

PERSONAL STATEMENT

Be the change I want to see in the world (Mahatma Gandhi).

EDUCATIONAL QUALIFICATIONS

- **PhD in Mathematics with concentration on Pure Mathematics** (Texas Tech University, USA), 2013.
Dissertation: *Brannan Conjecture and Sharp Bounds on Trigonometric Sums*.
Advisors: Prof. Alexander Solynin and Prof. Roger W. Barnard.
- **MS in Mathematics** (Texas Tech University, USA), 2010.
Thesis: *Brannan Conjecture for Initial Coefficients*.
Advisor: Prof. Alexander Solynin.
- **M.Sc. in Mathematics** (University of Moratuwa, Sri Lanka), 2006.
Thesis: *Calculations on Face and Vertex Regular Polyhedra and Application to Finite Element Analysis*.
Advisor: Prof. G.T.F. de Silva.
- **B.Sc. Eng.(Hons) in Electronics and Telecommunications Engineering** (University of Moratuwa, Sri Lanka), 2004.
Final Year Project: *Development of OFDM (Orthogonal Frequency Division Multiplexing) Transmitter and Receiver*. Advisor: Prof. R.M.A.P. Rajatheva.
- **Certificate in Teaching in Higher Education (CTHE)**, University of Colombo, Sri Lanka, 2008.
- **GCE Advanced Level Examination in Mathematics stream** (Royal College, Colombo 7, Sri Lanka), 1998.
Subjects: Pure Mathematics, Applied Mathematics, Physics, Chemistry.
- **GCE Ordinary Level Examination** (Royal College, Colombo 7, Sri Lanka), 1995.

AWARDS

- **Best Speaker-Master's Category** (Title: *Brannan Conjecture for Initial Coefficients*), Graduate Students' Research Day, SIAM, Texas Tech University, 2010.
- **Outstanding Mathophile Award**, Cappa Mu Epsilon Society, Texas Tech University, 2013.

EMPLOYMENT

- **Senior Lecturer (Grade II) in Mathematics**, Department of Mathematics, University of Moratuwa, Sri Lanka, from 2013/08/16 to date.
- **Graduate Part-Time Instructor**, Department of Mathematics and Statistics, Texas Tech University, USA, from 2009/08/27 to 2013/08/12.
- **Lecturer (Probationary) in Mathematics**, Department of Mathematics, University of Moratuwa, Sri Lanka, from 2006/08/21 to 2013/08/16.
- **Visiting Lecturer in Mathematics**, Department of Mathematics, University of Moratuwa, Sri Lanka, from 2005/04/05 to 2006/08/20.
- **Junior Visiting Consultant in Mathematics**, Department of Computational Mathematics, Faculty of IT, University of Moratuwa, Sri Lanka, 2005.
- **Temporary Instructor in Mathematics**, Department of Mathematics, University of Moratuwa, Sri Lanka, from 2004/05/17 to 2005/04/04.
- **Industrial training as a Trainee Electronics Engineer** at the Airport and Aviation Services (Sri Lanka) Limited (AASL) as a fulfillment for the B.Sc.Eng. degree at the University of Moratuwa, Sri Lanka, January to July 2003.
- **Visiting Lecturer**, IESL (Institute of Engineers, Sri Lanka).
- **Visiting Lecturer**, PRISL (Plastic and Rubber Institute of Sri Lanka).
- **Visiting Lecturer**, Troy University- ITS (Institute of Technological Studies) Colombo Campus.
- **Visiting Lecturer**, SLIIT (Sri Lanka Institute of Information Technology).

MEMBERSHIPS IN PROFESSION BODIES

- **AMS** (American Mathematical Society), 2013
- **MAA** (Mathematical Association of America), 2013
- **SIAM** (Society for Industrial and Applied Mathematics), 2010.
- **SLAAS** (Sri Lanka Association for Advancement of Science)-Life Member.
- **SLAIHEE** (Sri Lanka Association for Improving Higher Education Effectiveness), 2008-2009.
- **ASASL** (Applied Statistics Association of Sri Lanka), 2008-2009.

