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| CONTACT<br>INFORMATION   | American University of Sharjah<br>Department of Mathematics and Statistics<br>PO Box 26666<br>Sharjah, United Arab Emirates  | +971 (0)6 515-2906<br>www.radnell.org<br>dradnell@aus.edu |
| EDUCATION                | <p><b>Rutgers University</b> <span style="float: right;">New Brunswick, NJ, USA</span><br/>         Doctor of Philosophy, Department of Mathematics <span style="float: right;">10/2003</span><br/> <i>Advisor:</i> Professor Yi-Zhi Huang<br/> <i>Title:</i> Schiffer Variation in Teichmüller Space, Determinant Line Bundles<br/>         and Modular Functors</p> <p><b>University of Queensland</b> <span style="float: right;">Brisbane, Australia</span><br/>         Bachelor of Science (First Class Honours) in Mathematics <span style="float: right;">12/1995</span><br/> <i>Thesis Advisor:</i> Professor Anthony Bracken<br/> <i>Title:</i> Quasi-Exactly Solvable Models in Quantum Mechanics</p>   |   |
| EMPLOYMENT<br>AND AWARDS | <p><b>American University of Sharjah</b> <span style="float: right;">Sharjah, UAE</span><br/>         Assistant Professor of Mathematics <span style="float: right;">08/2006 - present</span></p> <p><b>University of Michigan</b> <span style="float: right;">Ann Arbor, USA</span><br/>         Hildebrandt Assistant Professor <span style="float: right;">09/2003 - 08/2006</span></p> <p><b>Max Planck Institute for Mathematics</b> <span style="float: right;">Bonn, Germany</span><br/>         Visitor <span style="float: right;">09/2004 - 08/2005</span></p> <p><b>Rutgers University</b> <span style="float: right;">New Brunswick, NJ, USA</span><br/>         Graduate Assistant (NSF support) <span style="float: right;">2002 - 2003</span><br/>         Teaching Assistant <span style="float: right;">1997-2001</span><br/>         Summer Session Instructor <span style="float: right;">1999, 2001, 2002</span></p> |   |
| GRANTS                   | <p><b>National Research Foundation (UAE)</b></p> <ul style="list-style-type: none"> <li>• Research and Scholarship Award <span style="float: right;">2010 - 2012</span><br/>             (award made but funding pending)<br/> <i>Interactions between geometry, complex analysis and conformal field theory</i></li> </ul> <p><b>American University of Sharjah</b> <span style="float: right;">Sharjah, UAE</span></p> <ul style="list-style-type: none"> <li>• Professional Development (Travel) Grants <span style="float: right;">2007,08,09,10</span></li> <li>• Faculty Research Grant <span style="float: right;">2007/2008</span></li> </ul>  |   |
| RESEARCH<br>INTERESTS    | Complex analytic theory of Teichmüller and moduli spaces of Riemann surfaces. Mathematical foundation and construction of conformal field theory. Determinant line bundles, modular functors and vertex operator algebras.<br>MSC2000: 32G15, 81T40, 17B69, 30F60, 46G20   |   |
| TEACHING<br>EXPERIENCE   | Fifteen years experience teaching mathematics courses at all undergraduate levels. This has included 14 different courses for business, engineering, mathematics, science and liberal arts majors.   |   |

## PUBLICATIONS

*The semigroup of rigged annuli and the Teichmüller space of the annulus*, (with E. Schippers), submitted to Transactions of the American Mathematical Society on 11/2009. (Preprint: arXiv:1001.5211)

*A fiber structure for the Teichmüller space of bordered Riemann surfaces*, (with E. Schippers), Conformal Geometry and Dynamics (an electronic journal of the American Mathematical Society), **14** (2010), 14–34.

*A complex structure on the set of quasiconformally extendible non-overlapping mappings into a Riemann surface*, (with Eric Schippers), Journal d'Analyse Mathématique, Vol. 108, **No. 1.** (2009), 277–291.

*A complex structure on the moduli space of rigged Riemann surfaces*, (with E. Schippers), Journal of Geometry and Symmetry in Physics, Vol 5 (2006), 82–94 (special issue dedicated to the proceedings of the XXIV Workshop on Geometric Methods in Physics, Bialowieza, Poland, 2005).

