CURRICULUM VITAE

Dr. Rajitha Ranasinghe,

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EDUCATION

- **University of Central Florida** : Fall 2013 – Summer 2018
  - ➢ M.Sc, in Mathematics , GPA : 3.75/4.00 (Spring 2015)
  - ➢ Ph.D, in Mathematics , GPA : 3.813/4.00

- **Postgraduate Institute of Science, University of Peradeniya, Sri Lanka** : 2011 – 2013
  - ➢ M.Sc, diploma in Applied Statistics, GPA : 3.40/4.00

- **Faculty of Science, University of Peradeniya, Sri Lanka** : 2004 – 2008
  - ➢ B.Sc, Special Degree in Mathematics, with first class honors, GPA: 3.80/4.00.

Teaching Experience

➢**Department of Mathematics, University of Central Florida :**
   Fall 2013 to Summer 2018 : Graduate Teaching Assistant/Associate

Courses taught: Tutor for Calculus I, Instructor for Calculus 3 (4 semesters)

➢**Department of Mathematics, Faculty of Science, University of Peradeniya :**
   August 2008-November 2011 : Temporary Lecturer

➢**Department of Mathematics, Faculty of Science, University of Peradeniya :**
   November 2011-July 2013 : Probationary Lecturer

➢**Department of Mathematics, Faculty of Science, University of Peradeniya :**
   13th August 2018- present : Senior Lecturer

Courses taught :

- Classical Mechanics (for 1st year students)
- Groups, Rings, and Fields (for 2nd year students)
- Mathematical Methods (for 2rd year students)
- Linear Algebra (for 3rd year students)
- Real Analysis III (for 3rd year students)
- Number Theory (for 3rd year students)
- Numerical Analysis II (for 3rd year students)
- Complex Analysis II (for 4th and final year students)

Recently taught courses:

- Number Theory : Semester II (2018/2019), Semester I (2019/2020)
- Linear Algebra : Semester I (2019/2020), Semester I (2020/2021)
- Real Analysis III : Semester II (2019/2020)
- Complex Analysis II : : Semester I (2019/2020), Semester II (2020/2021)

Professional teaching workshops completed

➢ Mandatory training for permanent academic staff members at the Staff Development Centre (SDC), University of Peradeniya – January to April 2019

➢ Preparing tomorrow's faculty program (Summer 2015, UCF)

➢ CITI (Collaborative Institutional Training Initiative) training (UCF)

➢ Graduate Grader, Graduate Teaching Assistant, Graduate Teaching Associate online and face-to-face modules (UCF)

Awards

Department of Mathematics, University of Central Florida

- Outstanding Dissertation Award for 2018
- Graduate Presentation Fellowship, Spring 2018
- Graduate Research Excellence Award 2017
- Graduate Teaching Assistant Award 2016
- Selected to Microsoft Research PhD Fellowship 2014

University of Peradeniya

- Nominated by the University of Peradeniya to join the SLAYS (Sri Lankan Academy of Young Scientists) Open Forum 2018
- University Prize for Academic Excellence, 2008. Top of the batch in Mathematics stream

Research

- Complex Analysis: Generalizing polynomial inequalities to rational functions, Approximation theory, Complex Dynamics

- q-series: Askey-Wilson operator, Orthogonal polynomials, Special functions

- Harmonic Analysis: Weighted Fourier Frames on fractal measures

- Number Theory, Mathematical Cryptography

Publications

- P. G. R. S. Ranasinghe, Xin Li, **Bernstein type inequality for entire functions of exponential type with the Askey-Wilson operator (**Pre-print, work in progress**)**

- P. G. R. S. Ranasinghe, A. P. Madushani, **A symmetric and a transposition cipher using the Euler's totient function**, Ceylon Journal of Science, (revised version submitted on 19th September 2019).

- P. G. R. S. Ranasinghe, R. A. S. T. Abeysekara, D. M. T. B. Dissanayake, K. D. E. Dhananjaya, A. A. I. Perera, **Prime labeling of a complete tripartite graphs of the form $K_{\{1, m, n\}}$**, Elixir International Journal, May 2019.

- P. G. R. S. Ranasinghe, Xin Li, **A Bernstein type inequality for the Askey-Wilson operator**, Journal of Approximation Theory (Elsevier), Vol. 240, April 2019, 145-157.

- P. G. R. S. Ranasinghe, Dorin Dutkay, **Parseval Frames of Piecewise constant functions**, (Accepted by the Journal of Operators and Matrices on 9th May 2019)

- P. G. R. S. Ranasinghe, Xin Li, **Askey-Wilson operator on entire functions of exponential type**, Proc. of the American Mathematical Society, Vol. 146, No. 10 (2018), 4283-4292.

- P. G. R. S. Ranasinghe, Dorin Dutkay, **Weighted Fourier frames on self-affine measures**, Journal of Mathematical Analysis and Applications (Elsevier), Vol. 462 (1), 2018, 1032-1047.

- P. G. R. S. Ranasinghe, Xin Li, Ram Mohapatra, **Some Rational Inequalities Inspired by Rahaman's Research,** Progress in Approximation Theory and Applicable Complex Analysis, Springer International Publications, 2017, 105-127.

- P. G. R. S. Ranasinghe, Dorin Dutkay, **Weighted Fourier Frames on Fractal Measures,** Journal of Mathematical Analysis and Applications (Elsevier), 2016, Vol. 444, Issue 2, 1603-1625.

