

Jolanda van Leeuwen, PhD

Department of Systems Biology, UMass Chan Medical School

Albert Sherman Center, 368 Plantation Street, AS6-1059

Worcester, MA 01605, United States of America

jolanda.vanleeuwen@umassmed.edu | <http://www.vanleeuwenlab.com/>

EMPLOYMENT & EDUCATION

- 2024-present **Associate Professor**
Department of Systems Biology, University of Massachusetts Chan Medical School,
USA
- 2024-2025 **Associate Professor** (with tenure)
Center for Integrative Genomics, University of Lausanne, Switzerland
- 2018-2023 **Tenure-track Assistant Professor**
Center for Integrative Genomics, University of Lausanne, Switzerland
- 2017-2018 **Research associate in Functional Genomics**
Donnelly Centre for Cellular and Biomolecular Research, University of Toronto, Canada
Advisors: Dr. Charlie Boone & Dr. Brenda Andrews
- 2011-2017 **Postdoctoral fellow in Functional Genomics**
Donnelly Centre for Cellular and Biomolecular Research, University of Toronto, Canada
Advisors: Dr. Charlie Boone & Dr. Brenda Andrews
- 2006-2011 **PhD in Molecular Toxicology**
Division of Molecular and Computational Toxicology, VU University Amsterdam, the
Netherlands
Advisor: Dr. Nico Vermeulen
- 2001-2006 **Doctoraal (BSc and MSc) in Chemistry** (*cum laude*)
Leiden University, the Netherlands & Trieste University, Italy
Advisors: Dr. Jan Reedijk & Dr. Gianni Sava

GRANTS, FELLOWSHIPS & AWARDS

- 2025 4YouandMe, sponsored research agreement, USD 45,276.
- 2024-2028 Swiss National Science Foundation, project grant, CHF 600,000.
- 2023-2025 Swiss Cancer Research foundation, research grant, CHF 374,860.
- 2023 GenScript, sponsored research agreement, CHF 50,000 (estimation).
- 2022 Fondation pour la lutte contre le cancer, research grant, CHF 20,000.
- 2022 Fondation Herbette, University of Lausanne, grant for organization of the CIG
symposium, CHF 7,200.
- 2022 Commission Egalité Diversité Intégration, University of Lausanne, grant for organization
of the CIG symposium, CHF 3,500.
- 2020 Swiss National Science Foundation, Open Access grant, CHF 4,146.
- 2019-2025 Swiss National Science Foundation, Eccellenza grant, CHF 1,500,000.
- 2013-2016 Canadian Institutes of Health Research, postdoctoral fellowship.
- 2010 Travel award, Organization for the advancement of biochemical research.

- 2009 2nd prize, national PhD student competition, FIGON Dutch Medicine Days.
2009 Travel award, Organization for the advancement of biochemical research.
2008 Travel award, Royal Dutch Chemistry Society.
2005-2006 European Cooperation in Science and Technology, short-term scientific mission grant.

INVITED SEMINARS

- 2026 Epigenetics Club, University of Massachusetts Chan Medical School, Worcester, USA.
2025 Department of Bionanoscience, Delft University of Technology, the Netherlands.
2024 Department of Chemistry, Biochemistry and Pharmaceutical Sciences, University of Bern, Switzerland.
2023 Donnelly Centre for Cellular and Biomolecular Research, University of Toronto, Toronto, Canada.
2023 Department of Systems Biology, University of Massachusetts Chan Medical School, Worcester, USA.
2022 Institute of Molecular Biology, Mainz, Germany.
2021 Goethe University Frankfurt, Frankfurt, Germany.
2020 Center for Genomic Regulation, Barcelona, Spain.
2020 Friedrich Miescher Institute for Biomedical Research, Basel, Switzerland.
2019 Dementia Research Institute, Cardiff University, Cardiff, UK.
2017 Gurdon Institute, University of Cambridge, Cambridge, UK.
2017 Institute for Systems Genetics, NYU Langone Medical Center, New York, USA.
2016 Institute for Research in Biomedicine, Barcelona, Spain.
2016 Wellcome Trust Sanger Institute, Hinxton, UK.
2016 Amsterdam Institute for Molecules, Medicines, and Systems, VU University Amsterdam, the Netherlands.

