

Curriculum Vitae Kimberly M. Bonger

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Personal details

Full Name: Dr. Kimberly Michelle Bonger
Date and place of birth: 02 November 1980 Toronto (Canada)
Nationality: Dutch
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Children: 2: born: 22 June 2012 & 28 July 2016



Work & Education

Current position

Function: Assistant Professor
University: Radboud University, Nijmegen, The Netherlands
Date: January 2013 – current
Main subject: Chemical Biology

Postdoc

University: Stanford University, Stanford, USA
Date: April 2009 – December 2012
Main subject: Molecular Biology, Cell Biology
Supervisor: Prof. Dr. T.J. Wandless

Doctorate

University: Leiden University, Leiden, The Netherlands
Date: January 2004 – December 2008
Main subject: (Bio)Organic Chemistry and Medicinal Chemistry
Supervisors: Prof. Dr. H.S. Overkleeft and Prof. Dr. G.A. van der Marel
Dr. C. M. Timmers (NV Organon, Oss)
Title of thesis: Dimeric ligands for GPCRs involved in reproduction: Synthesis and biological evaluation

International research experience

University: University-College Stavanger, Norway
Date: September 2001 – November 2002
Main subject: Organic chemistry
Supervisor: Dr. E. Bakstad

Master's

University: Free University, Amsterdam, The Netherlands
Date: September 2000 – July 2002
Main subject: Organic chemistry
Supervisor: Prof. Dr. R.V.A. Ortu

Bachelor's

College of Higher Education: Hogeschool Leiden, Leiden, The Netherlands
Date: September 1997 – July 2001
Main subject: Organic Chemistry

Teaching experience

Course development and lecturing:

- 2016-current: Lecturer Cell growth and differentiation for Molecular Mechanisms of Disease master students at Radboud University Medical Center Nijmegen (MM3CF).
- 2013-current: Lecturer Medicinal chemistry course for third year chemistry and molecular life science students at Radboud University Nijmegen (NWI-MOL053).
- 2013-current: Lecturer Chemical biology course for master students in chemistry and molecular life science students at Radboud University Nijmegen (NWI-MOL401).
- 2013-current: lecturer and development of a chemical biology practical course for second year students in Molecular Life Science at Radboud University Nijmegen (NWI-MOL049).
- 2013-2017: lecturer of protein modification course for students of the Netherlands Research school of Chemical Biology (NWI-MOL411).
- 2013-2016: Lecturer in Molecular Mechanisms of Novel Therapeutics (BM049B)
- October 2007 – December 2008: Development of a new organic chemistry practical course for first year students in Life Science & Technology and Bio-Pharmaceutical Sciences at Leiden University.
- January 2004 – December 2007: Lecturer at organic chemistry practical courses for first and second years chemistry students at Leiden University.

Supervision of Graduate students

January 2018 – current:	MSc. Bob Ignacio; funded from the ERC starting grant inCITe
September 2017 – current:	MSc. Yvonne Bartels; shared with Dr. P. van Lent (RUMC), funded by Reumafonds
December 2014 – current:	MSc. Lianne Lelieveldt; funded from Institute for Chemical Immunology (NWO)
August 2014 – July 2018:	MSc. Fleur Kleinpenning; funded from Marie Curie Career Integration Grant
May 2013 – March 2018:	MSc. Selma Eising; funded from start-up package from Radboud University and the Netherlands Research School for Chemical Biology (NRSCB)
Other:	
January 2013 – current:	Supervision of 14 master internships and 15 bachelor internships

Institutional responsibilities

2018-current:	Member of the education program committee Molecular Life Science at Radboud University
2015-2017:	Member of the mentoring board of the Radboud Honours Academy at Radboud University
2015-2017:	Member of the representative council of the Science Faculty Board at Radboud University (0.05 FTE)
2014-2017:	Member of the program committee of the Nanomedicine Radboud Research Rounds (organized 3x per year)
2014-2017:	Member of the orientation committee for Molecular Science at the Radboud University
2014 – current:	Active participation in orientation days for high school students such as open days, master classes, career days, girl days and ‘proefstuden’
2013-2016:	Member of the recruitment and communication committee for Molecular Science at Radboud University
2013 – current:	Member of 20 thesis committees for multiple universities in the Netherlands: Mathijs van Lint (Vrije Universiteit Amsterdam, 2018), Thorben Heise (Radboud University, 2018), Rens Mensink (Radboud University, 2018), Marjolein Soethout (Leiden University, 2018), Lise Schoonen (Radboud University, 2018), Tjerk Sminia (Wageningen University, 2017), Bo-Tao Xin (Leiden University, 2017), Marc Baggelaar (Leiden University, 2017), Anchel Gonzalez Barriga (Radboud UMC, 2017), Stijn Aper (Technical University Eindhoven, 2016), Arne Smits (RadboudUMC, 2016), Anika Jonker (Radboud University, 2016), Rike Wallbrecher (RadboudUMC, 2015), Sonia Mellouli (Radboud University, 2015), Rinske Temming (Radboud University, 2014), Sascha Hoogendoorn (Leiden University, 2014), Angelique Wammes (Radboud University, 2014), Jorgen Steven Willemsen (Radboud University, 2014), Marjoke Debets (Radboud University, 2013), Morten Vorre Hansen (Radboud University, 2013).

