

Mahdhivan Syafwan

PERSONAL DATA

Gender : Male
Place & date of birth : Padang, 3 August 1982
Marital status : Married

CONTACT INFORMATION

Home: Jl. Ampera No. 5 Bandar Buat Padang 25231, Indonesia
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EDUCATION

The University of Nottingham, United Kingdom

Ph.D., Applied Mathematics, October 2008 – December 2012

- Thesis: *The existence and stability of solitons in discrete nonlinear Schrödinger equations*
- Supervisor: Dr. Hadi Susanto

Bandung Institute of Technology, Indonesia

B.Sc. (with Distinction [cumlaude]), Mathematics, August 2001 – March 2005

- Thesis: *The study of convergence of least-squares estimator in stochastic regression*
- Supervisor: Dr. Udjianna S. Pasaribu

HONORS AND AWARDS

International Publication Award from LPDP, 2016

Honorable Mention on Mathematical Contest in Modeling (MCM) COMAP USA, 2005

The Best Student of Department of Mathematics ITB, 2004

Finalist on National Writing Contest for Senior High School Students, Jakarta, 1999

Finalist on National Best Student Competition for Junior High School Students, Jakarta, 1997

PROFESSIONAL EXPERIENCE

Lecturer of Mathematics, Andalas University, April 2006 – present

Post Graduate Student Teaching, The University of Nottingham, September 2009 – July 2012

Mathematics Olympiad Instructor for Junior and High School Students, some schools in West Sumatra, 2006 – present

Teacher of Mathematics for Excellence Program, SMAN Agam Cendekia, West Sumatra, August 2005 – August 2008

DEPARTMENTAL SERVICE

Vice Dean of Academic Affairs, Faculty of Mathematics and Natural Sciences, Andalas University, October 2020 – present

Head of Department of Mathematics, Andalas University, October 2016 – September 2020

Secretary of Department of Mathematics, Andalas University, September 2013 – September 2016

PUBLICATIONS

Journal publications

- G Putra, M Syafwan and H Haripamyu, *The existence and stability of onsite solitons in a driven discrete nonlinear nonlocal Schrödinger equation*, Journal of Physics: Conference Series 554(1), 012046 (2020).
- Dwi Fadhiliani, Vera Halfiani, Muhammad Ikhwan, Haves Qausar, Said Munzir, Syamsul Rizal, Mahdhivan Syafwan, Marwan Ramli, *The dynamics of surface wave propagation based on the Benjamin Bona Mahony equation*, Heliyon 6(5), e04004 (2020).

- Haves Qausar, Marwan Ramli, Said Munzir, Mahdhivan Syafwan, Hadi Susanto, and Vera Halfani, *Nontrivial on-site soliton solutions for stationary cubic-quintic discrete nonlinear Schrödinger equation*, IAENG International Journal of Applied Mathematics 50(2), pp379-383 (2020).
- Syafwan, H, Sutra, Y. Y, Alkhairi, R, Syafwan, M, Ramdhan, W, and Yusda, R. A, *Malaysian Journal of Mathematical Sciences* 13(3): 359-371 (2019).
- R. Asfa, A.F. Azadi, Z.P. Netris, and M. Syafwan, *Variational Approximations for Onsite Soliton in a Cubic-Quintic Discrete Nonlinear Schrödinger Equation* (in Indonesian), J. Math. and Its Appl. 15-2 (2018) 113-126.
- M. Syafwan, P. Kevrekidis, A.P. Mandoki, L. Hackermüller, I. Lesanovsky, P. Krüger, and H. Susanto, *Superfluid flow past an obstacle in annular Bose-Einstein condensates*, J. Phys. B: At. Mol. Opt. Phys. 49 (2016) 235301.
- M. Syafwan, *Onsite dark solitons in a parametrically driven damped discrete nonlinear Schrödinger equation*, International Journal of Applied Mathematics and Statistics 53-4, (2015) 150-159 .
- M. Syafwan, H. Susanto, S.M. Cox, and B.A. Malomed, *Variational approximations for travelling solitons in a discrete nonlinear Schrödinger equation*, J. Phys. A: Math. Theor. 45, 075207 (2012).
- M. Syafwan, H. Susanto, and S.M. Cox, *Discrete solitons in electromechanical resonators*, Phys. Rev. E 81, 026207 (2010).

