

CURRICULUM VITAE



Personal Details

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| Name | Dr. Moa'ath Oqielat |
| Date of Birth | 1 of July 1981 |
| Email | moaath.oqielat@bau.edu.jo |
| Address | Department of Mathematics, Faculty of Science, Al-Balqa Applied University, Al-Salt 19117, Jordan |
| Marital Status | Married |
| Languages | English and Arabic |
| Nationality: | Jordanian & Australian |

Degrees and Professional Qualifications

- Ph.D.** Mathematical Modelling & Numerical Simulation. Queensland University of Technology (QUT), Australia, 2009.
Thesis Topic: Modelling Water Droplet Movement on Leaf Surface.
- M. Sc.** Pure Mathematics, (Complex Analysis). National University of Malaysia (UKM), Malaysia, 2005.
Thesis Topic: Certain Classes of Meromorphic P-Valent Functions with Positive Coefficients.
- B.App.Math.** Applied mathematics, Jordan University of Science and Technology (JUST), Jordan, 2003.

Academic Awards/ Achievements

- University Outstanding PhD Thesis award in applied Mathematics, QUT, Australia, 2009 (See attached report).
- First class honors in Master Degree, 2005.

Computer Skills

- Mathematics Packages: Matlab & Maple
- General Skills: ICDL & Latex

Professional Experience

2014- Present: Lecturer, Department of Mathematics, Al-Balqa Applied University.

June -Aug. 2014: Lecturer, Department of Mathematics, Jordan University of Science & Technology.

2012-2014: Lecturer, School of mathematical Science, Australia.

2010-2011: Lecturer, Department of Mathematics, Al-Albait University.

2009-2010: Tutor, School of Mathematical Sciences, Queensland University Of Technology, Australia.

2003-2004: Teacher of mathematics, Ministry of education, Jordan.

Courses I have taught

- Calculus I
- Calculus II
- Fundamental to mathematics
- Intermediate Analysis
- Linear Algebra
- Numerical Analysis I
- Numerical Analysis II

Specialization

- Applied Mathematics (Modelling)

Research Interests

- Mathematical Modelling and Numerical Simulation.
 - Modelling water droplet movement on a leaf surface.
 - Development of sophisticated surface fitting techniques for biological system.
 - Application of numerical analysis to surface fitting techniques for the construction and reconstruction of plant images.
- Estimation of the gradient from discrete function values.
- Complex analysis (Certain classes of meromorphic p-valent functions).

List of Publications

- 1- Moa'ath Nasser and M. Darus. 2006. Certain classes of meromorphic p-valent functions with positive coefficients. **Tamkang J. Math.** 37(3):251-260.
- 2- M.N. Oqielat, J.A. Belward, I.W. Turner, and B.I. Loch. A Hybrid Clough-Tocher Radial Basis Function Method for Modelling Leaf Surfaces. In Oxley, L. and Kulasiri, D. (eds) MODSIM 2007 International Congress on Modelling and Simulation. **Modelling and Simulation Society of Australia and New Zealand**, December 2007, pp. 400-406. ISBN : 978-0-9758400-4-7. http://mssanz.org.au/MODSIM07/papers/7_s50/.
- 3- J.A. Belward, I.W. Turner, and M.N. Oqielat. Numerical Investigations of Linear Least Squares Methods for Derivatives Estimation. **CTAC 06 Computational Techniques and applications conference, Australia**, July, 2008.
- 4- M.N. Oqielat, I.W. Turner, and J.A. Belward. A Hybrid Clough-Tocher Method for Surface Fitting with Application to Leaf Data. **Applied Mathematical Modelling**, 33:2582–2595, 2009. <http://dx.doi.org/10.1016/j.apm.2008.07.023>
- 5- I.W. Turner, J.A. Belward, and M.N. Oqielat. Error Bounds for Least Squares Gradient Estimates. **SIAM Journal on Scientific Computing**, 2010.
- 6- M.N. Oqielat, I.W. Turner, J.A. Belward, and S.W. McCue. Water Droplet Movement on a Leaf Surface. **Mathematics and Computer in Simulation**, 2011.
- 7- O. Ogilat, Y. Stepanyants and M. N. Oqielat. Minimising internal wave generation past steadily moving flat platform in two-layer fluid of finite depth. To be submitted to the **journal Physics of Fluids**, 2014.

Conferences Presentations & Attendance

- Presenting work entitled "Surface fitting techniques for biological systems" at the 2006 School of Mathematical Sciences Postgraduate Research Day, 9 June 2006.
 - Presenting work entitled "Surface fitting techniques for biological systems" at the 2006 QANZIAM Meeting, Stanthorpe, 9-10 September, 2006.
 - Attending the Australian Partnership for Advance Computing, Summer School in Computational Science at QUT from 4-8 December 2006.
 - Presenting work entitled "A Hybrid Clough-Tocher Radial Basis Function Method for Modelling Leaf Surfaces" at the MODSIM 2007 International Congress on Modelling and Simulation, New Zealand, December 2007.
 - Presenting work entitled "A Hybrid Clough-Tocher Radial Basis Function Method for Modelling Leaf Surfaces" at the 2007 School of Mathematical Sciences Postgraduate Research Day, 9 June 2007.
 - Presenting a poster entitled "A New Hybrid Clough-Tocher Radial basis function Method For Modelling Leaf Surface" at the QUT Postgraduate and Research Showcase, 13 September, 2007.
 - Presenting work entitled "Simulating Water Droplet Movement on a Leaf surface " at the 2008 School of Mathematical Sciences Postgraduate Research Day, 6 June 2008.
 - Presenting work entitled "Modelling Water Droplet Movement on a Leaf surface " at the 2009 School of Mathematical Sciences Postgraduate Research Day, 6 June 2009.
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Referees

1. Professor Ian Turner

Position : Head of School of Mathematical Science, QUT.

Relationship : Ph.D. Supervisor.

Phone : +61 7 3138 2259

Fax : +61 7 3138 2310

Email : i.turner@qut.edu.au

Postal Address : School of Mathematical Sciences, QUT, GPO Box
2434, Brisbane Qld 4001.

2. Professor John Belward

Position : Lecturer at the QUT.

Relationship : Ph.D. Associate Supervisor.

Phone : +61 7 3138 6194

Fax : +61 7 3138 1329

Email : j.belward@qut.edu.au

Postal Address : School of Mathematical Sciences, QUT, GPO Box
2434, Brisbane Qld 4001.

3. Professor Maslina Darus

Position : Head of School of Mathematical Science,
National University of Malaysia.

Relationship : Master Degree Supervisor.

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PhD Examiner report

Review of PhD Thesis

Modelling Water Droplet Movement on a Leaf Surface

By Moa'Ath Oqielat

Overall Assessment

This is an excellent thesis, indeed it is the best I have examined. There is a delightful mix of complex theory, approximation, application to a real problem and experiments, overall the perfect Applied Mathematics PhD.

The thesis develops a new model for the movement of a water droplet on a leaf surface and compares this to experimental data. To be able to do this first a representation of a real leaf surface is determined. This section includes some quite technical aspects that are carefully developed and explained. A novel use of thin-film theory is then used to track the progress of the droplet along the leaf surface mathematically.

I have not previously examined a thesis by publication and thought before I started that it would result in a stilted and patchy document. To my surprise this thesis was none of those and flowed from one publication to the next as any other good thesis does. The introductory and concluding sections nicely brought each of the publications into the flow of the thesis. The literature review is excellent.

Outstanding Thesis Nomination

This student should be nominated for a University Outstanding Thesis Award

Yes **No**