CONFERENCE TALKS

- 2026 Invited talk, *Evolution and Modeling of Cancer Genetic and Transcriptional Networks* Forbeck Forum, Tennessee, USA.
2026 Invited talk, *FASEB Conference on Chromosome Biology and Cell States in Yeasts*, Niagara Falls, USA.
2026 Invited talk, *20th Anniversary Symposium of the Donnelly Centre*, University of Toronto, Canada.
2025 Invited talk, *UMass Chan Research Retreat*, University of Massachusetts Chan Medical School, Worcester, USA.
2025 Invited talk, *Synthetic Lethality Approaches in Oncology* Gordon Research Conference, University of Southern Maine, USA.
2025 Invited talk, *Systems Biology workshop*, McGill-Bellairs research institute, Barbados.
2024 Invited talk, Canadian Institute for Advanced Research *Fungal Kingdom* meeting, Geneva, Switzerland.
2024 Invited talk, *Latsis Symposium on Genome and Transcriptome Engineering*, ETH Zürich, Switzerland.
2023 Invited talk, *European Cancer Dependency Map* workshop, Milan, Italy.

- 2023 Invited talk, *Network Biology* meeting, Cold Spring Harbor, USA.
- 2022 Invited talk (canceled due to COVID-19), *Life Sciences Switzerland (LS2)* conference, Zurich, Switzerland.
- 2021 Invited talk, *CRISPR and beyond - perturbations at scale to understand genomes*, Hinxton, UK.
- 2021 Talk, *Levures, Modèles et Outils*, Strasbourg, France.
- 2021 Talk, *International Congress on Yeasts and International Conference on Yeast Genetics and Molecular Biology*, Vienna, Austria.
- 2021 Invited talk, Workshop “*Mapping the Landscape of Genetic Dependencies in Cancer*”, Frankfurt, Germany.
- 2020 Invited talk (canceled due to COVID-19), Canadian Institute for Advanced Research *Genetic Networks* meeting, Santa Cruz, USA.
- 2020 Invited talk (canceled due to COVID-19), *European Network Biology Conference: From Networks to Modeling*, Hinxton, UK.
- 2019 Talk, *International Conference on Yeast Genetics and Molecular Biology*, Gothenburg, Sweden.
- 2019 Invited talk, *European Society of Human Genetics Conference*, Gothenburg, Sweden.
- 2019 Talk, *Network Biology* meeting, Cold Spring Harbor, USA.
- 2018 Invited talk, iGenolevure meeting “*High-Throughput Technologies Applied to Yeasts*”, Strasbourg, France.
- 2018 Invited talk, *Levures, Modèles et Outils*, Rheinau, Switzerland.
- 2017 Invited talk, Canadian Institute for Advanced Research *Genetic Networks* meeting, Toronto, Canada.
- 2017 Talk, *Systems Biology: Networks* meeting, Cold Spring Harbor, USA.
- 2016 Talk, *International Conference on Systems Biology*, Barcelona, Spain.
- 2016 Talk, *The Allied Genetics Conference*, Orlando, USA.
- 2016 Talk, *North East Regional Yeast Meeting*, Buffalo, USA.
- 2016 Invited talk, Breast Cancer Informatics Group *Genetic Networks* meeting, McGill-Bellairs research institute, Barbados.
- 2015 Talk, *OMICs in Biomedical Research* meeting, Split, Croatia.
- 2015 Invited talk, Canadian Institute for Advanced Research *Genetic Networks* meeting, Toronto, Canada.
- 2014 Talk, *Yeast Genetics meeting*, Seattle, USA.
- 2010 Talk, *Yeasterday*, Leuven, Belgium.
- 2009 Invited talk, *FIGON Dutch Medicine Days*, Lunteren, the Netherlands.

ORGANIZATION OF CONFERENCES

- 2025-present Member, Finance and Policy Committee, *International Conference on Yeast Genetics and Molecular Biology*.
- 2024-present Co-organizer, *Network Biology* meeting, Cold Spring Harbor, USA.
- 2023-present Chair, Genomics and Systems Biology subcommittee, GSA *Yeast Genetics Meeting*, USA.
- 2022-present Program committee member, GSA *Yeast Genetics Meeting*, USA.
- 2022 Co-organizer, *Fungi & Friends*, Lausanne, Switzerland.