Conference proceedings and book chapters

- A.F. Azadi, M. Syafwan, A. Nazra, R. Azfa, Z.P. Netrisa, *Variational Approximations for Intersite Soliton in a Ablowitz-Ladik-Cubic Discrete Nonlinear Schrödinger Equation*, KnE Engineering-International Conference on Basic Sciences and Its Applications (ICBSA-2018), 40-50
- M. Syafwan, Efendi, and N. Arifin, *Variational approximations for twisted solitons in a parametrically driven discrete nonlinear Schrödinger equation*, J. Phys.: Conf. Series 983 (2018) 012145.
- M. Zaky and M. Syafwan, *The application of afin transformation in warp and morph of colored images* (in Indonesian), Proceedings of the National Seminars of Mathematics, Padang State University, ISSN 2502-342X, 106-114 (2015).
- M. Syafwan, *Variational approximation for discrete dark solitons* (in Indonesian), Proceedings of the National Conference of Mathematics, ITS Surabaya, ISBN 978-602-96426-3-6, 891-896 (2014).
- M. Syafwan, *Stability of dark solitons in a parametrically driven discrete nonlinear Schrödinger equation* (in Indonesian), Proceedings of the National Seminar of Mathematics of Andalas University, ISBN 978-602-95343-3-7, 61-68 (2013).
- M. Syafwan, H. Susanto, and S.M. Cox, *Solitons in a parametrically driven damped discrete nonlinear Schrödinger equation*. in B.A Malomed (Ed), Spontaneous Symmetry Breaking, Self-Trapping, and Josephson Oscillations, Progress in Optical Science and Photonics Volume 1, 601-638 (Springer-Verlag, Berlin Heidelberg, 2013).
- M. Syafwan, *Variational approximations for solitons in a parametrically driven discrete nonlinear Schrödinger equation*, Proceedings of the National Seminar of Mathematics of Andalas University, ISBN 978-602-95343-2-0, 52-58 (2012).
- M. Syafwan, *Bernoulli Numbers and Its Application in the Birthday Surprise Probability* (in Indonesian), Proceedings of the National Seminar and Annual Meeting of BKS MIPA, ISBN 987-979-16545, p.m-101 (2007).

RESEARCH /
TEACHING GRANT

Andalas University (Dana BOPTN UNAND), “The existence and stability of solitons in a discrete nonlocal nonlinear Schrödinger equation using a variational method”, Jun - Dec 2019, Rp 40,000,000.
National Competitive Research Grant (Dana DIPA DRPM KEMENRISTEK DIKTI), “Variational Approximations of Solitons in a Class of Discrete Nonlinear Schrödinger Equations”, Feb - Dec 2018

(multi years), Rp 90,000,000.

Andalas University (Dana DIPA UNAND), “Teaching Innovation Grant”, Feb - July 2018, Rp 7,500,000.

Andalas University (Dana DIPA UNAND), “Teaching Innovation Grant”, Aug - Dec 2017, Rp 7,500,000.

Andalas University (Dana DIPA DRPM KEMENRISTEK DIKTI), “Development of an Optimization Model for Tsunami Evacuation in the City of Padang ”, Feb - Dec 2016, Rp 60,000,000.

Andalas University (Dana DIPA UNAND), “Teaching Innovation Grant”, Aug - Dec 2015, Rp 7,500,000.

Andalas University (Dana DIPA UNAND), “The analytical and numerical studies of traveling solitons in discrete nonlinear Schrödinger equations”, No. 01/UN.16/PL/S2,S3/2015, Jun - Dec 2015, Rp 50,000,000.

Andalas University (Dana DIPA UNAND), “The existence and stability of dark solitons in a parametrically driven and damped discrete nonlinear Schrödinger equation”, No. 11/UN.16/PL/US2,S3/2014, March - December 2014, Rp 50,000,000.

Faculty of Mathematics and Natural Sciences, Andalas University (Dana DIPA FMIPA), “Stability of solitons in a discrete nonlinear Schrödinger equation with linear potential”, No. 004/UN16.03.D/PG/2013, September - December 2013, Rp 4,800,000.

University of Nottingham (EPSRC Research Development Fund – Bridging the Gaps), “Creating dark and bright solitons through accelerated transport of an impurity in a Bose-Einstein Condensate”, 1/1-30/6 2012, PI: Lucia Hackermüller, GBP 2,000.

CONFERENCE

The National Conference on Mathematics, Brawijaya University, Malang, 24-25 July 2018 (contributed talk).

International Conference on Mathematics, Science, and Education (ICMSE), Semarang, 18-19 September 2017 (contributed talk).

The 4th International Conference on Mathematical Sciences, Putrajaya - Malaysia, 15-17 November, 2016 (contributed talk).