RESEARCH INTERESTS

Pure Mathematics, Theoretical Physics

PUBLICATIONS

- Roger W. Barnard, **Udaya C. Jayatilake** and Alexander Solynin, ***Brannan Conjecture and Sharp Bounds on Trigonometric Sums***, Proceedings of the American Mathematical Society, accepted-2013/11/03.
- **Udaya C. Jayatilake**, ***Brannan's Conjecture for Initial Coefficients***, Complex Variables and Elliptic Equations **58** (2013), no. 5, 685-694.
- **Udaya C. Jayatilake**, ***Calculations on Face and Vertex Regular Polyhedra***. The Mathematical Gazette **89** (2005), no. 514, 76-81.

PRESENTATIONS

- ***Making Polyhedra: a Hands-on Experience***, Udaya jayatilake and Saba Nafees, MOVES Conference, Museum of Mathematics, New York, 2013/06/06.
- ***Brannan Conjecture: General Method and Particular Results***, Analysis Seminar, Department of Mathematics and Statistics, Texas Tech University, 2010/03/24(part 1); 2010/03/31(part 2).
- ***Brannan Conjecture for Initial Coefficients***, Graduate Students' Research Day, SIAM, Texas Tech University, 2010/04/08.
- ***Face and Vertex Regular Polyhedra***, 9.05 television program, Sri Lanka Rupavahini Corporation, 1999.
- ***Colour Matching Device***, Presentation, IEE young members' forum-Sri Lanka, 2002.
- ***My Findings in Mathematics***, Departmental Seminar, Department of Mathematics, University of Moratuwa, Sri Lanka, 2001.
- ***Face and Vertex Regular Polyhedra***, Annual Sessions, SLAAS (Sri Lanka Association for Advancement of Science), 2000.
- ***Volume of N-Dimensional Ball and Sum of Volumes***, Annual Sessions, SLAAS (Sri Lanka Association for Advancement of Science), 2001.
- ***Use of Scientific Calculators for Teaching Engineering Mathematics***, CTHE course, University of Colombo, Sri Lanka, 2007.
- Presentations at Schools-Royal College-Colombo 7, Dharmapala Vidyalaya-Kottawa, Dharmapala Vidyalaya-Kottawa North, Sri Lanka.
- ***Some Innovative Practices in Teaching***, Department of Mathematics, Faculty of Engineering, University of Moratuwa, Sri Lanka, Quality Assurance and Accreditation (QAA) Council of University Grants Commission's visit to the Department, 2008.

NON-MATHEMATICAL RESEARCH/PROJECTS

- ***Color Matching Device*** (First year Electronics Project for the B.Sc.Eng degree-Presented at IEE young members' forum-Sri Lanka), 2002.
- ***Alarm Monitoring System*** (Constructed during the training period as a Trainee Electronics Engineer at the Airport and Aviation Services(Sri Lanka) Limited(AASL) as a fulfillment for the B.Sc.Eng. degree - Implemented at the Bandaranayake International Airport), 2003.
- ***Development of OFDM (Orthogonal Frequency Division Multiplexing) Transmitter and Receiver***, Final year project for the B.Sc. Eng degree, published at <http://www.ofdm.8m.com>, 2004.