- 2022 Program committee member, Systems Track, *European Conference on Computational Biology*, Sitges, Spain.
- 2022 Co-organizer, CIG symposium “*Interactions in Biology*”, Lausanne, Switzerland.
- 2019-2022 Founder and co-organizer, *CRISPR and beyond - perturbations at scale to understand genomes*, Hinxton, UK.
- 2013-2016 Co-organizer, Annual postdoc symposium and biweekly seminars, University of Toronto, Canada.

CONFERENCE TALKS BY TRAINEES

- 2026 Sabine van Schie, *GSA Yeast Genetics Meeting*, Pacific Grove, USA.
- 2026 Michelle Conti, *GSA Yeast Genetics Meeting*, Pacific Grove, USA.
- 2025 Sabine van Schie, *International Conference on Yeast Genetics and Molecular Biology*, Paris, France
- 2025 Núria Bosch, CIG symposium “*CIG @20: Bridging science and careers*”, Lausanne, Switzerland.
- 2024 Sabine van Schie, *CRISPR and beyond - perturbations at scale to understand genomes*, Hinxton, UK.
- 2024 Amandine Batté, *The Allied Genetics Conference*, Washington DC, USA.
- 2023 Amandine Batté, *International Conference on Yeast Genetics and Molecular Biology*, Florence, Italy.
- 2023 Linh Ho, *European Society of Human Genetics Conference*, Glasgow, UK.
- 2023 Linh Ho, CIG symposium “*Emergence of order across biological scales*”, Lausanne, Switzerland.
- 2023 Sabine van Schie, *Network Biology meeting*, Cold Spring Harbor, USA.
- 2023 Linh Ho, *Network Biology meeting*, Cold Spring Harbor, USA.
- 2022 Linh Ho, *CRISPR and beyond - perturbations at scale to understand genomes*, Hinxton, UK.
- 2022 Betül Ünlü, *Swiss Society for Microbiology Annual Meeting*, EPFL, Switzerland.
- 2022 Núria Bosch, *GSA Yeast Genetics Meeting*, UCLA, USA.
- 2022 Linh Ho, *Talents de la génétique*, Société Française de Génétique, France.
- 2022 Núria Bosch, *Fungi & Friends*, Lausanne, Switzerland.
- 2021 Núria Bosch, *International Congress on Yeasts and International Conference on Yeast Genetics and Molecular Biology*, Vienna, Austria.

SUPERVISION OF TRAINEES

Postdocs

- 2024-present Michelle Conti
- 2021-present Sabine van Schie
- 2021-2026 Núria Bosch then clinical genomics analyst, Medigenome
- 2019-2025 Amandine Batté then clinical genomics analyst, Medigenome
- 2018-2023 Betül Ünlü then postdoctoral fellow, Royal College of Surgeons

PhD students

2025-present	Sumaira Perez	
2022-present	Claire Paltenghi	
2021-2025	Erfan Heidari	
2019-2020	Dinis Barros	then bioinformatician, Sophia Genetics
2019-2024	Uyen Linh Ho	then account manager, Thermo Fisher

MSc students (1-year thesis project)

2025-present	Alix Abrecht	
2022-2023	Camille Schmidt	then intern with Elena Kuzmin, Concordia
2021-2022	Jade Nicolet	then PhD student with Niko Geldner, UNIL
2021-2022	Claire Paltenghi	then PhD student with us
2019-2020	Romane Mizeret (co-advisor)	then PhD student with David Suter, EPFL

Other

2025-present	Kathleen Ben-Aroch	research associate
2025	Sumaira Perez	rotation student
2025	Hillary Nna	rotation student
2025	Mika Wesley	rotation student
2025	Jana Sheikh Ammar	research assistant
2024	Jana Sheikh Ammar	MSc student (6-month research project)
2024	Antoine Chatillon	research assistant
2023-2024	Jana Brenner	research assistant
2023-2024	Camille Schmidt	stagiaire
2023	Abigail Yoel	summer undergraduate student
2022-2023	Nadine Eliasson	research assistant
2022	Loïc Zen-Ruffinen	MSc student (3-month research project)
2022	Claire Paltenghi	stagiaire
2022	Eve Mangin	research assistant
2021	Karunnya Tharmakulasinkam	MSc student (3-month research project)
2020-2021	Jonas Barraud	technician apprentice
2020	Christopher Forbes-Jaeger	MSc student (3-month research project)
2020	Elise Eray	MSc student (3-month research project)
2019	Jessica Burnier	MSc student (3-month research project)
2006-2018	Daily supervisor of 10 MSc and 24 BSc students.	

