

Raphael Stuhlmeier

- CONTACT INFORMATION** Department of Civil & Environmental Engineering <http://tx.technion.ac.il/~raphaels>
Technion – Israel Institute of Technology *Email:* raphaels@technion.ac.il
32000 Haifa, Israel *Citizenship:* Austrian
- EMPLOYMENT** **Postdoctoral Fellow**
2014 – present
Technion – Department of Civil & Environmental Engineering
Division of Environmental, Water & Agricultural Engineering
- Research Assistant**
2011-2014
University of Vienna – Faculty of Mathematics
- EDUCATION** **Doctoral Studies in Mathematics** (Ph.D.)
2010 - 2014
Advisor: Prof. Adrian Constantin
University of Vienna, Vienna, Austria
Thesis: “Some investigations of nonlinear water waves with vorticity: exact and approximate theories”.
- Diploma Studies in Mathematics** (Mag. rer. nat.)
2005 - 2010
University of Vienna, Vienna, Austria
Thesis: “On surface water waves and tsunami propagation”
- PUBLICATIONS**
11. R. Stuhlmeier and M. Stiassnie, Adapting Havelock’s wave-maker theorem to acoustic-gravity waves, *IMA J. Appl. Math.*, **81** (2016), 631–646.
 10. M. Stiassnie, U. Kadri and R. Stuhlmeier, Harnessing wave-power in open seas *J. Ocean Eng. Marine Energy*, **2** (2016), 47-57.
 9. R. Stuhlmeier, Particle paths in Stokes’ edge wave *J. Nonlinear Math. Phys.*, **22** (2015), 507 - 515 .
 8. R. Stuhlmeier, On Gerstner’s water wave and mass transport, *J. Math. Fluid. Mech.*, **17** (2015), 761–767.
 7. R. Stuhlmeier, Internal Gerstner waves on a sloping bed *Discrete Contin. Dyn. Syst. Ser. A*, **34** (2014), 3183 - 3192.
 6. M. Stiassnie and R. Stuhlmeier, Progressive waves on a blunt interface *Discrete Contin. Dyn. Syst. Ser. A*, **34** (2014), 3171 - 3182.
 5. R. Stuhlmeier, Internal Gerstner waves: applications to dead water *Applicable Analysis*, **93** (2014), 1451–1457.
 4. R. Stuhlmeier, On constant vorticity flows beneath two-dimensional surface solitary waves, *J. Nonlinear Math. Phys.*, **19** (2012), 1240004
 3. R. Stuhlmeier, Effects of shear flow on KdV balance - applications to tsunami, *Commun. Pure Appl. Anal.*, **11** (2012), 1549-1561

2. R. Stuhlmeier, On edge waves in stratified water along a sloping beach
J. Nonlinear Math. Phys., **18** (2011), 127-137

1. R. Stuhlmeier, KdV theory and the Chilean tsunami of 1960,
Discrete Contin. Dyn. Syst. Ser. B, **12** (2009), 623-632

PREPRINTS 12*. D. Xu, R. Stuhlmeier and M. Stiassnie,
Power balance for semi-infinite line arrays of wave energy converters, *submitted*.

13*. D. Xu, R. Stuhlmeier and M. Stiassnie,
Parameter based design of a twin-cylinder wave energy converter for real sea-states,
submitted (arXiv:1605.00428).

CONFERENCES & TALKS **Symposium “Mathematics, waves and geophysical flow”**
December 15–16, 2016, University of Bremen, Germany
Poster presentation: *Havelock’s theory for acoustic-gravity waves in deep water*

2016 Burgers Research School on Fluid Dynamics
June 6 – 10, 2016, University of Maryland, College Park, MD, USA
Poster presentation: *Wave-power harvesting in open seas*.