GRADUATE COURSES TAKEN

- MATH5318-Intermediate Analysis I-Dr.Lih-Ing Roeger
- MATH5320-Functions of a Complex Variable I-Dr.Alex Solynin
- MATH5326-Moderan Algebra I-Dr.Lars Christensen
- MATH5334-Numerical Analysis I-Dr.Victoria Howle
- MATH5319-Intermediate Analysis II-Dr.Lance Drager
- MATH5321-Functions of a Complex Variable II-Dr.Alex Solynin
- MATH5327-Moderan Algebra II-Dr. Lars Christensen
- MATH5335-Numerical Analysis II-Dr.Victoria Howle
- MATH5322-Functions of a Real Variable I-Dr.Chris Monico
- MATH5324-Topology I-Dr.Razvan Gelca
- MATH5323-Functions of a Real Variable II-Dr.Chris Monico
- MATH5325-Topology II-Dr.Razvan Gelca
- MATH5342-Advanced Topics in Analysis I: Introduction to Quadratic Differentials-Dr.Alex Solynin
- MATH5399-Advaned Problems: The role of special functions in extremal problems of Complex Analysis-Dr.Alex Solynin
- MATH5330-Ordinary Differential Equations I-Dr.Sophia Jang
- MATH5362-Theory of Numbers-Dr.Chris Monico
- MATH5399-Advanced Problems: Manifold Theory and Differential Geometry-Dr.Jeffrey Lee
- MATH5332-Partial Differential Equations I-Dr.Luan Hoang
- MATH5342-Advanced Topics in Analysis I: Special Functions-Dr.Roger Barnard
- MATH5399-Advanced Problems: Manifold Theory and Differential Geometry II-Dr.Jeffrey Lee
- MATH5399-Advaned Problems: Singularity Theory-Dr.David Weinberg
- MATH5399-Advaned Problems: Grobner Bases-Dr. Lourdes Juan
- MATH5346-Advanced Topics in Applied Mathematics I: Cryptography-Dr.Chris Monico
- MATH5340-Functional Analysis I-Dr.Razvan Gelca
- MATH5399-Advanced Problems: Logarithmic Potentials and Distributions of Zeros of Orthogonal Polynomials-Dr.Alex Solynin
- MATH6323-Algebraic Geometry I-Dr.David Weinberg
- MATH5341-Functional Analysis II-Dr. Razvan Gelca
- MATH5342-Advanced Topics in Analysis I: Symmetry and Symmetrization in Geometry, Analysis, and PDE's-Dr.Alex Solynin
- MATH6324-Algebraic Geometry II-Dr.David Weinberg
- MATH6000-Master's Thesis (6 hours).
- MATH8000-Doctor's Dissertation (12 hours, completing in Summer II 2013).

GRADUATE COURSES AUDITED

- STAT5329-Mathematical Statistics II
- MATH5342-Advanced Topics in Analysis I: Category Theory
- MATH5333-Partial Differential Equations II
- MATH5346-Advanced Topics in Applied Mathematics I: Stochastic Differential Equations

COURSES CONDUCTED

Texas Tech University

- MATH2450-Calculus III with Applications
- MATH1452-Calculus II with Applications
- MATH1352-Calculus II
- MATH1451-Calculus I with Applications(Summer I 2013)
- MATH1351-Calculus I

- MATH1550-Pre Calculus
- MATH1331-Introductory Mathematical Analysis II
- MATH1321-Trigonometry
- MATH0301-Essential Mathematics

University of Moratuwa-Faculty of Engineering

- MA101-Mathematics (B.Sc.Eng.)-Real Analysis
- MA111-Mathematics I (B.Sc.TLM)
- MA102-Methods of Mathematics (B.Sc.Eng.)-Numerical Analysis
- MA112-Mathematics II (B.Sc.TLM)
- MA202-Calculus (B.Sc.Eng.)-Vector Calculus and Complex Analysis
- MA203-Linear Algebra (B.Sc.Eng.)
- MA301-Applied Statistics (B.Sc.Eng.)
- MA404- Neural Networking and Fuzzy Logic (B.Sc.Eng.)
- DE238-North Indian Classical Music (B.Sc.Eng.)-Instructor

University of Moratuwa-Faculty of IT

- IT1701-Mathematics for IT(B.Sc.IT)
- IT1702-Discrete Mathematics(B.Sc.IT)
- IT2703-Computational Mathematics(B.Sc.IT)
- Foundation Mathematics(B.Sc.IT)

Institute of Engineers Sri Lanka(IESL)

- 201-Mathematics
- 301-Mathematics

Plastic and Rubber Institute of Sri Lanka(PRISL)

- GRT111-Engineering Mathematics

Troy University- ITS(Institute of Technological Studies) Colombo Campus.