Invited communications

O: oral presentation; P: poster presentation

- December 2018 (O): CHAINS 2018, Veldhoven, The Netherlands
- August 2018 (O): EMBO Chemical Biology Symposium, Heidelberg, Germany
- October 2018 (O): IRB Barcelona, Barcelona, Spain
- February 2018 (O): Leiden University, Leiden, The Netherlands
- January 2018 (O): Cell biology RIMLS, Nijmegen, The Netherlands
- October 2017 (O): Symposium 'De chemische binding', Groningen University, Groningen, The Netherlands
- June 2017 (P): Gordon Research Conference Bioorganic Chemistry, Andover, USA
- June 2017 (O): Designer Biology Symposium, Vienna, Austria
- April 2017 (O): Utrecht University PhD retreat, Utrecht, The Netherlands
- April 2017 (O): APPB-BOC, COST meeting, Leiden, The Netherlands
- March 2017 (P): 253rd ACS National Meeting, San Francisco, USA.
- March 2016 (O): Lorentz Workshop optogenetics, Leiden, NL
- February 2016 (O): Utrecht University, Utrecht, The Netherlands
- June 2015 (O): NextGenChem, Leiden, The Netherlands
- March 2015 (O): ISAS, Dortmund, Germany
- December 2014 (O): NL-GB Chaperone Meeting, Amsterdam, The Netherlands
- November 2014 (O): NVBMB fall symposium, Groningen, The Netherlands
- October 2014 (O): NextGenChem, Eindhoven, The Netherlands
- November 2013 (P): New Frontiers symposium Nijmegen, Netherlands.
- October 2013 (O): Research Center "Cellular Surveillance and damage response, Annweiler, Germany.
- January 2013 (O): NCMLS focus session, Nijmegen, The Netherlands.
- December 2011 (O): Leiden University, Leiden, The Netherlands.
- June 2011 (P): 2011 HFSP meeting, Montreal, Canada.
- September 2010 (O): Chemical and Systems Biology Meeting, Asilomar, USA.
- September 2010 (O): EMBL chemical biology 2010 meeting, Heidelberg, Germany
- June 2010 (O): Leiden-Gent Chemistry Symposium Gent, Belgium
- January 2009 (O): Honourary lecture for NVFW (Dutch Society of Pharmaceutical Sciences) on behalf of best thesis prize, Lunteren, The Netherlands.
- August 2007 (O): International Symposium on Advances in Synthetic and Medicinal Chemistry (ASMC07), St Petersburg, Russia (subsidized by the Leiden university fund (LUF))
- October 2007 (O): National Medicinal Chemistry and FIGON Meeting, Lunteren, The Netherlands.
- July 2006 (O): 3rd International Conference on Multi-Component Reactions and Related Chemistry, Amsterdam, The Netherlands.
- January 2006 (O): NWO Combinatorial Chemistry Meeting, Utrecht, The Netherlands.
- October 2006 (P): National meeting on Design, Synthesis, Structure, Reactivity and Biomolecular Chemistry, Lunteren, The Netherlands.
- November 2005 (P): National Medicinal Chemistry and FIGON Meeting, Lunteren, The Netherlands.
- October 2004 (P): National meeting on Design, Synthesis, Structure, Reactivity and Biomolecular Chemistry, Lunteren, The Netherlands.

Organization of scientific meetings

- April 2018: Co-organizer of the international KNCV chemistry symposium in Wageningen, the Netherlands
- April 2017: Co-organizer of the national KNCV chemistry symposium in Wageningen the Netherlands with 140 participants
- December 2016: member of study group committee for Chains2016 with ~ 1500 participants.
- May 2016: Co-organizer of the NextGenChem meeting in Nijmegen, the Netherlands with 50 participants.
- April 2016: Co-organizer of the international KNCV chemistry symposium in Wageningen, the Netherlands with 170 participants
- May 2015: Co-organizer of the Dutch peptide symposium in Nijmegen with 130 participants.

