

Curriculum Vitae

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Dr. Graham de Ruiter

Technion – Israel Institute of Technology
Schulich Faculty of Chemistry
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1. Professional Experiences

Assistant Professor of Chemistry

Technion – Israel Institute of Technology, Haifa, Israel

2017 – Present

Post-Doctoral Researcher

California Institute of Technology, Pasadena, United States

2014 – 2017

Advisor: Prof. Theodor Agapie

2. Higher Education

Ph.D. in Chemistry

Weizmann Institute of Science, Rehovot, Israel

2008 – 2014

Advisor: Prof. Milko E. van der Boom

M.Sc. in Chemistry (*Cum Laude*)

Leiden University, Leiden, The Netherlands

2006 – 2008

Advisor: Prof. Jan Reedijk

B.Sc. in Chemistry

Leiden University, Leiden, The Netherlands

2003 – 2006

3. Awards and Recognitions

- Azrieli Fellow **2017**
 - Feinberg Graduate School (FGS) Dimitris N. Chorafas Prize **2013**
 - International Precious Metal Institute (IPMI) Sabin Metal Corporation Student Award **2013**
 - Israel Chemical Society (ICS) Prize for Excellent Graduate Student **2011**
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4. Research Interests

Application of Coordination Chemistry in Surface Chemistry & Catalysis * Self Assembly * Chemistry of Transition Metal Complexes * Organometallic Chemistry * Bioinorganic Chemistry * Small Molecule Activation * Green Chemistry * Bio-Inspired Chemistry * Small Molecule Activation

5. Publications

22. **Graham de Ruiter**, Kurtis M. Carsch, Michael K. Takase, and Theodor Agapie
[Selectivity of C–H vs. C–F Bond Oxygenation by Homo- and Heterometallic Fe₄, Fe₃Mn, and Mn₄ Clusters](#)
Chemistry – A European Journal, **2017**, *45*, 10744-10748
-
21. Kurtis M. Carsch, **Graham de Ruiter**, and Theodor Agapie
[Intramolecular C–H and C–F Bond Oxygenation by Site-Differentiated Tetranuclear Manganese Models of the OEC](#)
Inorganic Chemistry, **2017**, *56*, 9044-9054
-
20. **Graham de Ruiter**, Kurtis M. Carsch, Sheraz Gul, Ruchira Chatterjee, Niklas B. Thompson, Michael K. Takase, Junko Jano, and Theodor Agapie
[Accelerated Oxygen Atom Transfer and C–H Bond Oxygenation by Remote Redox Changes in Fe₃Mn-Iodosobenzene Adducts](#)
Angewandte Chemie International Edition, **2017**, *56*, 4772-4776
-
19. Renata Balgley, **Graham de Ruiter**, Guennadi Evmenenko, Tatyana Bendikov, Michal Lahav, and Milko E. van der Boom.
[Light-Induced Conversion of Chemical Permeability to Enhance Electron and Molecular Transfer in Nanoscale Assemblies](#)
Journal of the American Chemical Society. **2016**, *138*, 16398-16406
-
18. Davide Lionetti, **Graham de Ruiter**, and Theodor Agapie
[A *Trans*-Hyponitrite Intermediate in the Reductive Coupling and Deoxygenation of Nitric Oxide by a Tricopper-Lewis Acid Complex](#)
Journal of the American Chemical Society. **2016**, *138*, 5008-5011
-
17. **Graham de Ruiter**, Niklas B. Thompson, and Theodor Agapie
[Intramolecular C–H and C–F Bond Oxygenation Mediated by a Putative Terminal Oxo Species in Tetranuclear Iron Complexes](#)
Journal of the American Chemical Society. **2016**, *138*, 1486–1489
-
16. **Graham de Ruiter**, Niklas B. Thompson, Davide Lionetti, and Theodor Agapie
[Nitric Oxide Activation by Distal Redox Modulation in Tetranuclear Iron Nitrosyl Complexes](#)
Journal of the American Chemical Society. **2015**, *137*, 14094–14106
-
15. **Graham de Ruiter**, Michal Lahav, and Milko E. van der Boom
[Pyridine and Metal Coordination Chemistry: Versatile Tools for Molecular Assembly Formation on Surfaces \(review\)](#)
Accounts of Chemical Research. **2014**, *47*, 3407-3417
-

14. **Graham de Ruiter**, Michal Lahav, Guennadi Evmenenko, Pulak Dutta, Domenico A. Christaldi, Antonino Gulino, and Milko E. van der Boom

[Composite Molecular Assemblies: Nanoscale Control and Spectroelectrochemical Diversity](#)

Journal of the American Chemical Society. **2013**, *135*, 16533-16544

13. Adva Hayoun-Barak, **Graham de Ruiter**, Michal Lahav, Sagar Sharma, Ori Gidron, Guennadi Evmenenko, Pulak Dutta, Michael Bendikov, and Milko E. van der Boom

[Coordination Based Assemblies of Oligofurans and Oligothiophenes](#)

Chemistry - A European Journal. **2013**, *79*, 8821-8831

12. **Graham de Ruiter**, Michal Lahav, Hodaya Keisar, and Milko E. van der Boom

[Sequence Dependent Assembly to Control Molecular Interface Properties](#)

Angewandte Chemie International Edition. **2013**, *52*, 704-709

11. **Graham de Ruiter**, and Milko E. van der Boom

[Orthogonal Addressable Monolayers for Integrating Molecular Logic](#)

Angewandte Chemie International Edition. **2012**, *51*, 8598-8601

10. **Graham de Ruiter**, and Milko E. van der Boom

[Sequential Logic and Random Access Memory \(RAM\): A Molecular Approach](#)

Journal of Materials Chemistry. **2011**, *21*, 17575-17581

9. **Graham de Ruiter**, and Milko E. van der Boom

[Surface Confined Assemblies and Polymers for Molecular Logic](#)

Accounts of Chemical Research. **2011**, *44*, 563-573.