Mentees

2023-present	Vishwaja Jhaveri (Roignant lab)	PhD student mentorship program
2020-2024	Chiara Auwerx (Reymond lab)	PhD student mentorship program
2019-2024	Nina Dukanovic (Franken lab)	PhD student mentorship program
2018	Piret Avila (Lehmann lab)	PROWD mentorship program for female postdocs

SERVICE ON THESIS COMMITTEES

- 2026 Chair, qualifying exam committee, Matthew Funk
Wang lab, UMass Chan Medical School
- 2026 Member, qualifying exam committee, Mika Wesley
Lee lab, UMass Chan Medical School
- 2025 Member, PhD exam committee, Leila Inigo de la Cruz
Laan lab, TU Delft, the Netherlands
- 2024-present Member, PhD committee, Angela Topic
Diss lab, Friedrich Miescher Institute for Biomedical Research, Switzerland
- 2023 Member, PhD exam committee, Mireia Seuma
Bolognesi lab, Institute for Bioengineering of Catalonia, Spain
- 2020-2024 Member, PhD committee, Anastasiia Semenova
Gambetta lab, University of Lausanne, Switzerland
- 2020 President, PhD exam committee, Júlia Domingo
Lehner lab, Center for Genomic Regulation, Spain
- 2019-2023 Member, PhD committee, Alexandra Bendel
Diss lab, Friedrich Miescher Institute for Biomedical Research, Switzerland
- 2019 Member, PhD committee, Terry Mara
Martin and Pelet labs, University of Lausanne, Switzerland

TEACHING

- 2026 Lecturer, *Summer Undergraduate Research Program*, 1 hour, UMass Chan Medical School.
- 2026 Instructor, *Biomedical Sciences tutorial*, BBS 800, 1 hour, UMass Chan Medical School.
- 2024 Lecturer, *Yeast Genetics and Genomics course*, 2 hours, Cold Spring Harbor Laboratory, NY, USA.
- 2022 Tutor and lecturer, *Reviews in Quantitative Biology*, ~8 hours, course for PhD students, University of Lausanne, Switzerland.
- 2020-2025 Course director and instructor, *CRISPR-Cas9 genome editing*, 16 hours, course for MSc students, University of Lausanne, Switzerland.
- 2019-2025 Course director and instructor, *Epistasis, Oligogenicity, Pleiotropy and beyond*, 6 hours, course for 3rd year BSc students, University of Lausanne, Switzerland.
- 2019-2023 Tutor, *Write-a-review*, ~8 hours, course for MSc students, University of Lausanne, Switzerland.
- 2007-2011 Teaching assistant, 7 lab courses in life sciences, VU University Amsterdam, the Netherlands.

OTHER ACADEMIC RESPONSIBILITIES

- Ad hoc manuscript reviewer for Biological Reviews; Cell Genomics; Cell Systems; Current Genetics; Current Opinion in Genetics and Development; eLIFE; EMBO Journal; G3: Genes, Genomes, Genetics; Genome Biology and Evolution; Genome Medicine; Genome Research; Journal of Molecular Biology; Nature Biotechnology; Nature Communications; Nature Genetics; Molecular Systems Biology; mSystems; PLOS Genetics; PNAS; Review Commons; and Science.

- Ad hoc grant reviewer for DevelopMed (Marie Skłodowska-Curie COFUND action, Ireland), the European Research Council, the German Research Foundation, the Icelandic Research Fund, the Israel Science Foundation, the Swiss Cancer Research foundation, the Swiss National Science Foundation, and Wellcome Trust.
- 2026 Co-editor, Special issue “Using functional genomics to explore biological networks”, Genetics.
- 2025 Co-editor, yeast systems biology/functional genomics collection, CSH Protocols.
- 2023-2024 Chair, Equity, Diversity, and Inclusion committee, Center for Integrative Genomics, University of Lausanne, Switzerland.
- 2023 Member, Faculty search committee cell biology, Department of Fundamental Microbiology, University of Lausanne, Switzerland.
- 2022-2024 Chair, Safety committee, Center for Integrative Genomics, University of Lausanne, Switzerland.
- 2022 External expert, Faculty search committee CRISPR technology in human reproduction, Department of Endocrinology, Diabetology and Clinical Nutrition, University of Zurich, Switzerland.
- 2020-2024 Member, Equipment committee, Center for Integrative Genomics, University of Lausanne, Switzerland.
- 2020 Member, Faculty search committee microbial biotechnology, Department of Fundamental Microbiology, University of Lausanne, Switzerland.
- 2020 Member, Prix Guenin selection committee, Center for Integrative Genomics, University of Lausanne, Switzerland.

