differential Transform Method, *World Applied Sciences Journal*, Volume 23(12), 89-96 (2013).
- (15) Kamal A. Al-Banawi and Omar K. Jaradat, A Model of the Width of an Oval via Differential Equations, *World Applied Sciences Journal*, Volume 23(12), 97-102 (2013).
- (16) Kamal Al-Banawi, Morse Theory on Transnormal Embeddings of  $S^m$ , *Applied Mathematical Sciences*, Volume 7(107), 5311-5319 (2013).
- (17) Kamal Al-Banawi, Generating Polytopes of Transnormal Tori in  $R^4$ , *European Journal of Scientific Research*, Volume 116(2), 214-220 (2013).
- (18) Kamal Al-Banawi, On the Radius of a Transnormal Spherical Partial Tube, *Applied Mathematical Sciences*, Volume 8(17), 809-816 (2014).
- (19) Ali A. Al-Saraireh and Kamal A. Al-Banawi, A Transnormal Partial Tube Around A Non-Transnormal Manifold, *World Applied Sciences Journal*, Volume 34(7), 865-870 (2016).
- (20) Kamal Al-Banawi, Order of Transnormal Manifolds in Euclidean Spaces, *Proceedings of the 8th International Conference on Recent Advances in Pure and Applied Mathematics (ICRAPAM2021)*, 179-184 (2021).
- (21) Huthaifa Al-Aroud and Kamal Al-Banawi, On Transnormal Surfaces in the Euclidean Space  $R^n$ , *Sci.Int.(Lahore)*, Volume 34(1), 13-15 (2022).
- (22) Adel Al-rabtah and Kamal Al-Banawi, Vertices of Ovals with Constant Width Relative to Particular Circles, *Mathematics*, Volume 11(19), 4179 (2023), <https://doi.org/10.3390/math11194179>.
- (23) Kamal Al-Banawi, Normal Holonomy along Transnormal Curves in  $R^4$ , *Palestine Journal of Mathematics*, (To appear).
- (24) Kamal Al-Banawi, Algebraic Topology of Generating Polytopes of Transnormal Tori in  $R^4$  (Submitted).

### **Master Supervision**

- (1). Amani Oudeh Al-Sohaymat, Morse Theory and its Applications, 2006.
- (2). Warda Khalaf Al-Awasa, Transnormal Manifolds in Euclidean Spaces, 2009.
- (3). Ola Abdelhadi Al-Qudah, Isotopy of Transnormal Tori in  $R^6$ , 2012.
- (4). Ahlaam Abdorahman Al-Btoush, Transnormal Spherical Partial Tubes in  $R^4$ , 2012.
- (5). Abeer Nidal Drakma, Normal Holonomy Along Transnormal Embeddings of  $S^1$  in  $R^4$ , 2012.
- (6). Islaam Waleed Al-Sarayreh, Focal Sets of Transnormal Tori in  $R^4$ , 2012.
- (7). Talaat No'maan Al-Khouly, Curves of Constant Width in  $R^2$ , 2012.
- (8). Ahmad Khather Al-Natour, Surfaces of Constant Width in  $R^3$ , 2012.