- April 2015: Co-organizer of the national KNCV chemistry symposium in Wageningen the Netherlands with 120 participants
- April 2014: Co-organizer of the national sIMMposium meeting in Nijmegen the Netherlands with 100 participants

Prices, grants and awards

- July 2018: ERC Starting Grant (1.5 M€)
- May 2017: University Teaching Qualification Certificate
- April 2017: Radboud Womens Professor Network Prize
- November 2016: Reumafonds Grant (200 K€, co-applicant with Dr. P. van Lent)
- May 2015: Radboud University Certificate for Academic Leadership
- October 2014: Institute for Chemical Immunology Grant (600 K€)
- January 2014: Marie Curie Career Integration Grant (100 K€)
- May 2011 – August 2012: Stanford Institute for Immunity, Transplantation and Infection Seed grant in collaboration with Dr. R. Rakhit, Stanford (25 K\$)
- January 2010 – December 2012: Human Frontiers Science Program (HFSP) cross disciplinary research fellowship
- April 2009 – December 2009: Dutch Science Organization (NWO) Rubicon research fellowship
- October 2009: Dutch Society of Pharmaceutical Sciences (NVFW) Best thesis prize
- October 2007: Best Communication award. National Medicinal Chemistry and FIGON Meeting, Lunteren, The Netherlands.
- August 2007: First Oral Communication award. International Symposium on Advances in Synthetic and Medicinal Chemistry (ASMC07), St Petersburg, Russia.
- July 2007: Travel Grant from Leiden University Fund

Memberships of Scientific Societies

2018-current:	Board member of the Dutch Science Organization (NWO) workgroup Chemistry of Life
2017-current:	Member of the COST-CM1406 Research Network "Epigenetic Chemical Biology"
2015-2017	Member of the COST-CM1004 Research Network "Synthetic Probes for Chemical Proteomics and Elucidation of Biosynthetic Pathways"
2014-current:	Partner in the Institute for Chemical Immunology
2014-current:	Board Member of the Royal Dutch Chemical Society (KNCV) Section Organic Chemistry
2013-2017:	Board Member of the Dutch Science Organization (NWO) studygroup Biomolecular Chemistry
2013-current:	Member of the Radboud Nanomedicine Alliance
2013-current:	Member of Dutch Pharmacology Society
2013-current:	Member of the Dutch Society for Biochemistry and Molecular Biology (NVBMB)
2013-current:	Member of the Dutch Synthetic Organic Chemistry Society (KNCV-SOC)

Commissions of trust

- Reviewer of peer review journals *Current Biology*, *Bioconjugate Chemistry*, *Journal of the American Chemical Society*, *ACS sensors*, *Organic & Biomolecular Chemistry*, *Angewandte Chemie*, *Advanced Science*
- Reviewer Editorial Board of *Frontiers in Chemical Biology*