8. **Graham de Ruiter**, Yair H. Wijsboom, Noa Oded, and Milko E. van der Boom

[Polymeric Memory Elements and Logic Circuits that Store Multiple Bit States](#)

ACS Applied Materials & Interfaces. **2010**, *2*, 3578-3585

7. Joyanta Choudhury, Revital Kaminker, Leila Motiei, **Graham de Ruiter**, Michael Morozov, Fabio Lupo, Antonino Gulino, and Milko E. van der Boom

[Linear vs. Exponential Formation of Molecular-Based Assemblies](#)

Journal of the American Chemical Society. **2010**, *132*, 9295-9297

6. **Graham de Ruiter**, Leila Motiei, Joyanta Choudhury, Noa Oded, and Milko E. van der Boom

[Electrical Addressable Multistate Volatile Memory with Flip-Flop and Flip-Flap-Flop Logic Circuits on a Solid Support](#)

Angewandte Chemie International Edition. **2010**, *49*, 4780-4783

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5. **Graham de Ruiter**, Elisabetha Tartakovsky, Noa Oded, and Milko E. van der Boom
[Sequential Logic Operations with Surface-Confined Polypyridyl Complexes Displaying Molecular Random Access Memory Features](#)
Angewandte Chemie International Edition. **2010**, *49*, 169-172

 4. Marta Viciano-Chumillas, **Graham de Ruiter**, Stefania Tanase, Jan M. M. Smits, Rene de Gelder, Ilpo Mutikainen, Urho Turpeinen, L. Jos de Jongh, and Jan Reedijk
[High Nuclearity Manganese\(III\) Compounds Containing Phenol-Pyrazole Ligands : the Influence of the Ligand on the Core Geometry](#)
Dalton Transactions. **2010**, *39*, 4991-4997

 3. **Graham de Ruiter**, Tarkeshwar Gupta, and Milko E. van der Boom
[Selective Optical Recognition and Quantification of Parts Per Million Levels of Cr⁶⁺ in Aqueous and Organic Media by Immobilized Polypyridyl Complexes on Glass](#)
Journal of the American Chemical Society. **2008**, *130*, 2744-2745

 2. **Graham de Ruiter**, José Sanchez Costa, Kristian Lappalainen, Olivier Roubeau, Patrick Gamez, and Jan Reedijk
[The System Iron\(II\)/mpzbpv Mediates the H₂O₂ Oxidation of Cyclohexane and Cyclooctene and the Aerobic Cleavage of Ascorbic Acid to Oxalate](#)
Inorganic Chemistry Communications. **2008**, *11*, 787-790

 1. José Sanchez Costa, Kristian Lappalainen, **Graham de Ruiter**, Manuel Quesada, Jinkui Tang, Ilpo Mutikainen, Urho Turpeinen, C. Matthias Grunert, Phillip Gütllich, Hanane Zhor Lazar, Jean-François Létard, Patrick Gamez, and Jan Reedijk
[Remarkable Steric Effects and the Influence of Monodentate Axial Ligands L on the Spin-Crossover Properties of Trans-\[Fe^{II}\(N₄ Ligand\)L\] Complexes](#)
Inorganic Chemistry. **2007**, *46*, 4079-4089
-

6. Patents

4. Milko E. van der Boom, Michal Lahav, **Graham de Ruiter**, Hodaya Keisar, Renata Balgley.
Sequence dependent assembly to control molecular interface properties for memory devices, solar cells and molecular diodes.
PCT Int. Appl. WO 2014061018 A3 (**2014**), WO 2014061018 A2 (**2014**), EP 2909871 A2 (**2015**), US 20150303390 A1 (**2015**). Assignee: Yeda Research and Development Co. Ltd.

 3. Milko E. van der Boom and **Graham de Ruiter**
Logic circuits with plug and play solid-state molecular chips.
PCT Int. Appl. WO 2014009952 A3 (**2014**), WO 2014009952 A2 (**2014**), EP 2870644 A2 (**2015**), US 20150171352 A1 (**2015**). Assignee: Yeda Research and Development Co. Ltd.
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2. Milko E. van der Boom and Graham de Ruiter

Solid-state multi-state molecular random access memory (RAM).

PCT Int. Appl. WO 2011141913 A1 (**2011**), CN 103003885 A (**2013**), EP 2569774 A1 (**2013**), US 20130148413 A1 (**2013**), US 8917539 B2 (**2014**), CN 105336365 A (**2016**). Assignee: Yeda Research and Development Co. Ltd.

1. Milko E. van der Boom, Tarkeshwar Gupta, and Graham de Ruiter

Hexavalent Chromium Detector.

PCT Int. Appl. WO 2009095924 A1 (**2009**), EP 2252623 A1 (**2010**), US 20110059536 A1 (**2011**). US 8273576 B2 (**2012**), EP 2252623 B1 (**2013**). Assignee: Yeda Research and Development Co. Ltd.