OUTREACH & MEDIA COVERAGE

- 2025 Cell Systems, Voices, *What is the current bottleneck in mapping molecular interaction networks?* ([link](#)).
- 2023 Human Technopole, interview on our research and the European Cancer Dependency Map initiative ([link](#)).
- 2022 Nature Biotechnology, *Adrestia Therapeutics — Gene networks to the rescue* ([link](#)).
- 2022 RTS (Swiss radio station), CQFD, radio interview on CRISPR technology ([link](#)).
- 2021 Science Daily, *'Rescue mutations' that suppress harmful DNA changes could shed light on genetic disorders* ([link](#)).
- 2021 Biomedical Picture of the Day, *Rescue Me* ([link](#)).
- 2017 University of Toronto, interview on the academic job search ([link](#)).
- 2017 Outreach video, *Genetic networks: mapping risk and tailoring treatment* ([link](#)).
- 2016 Quanta magazine, *Why some genetic miscues are helpful* ([link](#)).
- 2016 The Scientist, *Mutation vs. Mutation* ([link](#)).
- 2016 Trouw (Dutch newspaper), *Zoeken naar de rem op het gen dat ons ziek maakt*.
- 2011 NTR Radio 5 (Dutch radio station), *Hoe?Zo!*, radio interview on PhD thesis.
- 2011 RTL news (Dutch news agency), *Proefdieren mogelijk overbodig dankzij gist*.
- 2011 AT5 news (Dutch news agency), *Gist verlost proefdieren van onderzoek*.