- (9). Ahmad Solieman Al-Hoety, On the Radius of Transnormal Spherical Partial Tubes, 2013.
- (10). Anas Abu Joudeh, A Generalized Differential Transform Method for Solving Fractional Hyperbolic Partial Differential Equations, (Co-supervisor) 2013.
- (11). Ali Awath Al-Sarayreh, Tangent and Normal Bundles of Differentiable Manifolds, 2015.
- (12). Muna Ali Al-Qudah, On Solutions of Volterra Integral Equation, (Co-supervisor) 2016.
- (13). Khaled Hassan Al-Tarawneh, Generating Frames of Transnormal Manifolds in Euclidean Spaces, 2016.
- (14) Islam Abdullah Al-Qudah, Fuzzy Topological Spaces, 2017.
- (15) Mohammad Sami Al-Janaideh, On Geometric and Algebraic Topological Properties of Surfaces in  $R^3$ , 2018.
- (16) Abdullah Khalid Al-Kasassbeh, Sphere Bundle of Transnormal Surfaces in Euclidean Spaces, 2018.
- (17) Ahmad Salem Al-Mahasneh, Sphere Bundle of Transnormal Curves in Euclidean Spaces, 2018.
- (18) Ahmad Mahmoud Al-Namarneh, Fundamental Groups and Covering Spaces of Transnormal Manifolds, 2019.
- (19) Sami Hassan Abu-Moliqueh, Group Transitive Action on Transnormal Manifolds, 2019.
- (20) Ahmad Mahmoud Al-Ma'asfeh, Morse Theory on Transnormal Manifolds, 2020.
- (21) Bothainah Mohammad Al-Jaradat, Covering Transformations of Transnormal Manifolds, 2020.
- (22) Rania Mohammad Al-Areed, Finiteness of the Order of a Transnormal Manifold, 2020
- (23) Eman Awwad Al-Qudah, Focal Points Theory of Transnormal Manifolds, 2020.
- (24) Huthifa Mahmoud Alaroud, Geometry of Transnormal Surfaces in  $R^4$ , 2021.
- (25) Dina Awwad Al-Kharabsheh, Topology of Transnormal Surfaces in  $R^4$ , 2021.
- (26) Noor Al-Eman Hassan Al-Nawayseh, Surfaces of Constant Width in Minkowski Space, 2021.
- (27) Lamia Shafgan Al-Drab'ah, Curves of Constant Width in Minkowski Space, 2021.
- (28) Ali Ibrahim Al-Adrah, Evolutes in Minkowski Space, 2023.
- (29) Mona Mohammad Khalil, Helices in Minkowski Space, 2023.
- (30) Ibraheem Shawkat Aletwi, Invariants in Bitopological Spaces, 2023.

#### Master Mini Theses

- (1) Ahmad Barakat, Continuity and Homeomorphisms in Metric Spaces, 2015.
- (2) Majd Al-Awaida, On Metric Spaces, 2015.
- (3) Roqia Al-Butush, Volterra Integral Equations, 2015.
- (4) Ahmad Al-Arafeen, On Differential Topology, 2015.
- (5) Mo'tasem Al-Balasi, Relative Cleavable Spaces, 2015.
- (6) Baker Al-Kasasbeh, The Fundamental Group, 2015.
- (7) Ala'a Al-Badrawi, Differentiable Manifolds, 2016.
- (8) Bara'ah Al-Ma'aitah, Classification of Surfaces via Morse Theory, 2016.
- (9) Hanen Al-Soqi, Fuzzy Topological Spaces, 2016.



(10) Mohammad Al-Hererat, Convex and Starlike Functions, 2016.

## Referees

- (1). Professor Fuad A. Kittaneh,  
Department of Mathematics,  
The University of Jordan,  
Amman, Jordan,  
Email: [fkitt@ju.edu.jo](mailto:fkitt@ju.edu.jo)
- (2). Professor Shaher M. Momani (Dean of Faculty of Science),  
Department of Mathematics,  
The University of Jordan,  
Amman, Jordan,  
Email: [shaherm@yaho.com](mailto:shaherm@yaho.com)
- (3). Dr Sheila Carter,  
School of Mathematics,  
The University of Leeds,  
Leeds, United Kingdom,  
Email: [s.carter@leeds.ac.uk](mailto:s.carter@leeds.ac.uk)

## Languages

Language	Reading	Writing	Speaking
Arabic	Native	Native	Native
English	Excellent	Excellent	Excellent

## Computer Skills

- (1). The skill of driving the computer :The International Computer Driving License (ICDL).
- (2). The skill of programming using Matlab.
- (3). The skill of mathematical typing using Latex.
- (4). The skill of using different types of software for graphing.

## Scholarships

- (1). The Royal Scholarship, supported by the Jordanian military (BSc).
- (2). Mu'tah University Scholarship for Higher Education (MSc and PhD).