Career brake

June-august 2012: Child birth

July-october 2016: Child birth

Publications

Only finalized and submitted manuscripts are listed

* Corresponding author

Co-first authors

27. Saskia A. Bode, # Selma Eising, # Suzanne B.P.E. Timmermans, Sander van Gemert, **Kimberly M. Bonger**,* Dennis W.P.M. Löwik* Click to Enter: In Situ Activation of Oligo-Arginine Cell-Penetrating Peptides by Bioorthogonal Ligation Reactions. *Chem. Sci.* **2019**, *accepted manuscript*.
26. Lianne P. W. M. Lelieveldt, Hendy Kristyanto, Ger J. M. Pruijn, Hans Ulrich Scherer, René E. M. Toes, **Kimberly M. Bonger*** Sequential Prodrug Strategy To Target and Eliminate ACPA-Selective Autoreactive B Cells. *Mol. Pharmaceutics*, **2018**, *15*, 5565–5573
25. Selma Eising, Anthonius H. J. Engwerda, Xian Riedijk, F. Matthias Bickelhaupt*, and **Kimberly M. Bonger*** Highly Stable and Selective Tetrazines for the Coordination-Assisted Bioorthogonal Ligation with Vinylboronic Acids. *Bioconjugate Chem.*, **2018**, *29*, 3054–3059
24. Fleur Kleinpenning, Selma Eising, Tim Berkenbosch, Judith M. Schaart, **Kimberly M. Bonger***. Subcellular protein labeling by a spatially-restricted arylamine N-acetyltransferase. *ACS Chem. Biol.* **2018**, *13*, 1932–1937
23. Selma Eising, Fleur Kleinpenning, Jurriaan J. A. Heming, **Kimberly M. Bonger***. Coordination-Assisted Bioorthogonal Chemistry: Orthogonal Tetrazine Ligation with Vinylboronic Acid and a Strained Alkene. *ChemBioChem* **2018**, *15*, 1648-1652
22. Anouk van der Gracht, Mark de Geus, Marcel Camps, Tracy Ruckwardt, Jessica Bremmers, Elmer Maurits, Joanna Pawlak, Michelle Posthoorn, **Kimberly M. Bonger**, Dmitri Filippov, Herman S. Overkleeft, Marc Robillard, Ferry Ossendorp, Sander van Kasteren. Trans-cyclooctene-modified Epitopes Allow Chemical Control over T-Cell Activation In Vivo. *ACS Chem. Biol.* **2018**, *13*, 1569–1576.
21. Lise Schoonena,# Selma Eising,# Mark B. van Eldijk, Jaleesa Bresseleers, Margo van der Pijl, Roeland J. M. Nolte, **Kimberly M. Bonger***, Jan C. M. van Hest*. Modular, bioorthogonal strategy for the controlled loading of cargo into a protein nanocage. *Bioconjug. Chem.* **2018**, *29*, 1186.
20. Selma Eising, Nicole G. A. van der Linden, Fleur Kleinpenning, **Kimberly M. Bonger***. Vinylboronic Acids as Efficient Bioorthogonal Reactants for Tetrazine Labeling in Living Cells. *Bioconjug. Chem.* **2018**, *29*, 982.
19. Jessie A. van Buggenum, Jan P. Gerlach, Selma Eising, **Kimberly M. Bonger***, Klaas W. Mulder*. Production and application of chemically cleavable antibody-DNA conjugates in quantitative immuno-PCR experiments. *Meth. Mol. Biol. Accepted manuscript*.
18. Selma Eising, Francis Lelivelt, **Kimberly M. Bonger***. Vinylboronic Acids as Fast Reacting, Synthetically Accessible, and Stable Bioorthogonal Reactants in the Carboni–Lindsey Reaction. *Angew. Chem. Int. Ed.* **2016**, *55*, 12243.
17. Jessie A. van Buggenum, Jan P. Gerlach, Selma Eising, Lise Schoonen, Roderick A.P.M. Eijl, Sabine E.J. Tanis, Mark Hogeweg, Nina C. Hubner, Jan C. van Hest, **Kimberly M. Bonger**, Klaas W. Mulder. Direct and reversible antibody-DNA conjugates for sensitive, multiplexed protein detection in cells. *Sci. Rep.* **2016**, *6*, 22675.
16. Richard J.B.H.N. van den Berg, Erwin R. van Rijssel, Anneke Strijland, Wilma E. Donker-Koopman, Tom Wennekes, **Kimberly M. Bonger**, Amar T. Ghisaidoobe, Sascha Hoogendoorn, Gijsbert A. van der Marel, Jeroen D. C. Codée, Herman S. Overkleeft and Johannes M. F. G. Aerts. Synthesis and evaluation of hybrid structures composed of two glucosylceramide synthase inhibitors. *ChemMedChem* **2015**, *10*, 2042-2062.