Conference submissions

- P. G. R. S. Ranasinghe, A. P. Madushani, **An asymmetric cryptosystem based on multiplicative trapdoor knapsack and multi-prime RSA**, RESCON: The Annual Research Congress of the Postgraduate Institute of Science, University of Peradeniya, 2019.

- P. G. R. S. Ranasinghe, A. P. Madushani, **A cryptography scheme based on multiplicative ciphers and Euler's totient function**, ICMME: Proc. of the International Conference on Mathematics and Mathematics Education 2019, p. 07.

- P. G. R. S. Ranasinghe, A. A. S. Perera, S. R. S. M. C. Samarakkody, **Geometric behavior of a certain class of quotients of finite Blaschke products**, ICMME: Proc. of the International Conference on Mathematics and Mathematics Education 2019, p. 08.

- P. G. R. S. Ranasinghe, R. A. S. T. Abeysekara, A. M. U. J. B. Abeysinghe, A. P. Madushani, S. K. O. D. Samarathunge, **Non-existence of a 3 * 3 magic square and an anti-magic square for a desired range of triangular numbers**, ICMME: Proc. of the International Conference on Mathematics and Mathematics Education 2019, p. 11.

- P. G. R. S. Ranasinghe, R. A. S. T. Abeysekara, D. M. T. B. Dissanayake, K. D. E. Dhananjaya, A. A. I. Perera, **Prime labeling of a certain class of complete tripartite graphs**, ICMME: Proc. of the International Conference on Mathematics and Mathematics Education 2019, p. 15.

- P. G. R. S. Ranasinghe, K. D. E. Dhananjaya, **An algorithm to construct Pierce continued fractions**, ICMME: Proc. of the International Conference on Mathematics and Mathematics Education 2019, p. 03.

- P.G.R.S. Ranasinghe, A.A.S. Perera, **Boundary Interpolation on the Unit Circle with Finite Blaschke Products** , Proceedings of the University Research Sessions, Sri Lanka, (2012) Vol. 17, pp. 164.

- P.G.R.S. Ranasinghe, A.A.S. Perera, **Interpolation on the Unit Circle Using Finite Blaschke Products** , Proceedings of the University Research Sessions, Sri Lanka, (2008) Vol. 13,   Part I, pp. 437-438.

Meetings attended and Talks Given

- University of Central Florida Graduate Research Forum 2016:
  - **Topic:** Some new inequalities for rational functions with prescribed poles (poster presentation)

- Analysis Seminar, University of Central Florida, Department of Mathematics (April 04th, 2017):
  - **Topic:** A Bernstein-type inequality for the Askey-Wilson operator

- AMS sectional meeting, University of Central Florida (October 1st, 2017):
  - **Topic**: A Bernstein-type inequality for the Askey-Wilson operator and related results

- AMS annual Joint Mathematics Meeting (January 13th 2018), San Diego:
  - **Topic**: Some new inequalities for rational functions with restricted zeros

- Annual joint meetings of the MAA-Florida section and FTYCMA, February 9th - 10th , 2018 at Florida Atlantic University-Davie Campus:
  - **Topic**: An application of the Askey-Wilson operator: Overconvergence

- University of Central Florida Graduate Research Forum 2018: April 3rd
  - **Topic:** The Power of the Askey-Wilson operator in generating series identities (poster presentation)

- NSF CBMS Conference: Harmonic Analysis: Smooth and Non-Smooth, Iowa State University, June 4-8, 2018

Undergraduate Student Supervision

Former Students:

- A. P. Madushani : Mathematics Honors degree program, 2019/2020
  Thesis title: Number Theory and Mathematical Cryptography

- R. A. S. T. Abeysekara : Mathematics Honors degree program, 2019/2020
  Thesis title: Applications of Complex Dynamics

- P. A. S. D. Wijerathna : Mathematics Honors degree program, 2019/2020
  Thesis title: Topics of Congruences

*The first two students have received full scholarships to pursue their postgraduate studies from University of Auckland (New Zealand) and University of Central Florida (USA) respectively.

Current Students:

- Pramodya Athurugiriya : Mathematics Honors degree program, 2020/2021
  Topic: Cryptography

- Damith Wijethunga : Mathematics Honors degree program, 2020/2021
  Topic: Continued Fractions, Analytic Number Theory

- Madusha Chathurangi : Mathematics Honors degree program, 2020/2021
  Topic: Cryptography

- Piyumi Wijesekara : Industrial Mathematics MSc Degree Program (2019/2020) at Postgraduate Institute of Science, University of Peradeniya
  Topic: Cryptography

- Chinthaka Weerarathna : MPhil Student (Started year 2020) at Postgraduate Institute of Science, University of Peradeniya
  Topic: Topics in Graph Theory and Cryptography

Professional Affiliations

- Department representative for the Faculty Safety Committee

- Department representative for the Faculty Quality Assurance cell

- Member of the Board of Science of Mathematics at the Postgraduate Institute of Science

- Coordinator, Industrial Mathematics MSc degree program (from August 2019 to present)

- Editorial committee, Organizing committee: RESCON 2019

- Department representative for **FacSciResCon 2019** (Faculty Research Congress)

- Editorial committee, Organizing committee: ICMME: Proc. of the International Conference on Mathematics and Mathematics Education 2019, March 22nd and 23rd

- Editorial committee: RESCON 2018

Referees

Professor Saluka R. Kodituwakku
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