

# Ricardo Buring

## Curriculum Vitae

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## Education

- 2013 – 2017 **Master of Science in Mathematics**, *University of Groningen*, The Netherlands.  
Thesis: *Kontsevich graphs and their weights in deformation quantization of Poisson structures*.  
Supervisor: Dr. A.V. Kiselev.
- 2010 – 2013 **Bachelor of Science in Mathematics**, *University of Groningen*, The Netherlands.  
Thesis: *An explicit algebro-geometric proof of Poncelet's closure theorem*.  
Supervisor: Prof. dr. J. Top.
- 2009 – 2010 **Propedeuse in Computer Science**, *Hanzehogeschool Groningen*, The Netherlands.
- 2004 – 2009 **Higher General Secondary Education (HAVO)**, *Zernike College*, The Netherlands.

## Experience

### Teaching

- 2017 – now **Teaching assistant**, *University of Groningen*, The Netherlands.  
Geometry & Differential Equations (mathematics, masters course).
- 2014 – 2015 **Mentor**, *University of Groningen*, The Netherlands.  
Mentoring a group of first year students.
- 2013 – 2015 **Teaching assistant**, *University of Groningen*, The Netherlands.  
Propaedeutic project (mathematics, first year).
- 2013 – 2016 **Private tutor** (freelance), The Netherlands.  
Teaching group theory and analysis on manifolds to mathematics students (one-on-one).

### Computer programming

- 2010 – 2015 **Web application developer** (project-based), *G4S*, The Netherlands.  
Developed several web applications. Details available upon request.

## Committees

- 2014 – 2016 **Mathematics Programme Committee**, *University of Groningen*, The Netherlands.  
Served as a student member 2014 – 2015, and as student chairman 2015 – 2016.  
Organized the *Mathematics Pizza Meeting on Motivation*, with  $\approx 40$  attendees.
- 2014 – 2015 **Mathematics Alumni Day Committee**, *FMF study association*, The Netherlands.  
Organized the *Mathematics Alumni Day 2015*.

## Talks at conferences

- May 3, 2017 **Junior Geometry and Topology seminar**, Oxford, United Kingdom.  
Organized by the Mathematical Institute of the University of Oxford.  
Talk title: *Integrating without integrating: weights of Kontsevich graphs*.

- April 7, 2017 **Intercity Number Theory Seminar**, Groningen, The Netherlands.  
Organized by the Dutch mathematics cluster DIAMANT.  
Talk title: *Relations among Kontsevich graph weight integrals.*
- October 19 – 21, 2016 **Symposium on Advances in Semi-Classical Methods in Mathematics and Physics**, Groningen, The Netherlands.  
Organized by the Johann Bernoulli Institute for Mathematics and Computer Science (JBI) and the Van Swinderen Institute for Particle Physics and Gravity (VSI) of the University of Groningen.  
Talk title: *The Hunting of the Star-product.*
- June 12 – 17, 2016 **Group Analysis of Differential Equations and Integrable Systems**, Larnaca, Cyprus.  
Workshop organized by the Department of Mathematics and Statistics of the University of Cyprus and the Department of Applied Research of the Institute of Mathematics of the National Academy of Sciences of Ukraine.  
Talk title: *The explicit associativity mechanism for Kontsevich's  $\star$ -product up to orders 3 and 4.*
- August 3 – 7, 2015 **Symmetries of Discrete Systems and Processes III**, Děčín, Czech Republic.  
Conference organized by the Czech Technical University in Prague.  
Talk title: *Deformation quantization of variational Poisson structures: examples.*

## Schools attended

- November 28 – 30, 2016 **GQT Graduate School and Colloquium**, Den Dolder, The Netherlands.  
Organized by the Geometry and Quantum Theory (GQT) cluster.  
Courses taken:
  - *Toric varieties and equivariant vector bundles* by M. Kool,
  - *Noncommutative geometry and gauge theories* by W. van Suijlekom & F. Arici,
  - *Modular forms* by G. van der Geer.
- September 8 – 12, 2014 **The 3rd Summer School on Geometry of Differential Equations**, Malenovice, CZ.  
Organized by the Mathematical Institute of Silesian University in Opava.  
Courses taken:
  - *Differential Invariants* by V.V. Lychagin,
  - *Riemann Surfaces and Soliton Equations* by A.E. Mironov.

## Languages

- English Fluent.  
German Elementary proficiency.  
Dutch Native.

## Computer skills

- OS FreeBSD, Linux (various distributions), Windows.  
Programming Python, C++, C, SQL, PHP, JavaScript. Parallel programming using BSP.  
Web HTML, CSS.  
Scientific Sage, Mathematica, Maple, MATLAB.  
RCS Git.  
Typesetting  $\LaTeX$ .  
Graphics GIMP.  
Video editing Editing HD video for YouTube using Kdenlive, ffmpeg.

## Publications and preprints

- [1] A. Bouisaghouane, R. Buring, and A.V. Kiselev. The Kontsevich tetrahedral flows revisited. *J. Geom. Phys (submitted)*, 2017. Preprint [arXiv:1608.01710 \[q-alg\]](#) — 26 p.
- [2] R. Buring. An explicit algebro-geometric proof of Poncelet's closure theorem. Bachelor's thesis, University of Groningen, 2013 — 36 p.
- [3] R. Buring. Kontsevich graphs and their weights in deformation quantization of Poisson structures. Master's thesis, University of Groningen, 2017 — 100 p.
- [4] R. Buring and A.V. Kiselev. Software modules and computer-assisted proof schemes in the Kontsevich deformation quantization. Preprint [arXiv:1702.00681 \[math.CO\]](#) — 60 p.
- [5] R. Buring and A.V. Kiselev. The table of weights for graphs with  $\leq 3$  internal vertices in Kontsevich's deformation quantization formula. (3rd International workshop on symmetries of discrete systems & processes, 3–7 August 2015, CVUT Dčín, Czech Republic) — 3 p.
- [6] R. Buring and A.V. Kiselev. On the Kontsevich  $\star$ -product associativity mechanism. *Physics of Particles and Nuclei Letters*, 14(2):403–407, 2017. Preprint [arXiv:1602.09036 \[q-alg\]](#) — 4 p.

Date: March 21, 2017.