15. Sean R. Collins, Hee W. Yang, **Kimberly M. Bonger**, Emmanuel G. Guignet, Thomas J. Wandless and Tobias Meyer. Using light to shape chemical gradients for parallel and automated analysis of chemotaxis. *Mol. Sys. Biol.* **2015**, 4, 804.
14. Sanne M.M. Hensen, Wilbert C. Boelens, **Kimberly M. Bonger**, Remco T.P. van Cruchten, Floris L. van Delft and Ger J.M. Pruijn. Phenylglyoxal-Based Visualization of Citrullinated Proteins on Western Blots. *Molecules* **2015**, 20, 6592-6600.
13. **Kimberly M. Bonger***, Rishi Rakhit, Alexander Y. Payumo, James K. Chen, Thomas J. Wandless*. A general method for regulating protein stability by light. *ACS Chem. Biol.* **2014**, 9, 111-115.
Highlighted in *Chemical & Engineering News*, November 14th 2013.
12. Tom Wennekes#, **Kimberly M. Bonger#**, Katrin Vogel, Richard J.B.H.N. van den Berg, Anneke Strijland, Wilma E. Donker-Koopman, Johannes M.F.G. Aerts, Gijsbert A. van der Marel, Herman S. Overkleeft. The Development of an Aza-C-Glycoside Library Based on a Tandem Staudinger/Aza-Wittig/Ugi Three-Component Reaction. *Eur. J. Org. Chem.* **2012**, 32, 6420-6454.
11. **Kimberly M. Bonger**, Ling-chun Chen, Corey W. Liu and Thomas J. Wandless. *Small-molecule displacement of a cryptic degron causes conditional protein degradation.* *Nat. Chem. Biol.* **2011**, 7, 531-537.
Highlighted in *Nature Methods* **2011**, 8, 711.
10. **Kimberly M. Bonger#**, Sascha Hoogendoorn#, Chris J. van Koppen, C. Marco Timmers, Gijsbert A. van der Marel and Herman S. Overkleeft. Development of selective luteinizing hormone receptor agonists by heterodimerization with follicle-stimulating hormone antagonist. *ACS Med. Chem. Let.* **2011**, 2, 85-89.
9. **Kimberly M. Bonger**, Varsha V.Kapoerchan, Gijsbert M Grotenbreg, Chris J.van Koppen, C. Marco Timmers, Gijsbert A van der Marel, Herman S. Overkleeft. Oligoproline helices as structurally defined scaffolds for oligomeric G protein-coupled receptor ligands. *Org. Biomol. Chem.* **2010**, 8, 1881-1884.
8. **Kimberly M. Bonger#**, Sascha Hoogendoorn#, Chris J. van Koppen, Cornelis M. Timmers, Herman S. Overkleeft. Gijsbert A. van der Marel. Synthesis and Pharmacological Evaluation of Dimeric Follicle-Stimulating Hormone Receptor Antagonists. *ChemMedChem* **2009**, 4, 2098-2102.
7. **Kimberly M. Bonger**, Richard J. B. H. N. van den Berg, Annemiek D. Knijnenburg, Laura H. Heitman, Chris J. van Koppen, Cornelis M. Timmers, Herman S. Overkleeft, Gijsbert A. van der Marel. Discovery of Selective Luteinizing Hormone Receptor Agonists Using the Bivalent Ligand Method. *ChemMedChem*, **2009**, 4, 1189-1195.
6. Tom Wennekes, Richard J. B. H. N. van den Berg, **Kimberly M. Bonger**, Wilma E. Donker-Koopman, Amar Ghisaidoobe, Gijsbert A. van der Marel, Anneke Strijland, Johannes M. F. G. Aerts, Herman S. Overkleeft, Synthesis and evaluation of dimeric lipophilic iminosugars as inhibitors of glucosylceramide metabolism. *Tetrahedron Asym.* **2009**, 20, 836-846.
5. **Kimberly M. Bonger#**, Tom Wennekes#, Gerrit Lodder, Dmitri Filippov, Gijs A. van der Marel and Herman S. Overkleeft. The effect of Lewis Acids on the stereochemical outcome of L-Lyxo Pyrroline with the tandem Staudinger aza-Wittig Ugi 3CR. *Eur. J. Org. Chem.* **2008**, 21, 3678-3688
4. **Kimberly M. Bonger#**, Richard J. B. H. N. van den Berg#, Laura H. Heitman, Ad P. IJzerman, Julia Oosterom, Cornelis M. Timmers, Herman S. Overkleeft, Gijsbert A. van der Marel. Synthesis and evaluation of homobivalent GnRHR ligands having a rigid benzene core. *Bioorg. Med. Chem.* **2008**, 16, 3744-3758.
3. Laura H. Heitman, Julia Oosterom, **Kimberly M. Bonger**, Cornelis M. Timmers, Peter H.G. Wiegerinck and Adriaan P. IJzerman. [3H]Org 43553, the First Low-Molecular-Weight Agonistic and Allosteric Radioligand for the Human Luteinizing Hormone Receptor. *Mol. Pharmacol.* **2008**, 73, 518-524.
2. **Kimberly M. Bonger#**, Richard J. B. H. N. van den Berg#, Laura H. Heitman, Ad P. IJzerman, Julia Oosterom, Cornelis M. Timmers, Herman S. Overkleeft, Gijsbert A. van der Marel. Synthesis and evaluation of homobivalent GnRHR ligands. *Bioorg. Med. Chem.* **2007**, 15, 4841-4856.
1. **Kimberly M. Bonger#**, Tom Wennekes#, Sebastiaan V. P. de Lavoie, Davide Esposito, Richard J. B. H. N. van den Berg,

Remy E. J. N. Litjens, Gijs A. van der Marel and Herman S. Overkleeft. Transformation of Carbohydrate Derived 4-Azidopentanal into Highly Functionalized pyrrolidines Via a Tandem Staudinger/aza-Wittig/Ugi Multicomponent Reaction, *QSAR Comb. Sci.* **2006**, *25*, 491 – 503.

Patents

Kimberly M. Bongers*, Rishi Rakhit and Thomas J. Wandless. Light inducible system for regulating protein stability. 2014, US 9115184 B2