The National Conference on Mathematics, University of Riau, 2-4 November 2016 (contributed talk).

The National Seminar and Annual Meeting of BKS MIPA, University of Sriwijaya, 22-24 Mei 2016 (contributed talk).

The 3rd Conference on Industrial and Applied Mathematics, ITB Bandung, 11-13 October 2015 (contributed talk).

Clay Mathematics Institute Research Conference, Mathematical Institute of the University of Oxford UK, 30 September 2015 (participant).

The International Conference on Statistics and Mathematics, ITS Surabaya, 27-28 November 2014 (contributed talk).

The National Seminar of Mathematics, Riau University, 21-22 November 2014 (contributed talk).

The National Seminar of Mathematics, Andalas University, 20 October 2014 (contributed talk).

The National Conference on Mathematics, ITS Surabaya, 11-14 June 2014 (contributed talk).

The National Seminar of Mathematics, Andalas University, 30 September 2013 (contributed talk).

9th East Asia SIAM Conference-2nd Conference on Industrial and Applied Mathematics (EASIAM-CIAM) 2013, Bandung Institute of Technology, 18-20 June 2013 (contributed talk).

The National Seminar of Mathematics, Andalas University, 31 October 2012 (contributed talk).

5th Oxford University SIAM Student Chapter Conference, Oxford University, 23 February 2012 (poster).

Equadiff 2011, Loughborough University, 1-5 August 2011 (participant).

Maths2010, Maxwell Inst. for Math. Sciences, University of Edinburgh, 6-9 April 2010 (contributed talk).

Engineering Mechanical Symposium, The Spencer Institute, University of Nottingham, 19 May 2010 (poster).

British Applied Mathematics Colloquium (BAMC), University of Nottingham, 7-9 April 2009 (participant).

MAGIC Postgraduate Student Conference, University of Manchester, 12-14 January 2009 (participant).

The National Seminar and Annual Meeting of BKS MIPA, UIN Syarif Hidayatullah, 9 Juli 2007 (contributed talk).

SHORT COURSE, TRAINING, VISIT AND WORKSHOP

Research Fellow: Graduate School of Environmental and Life Science, Okayama University, Japan (27 July - 9 August 2018)

Workshop: *Nonlinear Waves: Theoretical and Numerical Modelling*, Dept. of Mathematics Brawijaya University, 22-24 August 2016 (invited instructor).

Seminar Series: *A numerical study of dark solitons in a parametrically driven damped discrete nonlinear Schrödinger equation*, Dept. of Mathematical Sciences, The University of Essex, UK, 1 October 2015 (invited speaker).

Workshop: *A brief introduction and numerical analysis of solitary waves*, Dept. of Mathematics Andalas University, 5 August 2015 (participant).

Workshop: *Spatio-temporal modelling*, ITS Surabaya, 9-10 June 2014 (participant).

Guest Lecture: *The beauty of differential equations*, Department of Mathematics Education, STAIN Bukittinggi, 23 May 2014 (invited speaker).

Training: *Paper Authorship and Proposal Writing Training*, Indonesian Chemical Society (HKI) and Civilian Research & Development Foundation (CRDF) Global, Denpasar, 14-17 May 2013 (participant).

Workshop: *Quantum Correlations Students Workshop (QUACS)*, School of Physics and Astronomy—The University of Nottingham, 1-3 July 2012 (contributed talk)

Journal Club: *Numerical continuation package MATCONT*, School of Mathematical Sciences—The University of Nottingham, 3 October and 21 November 2011 (participant).

Short course: *Ultracold atom MUARC Winter School*, The University of Nottingham, 13-15 December 2009 (participant).

Training: *Supporting PGs who Teach Mathematics and Statistics*, School of Mathematical Sciences—The University of Nottingham, 23 September 2009 (participant).

Research Workshop Geo-Mathematics: *Inverse Modeling in the Natural Sciences*, LABMATH Indonesia, 15-26 January 2007 (participant).

Workshop: *Mathematical Modelling*, Department of Mathematics Andalas University, 15-16 March 2007 (speaker).

Workshop: *Management of Laboratory*, Laboratory of Environmental Analysis Chemistry FMIPA Unand and PPKSDM Ditjen Dikti, 7 December 2006 (participant).

MEMBERSHIP

The Indonesian Mathematical Society (2013 – now)

REFERENCE

Prof. Dr. Hadi Susanto

Professor of Mathematics, University of Essex (UK) and Khalifa University (UAE).