PUBLICATIONS

36. C Paltenghi-Peceva, S van Schie, E Heidari, S Friend, and **J van Leeuwen** (2026) *Genetic suppressors as new therapeutic targets for Mendelian diseases*. Trends Genet, in press.
35. F Iorio, MJ Garnett, P Beltrao, M Billmann, L Bless, C Bock, M Boutros, A Bruna, P Carninci, G Ciriello, I Cortés-Ciriano, G D'Alessandro, R Esposito, S Faletti, E Gonçalves, S Haider, N Kalebic, M Kaulich, G Leuzzi, N Lopez-Bigas, CJ Lord, E Petsalaki†, S Pettitt, L Proietti, R Rad, N Radic, CJ Ryan, JL Schmid-Burgk, S Sharma, A Sottoriva, C Tape, L Trusolino, **J van Leeuwen**, D Walter, and L Wessels (2026) *PRECISE as a European initiative for cancer-vulnerability mapping and prediction*. Nat Genet, in press.
34. K Obara, H Okada, G Tan, S Ohnuki, G Suzuki, H Ohtake, K Kubo, F Ghanegolmohammadi, S Ishizaka, Y Yashiroda, A Okita, E Mishiro-Sato, K Suzuki, Y Tamura, R Ashine, Y Ikeda, T Kamura, B Andrews, **J van Leeuwen**, E Bi, NN Noda, C Boone, and Y Ohya (2026) *Role of Pbr1, a putative oxidoreductase in the ER quality-control and folding of yeast Fks1 glucan synthase*. PNAS, in press.
33. M Billmann, M Costanzo, X Zhang, AZ Hassan, M Rahman, KR Brown, KS Chan, AHY Tong, C Pons, HN Ward, C Ross, **J van Leeuwen**, M Aregger, KA Lawson, B Mair, AF Roth, NE Sen, DT Forster, G Tan, P Merro, SN Masud, Y Lee, M Aguilera-Uribe, M Usaj, SM Almeida, K Aulakh, U Bhojoo, S Birkadze, N Budijono, X Cai, JJ Caumanns, M Chandrashekar, D Chang, R Clinie, K Dasgupta, A Drazic, JIR Echenique, R Gacesa, AG Farias, A Habsid, I Horecka, K Kantautas, F Ji, DK Kim, SY Lee, W Liang, J Lim, K Lin, X Lu, B Nami, A Nixon, N Mikolajewicz, L Nedyalkova, T Rohde, MS Rodrigues, M Soste, E Schultz, W Wang, A Seetheraman, E Shuteriqi, O Sizova, DT Taylor, M Tereschchenko, D Tieu, J Turowec, T Ubhi, S Varland, KE Wang, Z Wang, J Wei, YX Xiao, GW Brown, B Cravatt, SJ Dixon, HD Wyatt, HL Röst, FP Roth, T Xia, G Bader, R Loewith, NG Davis, BJ Andrews, CL Myers, J Moffat, and C Boone (2026) *Global genetic interaction network of a human cell maps conserved principles and informs functional interpretation of gene co-essentiality profiles*. Cell, 189, 1-24.
32. M Billmann, M Costanzo, M Rahman, K Chan, AHY Tong, HN Ward, AZ Hassan, X Zhang, KR Brown, T Rohde, AH Shaw, C Ross, **J van Leeuwen**, M Aregger, K Lawson, B Mair, P Mero, M Usaj, B Andrews, C Boone, J Moffat, and CL Myers (2025) *Quantitative analysis of genetic interactions in human cells from genome-wide CRISPR-Cas9 screens*. bioRxiv, 10.1101/2025.06.30.662330.
31. A Batté, N Bosch-Guiteras, C Pons, M Ota, M Lopes, S Sharma, N Tellini, C Paltenghi, M Conti, KT Kan, UL Ho, M Wiederkehr, J Barraud, M Ashe, P Aloy, G Liti, A Chabes, L Parts, and **J van Leeuwen** (2026) *The modifiers that cause changes in gene essentiality*. Cell Syst, 17, 101515.
30. C Paltenghi and **J van Leeuwen** (2025) *Genetic suppression interactions are highly conserved across genetically diverse yeast isolates*. G3 (Bethesda), 15, jkaf047.
29. C Pons and **J van Leeuwen** (2023) *Meta-analysis of dispensable essential genes and their interactions with bypass suppressors*. Life Sci Alliance, 7, e202302192.
28. B Ünlü, C Pons, UL Ho, A Batté, P Aloy, and **J van Leeuwen** (2023) *Global analysis of suppressor mutations that rescue human genetic defects*. Genome Med, 15, 78.
27. L Trastulla, A Savino, P Beltrao, I Cortés Ciriano, P Fenici, MJ Garnett, I Guerini, N López Bigas, I Mattaj, E Petsalaki, L Riva, CJ Tape, **J van Leeuwen**, S Sharma, F Vazquez, and F Iorio (2023) *Highlights from the 1st European Cancer Dependency Map Symposium and Workshop*. FEBS Lett, 597, 1921-1927.
26. N Bosch-Guiteras and **J van Leeuwen** (2022) *Exploring conditional gene essentiality through systems genetics approaches in yeast*. Curr Opin Genet Dev, 76, 101963.
25. A Pallaseni, EM Peets, J Koepfel, J Weller, T Vanderstichele, UL Ho, L Crepaldi, **J van Leeuwen**, F Allen, and L Parts (2022) *Predicting base editing outcomes using position-specific sequence determinants*. Nucleic Acids Res, gkac161.