- MTH1126-Calculus II

Sri Lanka Institute of Information Technology (SLIIT)

- Engineering Mathematics
- Mathematics for IT

INVOLVEMENT IN CURRICULUM DEVELOPMENT

- MA111-Mathematics I (B.Sc.TLM).
- MA112-Mathematics II (B.Sc.TLM).
- Foundation Mathematics (B.Sc.IT).
- MA0010-History and Philosophy of Mathematics (B.Sc.Eng.).
- DE238-North Indian Classical Music (B.Sc.Eng.).
- GRT111-Engineering Mathematics (PRISL).
- MA1011-Mathematics (B.Sc.Eng.).
- MA1021-Mathematical Methods (B.Sc.Eng.).

UNIVERSITY POSITIONS (University of Moratuwa, Sri Lanka)

- Level 1 Tutorial Coordinator, Department of Mathematics, 2004-2006.
- Level 1 Lab Coordinator, Department of Mathematics, 2006-2009.
- Level 2 Coordinator, Department of Mathematics, 2007-2008.
- News Officer, Department of Mathematics, 2007-2009.
- Web Master, Department of Mathematics (www.math.mrt.ac.lk), 2005-2009.
- Moderator: MA111-Mathematics I-2007, MA112-Mathematics II-2007, MA301-Applied Statistics-2006, MA204-Discrete Mathematics-2007, DE2380-North Indian Classical Music-2008, MA302-Numerical Methods-2008.

- Advisor, Mathematics Society, 2007-2009.
- Advisor, Classical Music Society, 2007-2009.
- Member, Time Table Committee-Faculty of Engineering, 2008.
- Member, Orientation Committee-Faculty of Engineering, 2008.
- Member, Faculty Crisis Committee-Faculty of Engineering, 2008.
- Convener, Committee to Draft a Proposal for Mentoring, Faculty of Engineering, 2008.
- Academic Advisor, Level 1-Faculty of Engineering, 2008.
- Member, Nanotechnology Steering Committee, Faculty of Engineering, 2008.
- Part-time Academic Sub Warden, Rahula Mawatha Male Hostel, 2006-2009.
- Convener, CSD committee, Faculty of Engineering, 2008.
- Level 1 Coordinator, Faculty of Engineering, 2008-2009.
- Member, Curriculum Revision Committee, Department of Mathematics, Faculty of Engineering, 2009.
- Elected Member to Represent Lecturer (Probationary) at the Faculty, Faculty of Engineering, 2009.
- L1S2 Coordinator, Department of Mathematics, Faculty of Engineering, 2009.
- Coordinator: MA1020-MA1120, Department of Mathematics, Faculty of Engineering, 2009.

EXTERNAL POSITIONS

- Education Coordinator, AFLAC international.
- Secretary, Sri Lanka Students' Association (SASA), Texas Tech University, USA, 2010.

FOUNDER ACTIVITIES

- Initiator of the Esthetic Education Unit, University of Moratuwa, Sri Lanka, 2009.
- Founder of the Mathematics Society, University of Moratuwa, Sri Lanka, 2007.
- Founder of the Classical Music Society, University of Moratuwa, Sri Lanka, 2007.
- Initiator of the first ever school science museum in Sri Lanka, Royal college, Colombo 7, Sri Lanka, 1999.
- First to join the Department of Mathematics, Faculty of Engineering, University of Moratuwa, Sri Lanka with an engineering degree.

EXTRA CURRICULAR ACTIVITIES

Music:

- **Praveshika Examination in Sitar**, conducted by the Bathkande Sangit Vidyalaya, affiliated to Bathkande Sangit Peeth, Lucknow, India-1999. Results Obtained: First Division Pass.
- Participated for the Poson Bakthi Gee at the Rupavahini Corporation, Sri Lanka, playing Tabla, 1993.
- Distinction pass for Oriental Music, GCE Ordinary Level Examination, Sri Lanka, 1995, Instrument Played-Violin.

Sports:

- Member-Hartley House Cricket team-Royal College, Colombo, Sri Lanka, 1995.
- Member-Staff Cricket Team, University of Moratuwa, Sri Lanka-2007, 2008.

HOBBIES

- Mathematics, Music, Cricket, Motorcycling