*Quasisymmetric sewing in rigged Teichmüller space*, (with E. Schippers), Communications in Contemporary Mathematics, Vol 8, No 4 (2006) 481–534.

*Schiffer Variation in Teichmüller Space, Determinant Line Bundles and Modular Functors*, 153 pages, PhD Thesis, Rutgers University, Oct 2003.

## INVITED

DEPARTMENTAL  
TALKS.

Lie Group/Quantum Mathematics Seminar, Rutgers University, NJ, USA. 08/2010  
*Applications of Infinite-dimensional Teichmüller theory to conformal field theory*

Mathematics Seminar, Nanyang Technological University, Singapore. 08/2009  
*Fiber structure of Teichmüller space.*

Topology Seminar, University of Notre Dame, IN, USA. 04/2006  
*Rigged moduli spaces and mapping class group actions.*

Mathematics Colloquium, University of Manitoba, Canada. 03/2006  
*Moduli spaces in conformal field theory.*

Dynamics and Global Analysis Seminar, University of Chicago, IL, USA. 02/2006  
*The determinant line bundle over rigged Teichmüller space.*

Geometric Analysis Seminar, Purdue University, IN, USA. 04/2004  
*Complex geometric problems in conformal field theory.*

Nonlinear Systems Seminar, Stevens Institute of Technology, NJ, USA. 12/2002  
*Geometry and analysis in conformal field theory.*

## INVITED

CONFERENCE  
TALKS

19th Seminar on Mathematical Analysis and its Applications, Mazandaran University, Iran. 02/2011  
*Sewing in Teichmüller space.*

CMS-MITACS Joint Conference, Winnipeg, Canada. 05/2007  
Special Session on Complex Function Theory.  
*Interactions between conformal field theory and Teichmüller spaces.*

AMS Special Session on Representations of Infinite Dimensional Lie Algebras and Mathematical Physics, Bloomington, IN, USA. 04/2003.  
*Schiffer variation in Teichmüller space and determinant line bundles.*

CONTRIBUTED  
TALKS

- Teichmüller Theory and its Interactions in Mathematics and Physics,  
Centre de Recerca Matemàtica, Bellaterra, Spain. 06/2010  
*Applications of conformal field theory to Teichmüller theory*
- Geometry and Quantum Field Theory, Max Planck Institute for Mathematics, Bonn.  
*From infinite-dimensional Teichmüller theory to conformal field theory and back.* 06/2010
- The First International Conference on Mathematics and Statistics, AUS-ICMS'10  
American University of Sharjah, UAE. 03/2010  
*The semigroup of rigged annuli and the Teichmüller space of the annulus*
- The 6th International Conference on Computational Methods and Function Theory,  
Ankara, Turkey. 06/2009  
*A fiber structure and coordinates for the Teichmüller space of bordered Riemann surfaces.*
- Xth International Conference on Geometry, Integrability and Quantization,  
Varna, Bulgaria. 05/2008  
*A fiber structure of Teichmüller space and conformal field theory.*
- 6th United Arab Emirates Mathday, Abu Dhabi, UAE. 04/2008  
*Conformal field theory for analysts.*
- XIVth Oporto Meeting on Geometry, Topology and Physics, Portugal. 06/2005.  
*Sewing in rigged Teichmüller space and conformal field theory.*
- XXIVth Workshop on Geometric Methods in Physics,  
Białowieża, Poland. 06/2005.  
*Quasisymmetric sewing in rigged moduli space.*
- Computational Methods and Function Theory, Joensuu, Finland, 05/2005.  
*Sewing in rigged Teichmüller space and conformal field theory.*
- XIIth International Congress of Mathematical Physics, Brisbane, Australia, 06/1997.  
Poster Presentation: *Perturbations of a Luttinger type Hamiltonian from models of the fractional Hall effect.*

SERVICE

Brief overview:

- Actively served on a wide range of committees at the departmental, college and university levels.
- Took a major role in organizing the international mathematics conference AUS-ICMS'10 with over 300 participants.
- Started the undergraduate mathematics club at the American University of Sharjah as well as a yearly mathematics competition.
- Wrote reviews for Mathematical Reviews (MathSciNet).