Department Seminar
May 16, 2016, School of Mechanical Engineering, Tel Aviv University, Israel
Presentation: *Havelock’s theory for acoustic-gravity waves in deep water*

Department Seminar
February 11, 2016, School of Mathematical Sciences, UCC, Cork, Ireland
Presentation: *Large-scale wave power harvesting in deep water*

Water Wave Dynamics
June 1–5, 2015, Faculty of Mathematics, Vienna, Austria
Invited presentation: *On acoustic-gravity waves*

Department Seminar
March 3, 2015, Faculty of Civil & Environmental Engineering
Technion – Israel Institute of Technology, Haifa, Israel
Presentation: *Wave-power harvesting in open seas*

Seminar – Waseda Lab
November 25, 2014, Department of Ocean Technology, Policy and Environment
University of Tokyo, Japan
Presentation: *Interfacial Gerstner waves*

Mathematical Colloquium
October 16, 2013, Department of Mathematics, University of Linköping, Sweden
Presentation: *Interfacial Gerstner waves*

CIME Course “Nonlinear Water Waves”
June 24–28, 2013, Centro Internazionale Matematico Estivo, Cetraro, Italy
Presentation: *On some aspects of Gerstner’s water wave:
A review of recent developments*

Solitons in Two-Dimensional Water Waves and Applications to Tsunami
NSF/CBMS Regional Conference in the Mathematical Sciences

May 20–24, 2013, The University of Texas - Pan American
Presentation: *On constant vorticity flows beneath two-dimensional surface solitary waves*

Mathematical Aspects of Water Waves

March 15–17, 2012, King's College London, UK
Invited presentation: *On constant vorticity flows beneath two-dimensional surface solitary waves*

IMA Conference on Nonlinearity and Coherent Structures

July 6–8, 2011, University of Reading, UK
Presentation: *Effects of shear flow on KdV balance - with applications to tsunamis*

European Geosciences Union General Assembly 2011

April 3–8, 2011, Vienna, Austria
Ocean Sciences 2.1 – Open Session on Coastal and Shelf Seas
Poster presentation: *Exact edge waves and stratified flow*

Second Summer School on Analysis – *Spectral Theory and PDE*

September 13–17, 2010, Leibniz Universität Hannover, Germany
Poster presentation: *Mathematical Aspects of Tsunami Modeling*

European Geosciences Union General Assembly 2010

May 2–7, 2010, Vienna, Austria
Ocean Sciences 21 – Recent developments in tsunami modeling and forecasting
Co-chair (with C. Synolakis)
Poster presentation: *Applicability of KdV theory to tsunami modeling*

SCHOLARSHIPS & GRANTS Lady Davis Postdoctoral Fellowship

Technion – Faculty of Civil & Environmental Engineering
September 2014 – September 2015

Technion Postdoctoral Fellowship

Technion - Faculty of Civil & Environmental Engineering
February 2014 – September 2016

NSF Funded Participant

NSF/CBMS Regional Conference in the Mathematical Sciences
“Solitons in Two-Dimensional Water Waves and Applications to Tsunami”
May 20–24, 2013

Performance Scholarship (“Leistungsstipendium”)

University of Vienna, 2010

TEACHING Teaching Assistant: “Differential Equations”
Technion International School, Fall 2016

Lecturer: “Calculus Refresher for Hydrodynamics”
Technion International School, Spring 2016

Lecturer: “Advanced Topics in Environmental Science”
Technion, Faculty of Civil & Environmental Engineering, Fall 2015, 2hrs

PROFESSIONAL ACTIVITIES **TAU-Technion Water Waves Seminar** (Organizer and initiator)
Jointly with School of Mechanical Engineering, Tel-Aviv University.

Reviewer:

Nonlinear Analysis: Theory, Methods, & Applications
European Journal of Mechanics – B
Journal of Geophysical Research: Oceans
Zeitschrift für Angewandte Mathematik und Physik
Nonlinear Analysis: Real World Applications
AMS Mathematical Reviews

Society membership: SIAM.

RESEARCH VISITS Department of Applied Mathematics, School of Mathematical Sciences,
University College Cork, Ireland
February 2016

Department of Ocean Technology, Policy and Environment,
University of Tokyo, Japan
November 2014

Faculty of Mathematics, University of Vienna, Austria
September 2014

Department of Mathematics, University of Linköping, Sweden
October 2013

NOAA/NWS Pacific Tsunami Warning Center,
September 2009

Department of Ocean and Resources Engineering, SOEST
University of Hawaii at Manoa, September 2009