24. A Batté, SC van der Horst, M Tittel-Elmer, SM Sun, S Sharma, **J van Leeuwen**, A Chabes, and H van Attikum (2022) *Chl1 helicase controls replication fork progression by regulating dNTP pools*. Life Sci Alliance, 5, e202101153.
23. L Parts, A Batté, M Lopes, MW Yuen, M Laver, BJ San Luis, JX Yue, C Pons, E Eray, P Aloy, G Liti, and **J van Leeuwen** (2021) *Natural variants suppress mutations in hundreds of essential genes*. Mol Syst Biol, 17, e10138.
22. **J van Leeuwen***, C Pons, G Tan, JZ Wang, J Hou, J Weile, M Gebbia, W Liang, E Shuteriqi, Z Li, M Lopes, M Ušaj, A Dos Santos Lopes, N van Lieshout, CL Myers, FP Roth, P Aloy, BJ Andrews*, and C Boone* (2020) *Systematic analysis of bypass suppression of essential genes*. Mol Syst Biol, 16, e9828 (* co-corresponding authors).
20. E Kuzmin, B VanderSluis, AN Nguyen Ba, W Wang, EN Koch, M Usaj, A Khmelinskii, M Mattiazzi Usaj, **J van Leeuwen**, O Kraus, A Tresenrider, M Prysxlak, MC Hu, B Varriano, M Costanzo, M Knop, A Moses, CL Myers, BJ Andrews, and C Boone (2020) *Exploring whole-genome duplicate gene retention with complex genetic interaction analysis*. Science, 368, 1446.
21. M Costanzo, E Kuzmin, **J van Leeuwen**, B Mair, J Moffat, C Boone, and BJ Andrews (2019) *Global genetic networks and the genotype to phenotype relationship*. Cell, 177, 85-100.
19. J Hou, **J van Leeuwen**, BJ Andrews, and C Boone (2018) *Genetic network complexity shapes background-dependent phenotypic expression*. Trends Genet, 34, 578-586.
18. E Kuzmin, B VanderSluis, W Wang, G Tan, R Deshpande, Y Chen, M Usaj, A Balint, M Mattiazzi Usaj, **J van Leeuwen**, EN Koch, C Pons, AJ Dagilis, M Prysxlak, Z Wang, J Hanchard, M Riggi, K Xu, H Heydari, BJ San Luis, E Shuteriqi, H Zhu, N Van Dyk, S Sharifpoor, M Costanzo, R Loewith, A Caudy, D Bolnick, GW Brown, BJ Andrews, C Boone, and CL Myers (2018) *Systematic analysis of complex genetic interactions*. Science, 360, 283.
17. M Shin, **J van Leeuwen**, C Boone, and A Bretscher (2018) *Yeast Aim21/Tda2 both regulates free actin by reducing barbed end assembly and forms a complex with Cap1/Cap2 to balance actin assembly between patches and cables*. Mol Biol Cell, 29, 923-936.
16. **J van Leeuwen**, C Boone, and BJ Andrews (2017) *Mapping a diversity of genetic interactions in yeast*. Curr Opin Syst Biol, 6, 14-21.
15. T Hart, AHY Tong, K Chan, **J van Leeuwen**, A Seetharaman, M Aregger, M Chandrashekhar, N Hustedt, S Seth, A Noonan, A Habsid, O Sizova, L Nedyalkova, R Climie, L Tworzyanski, K Lawson, MA Sartori, S Alibeh, D Tieu, S Masud, P Mero, A Weiss, KR Brown, M Ušaj, M Billmann, M Rahman, M Costanzo, CL Myers, BJ Andrews, C Boone, D Durocher, and J Moffat (2017) *Evaluation and design of genome-wide CRISPR/Cas9 knockout screens*. G3 (Bethesda), 7, 2719-2727.
14. JS Piotrowski, SC Li, R Deshpande, SW Simpkins, J Nelson, Y Yashiroda, JM Barber, H Safizadeh, E Wilson, H Okada, AA Gebre, K Kubo, NP Torres, MA LeBlanc, K Andrusiak, R Okamoto, M Yoshimura, E DeRango-Adem, **J van Leeuwen**, K Shirahige, A Baryshnikova, GW Brown, H Hirano, M Costanzo, BJ Andrews, Y Ohya, H Osada, M Yoshida, CL Myers, and C Boone (2017) *Functional annotation of chemical libraries across diverse biological processes*. Nat Chem Biol, 13, 982-993.
13. **J van Leeuwen**, C Pons, C Boone, and BJ Andrews (2017) *Mechanisms of suppression: the wiring of genetic resilience*. BioEssays, 39, 1700042.
12. A Huseinovic, **J van Leeuwen**, T van Welsem, F van Leeuwen, NPE Vermeulen, JM Kooter, and JC Vos (2017) *The effect of acetaminophen on ubiquitin homeostasis in Saccharomyces cerevisiae* PLoS One 12, e017357.
11. **J van Leeuwen**, C Pons, JC Mellor, TN Yamaguchi, H Friesen, J Koschwanez, M Mattiazzi Ušaj, M Pechlaner, M Takar, M Ušaj, B VanderSluis, K Andrusiak, P Bansal, A Baryshnikova, C Boone, J Cao, A Cote, M Gebbia, G Horecka, I Horecka, E Kuzmin, N Legro, W Liang, N van Lieshout, M

- McNee, BJ San Luis, F Shaeri, E Shuteriqi, S Sun, L Yang, JY Youn, M Yuen, M Costanzo, AC Gingras, P Aloy, C Oostenbrink, A Murray, TR Graham, CL Myers, BJ Andrews, FP Roth, and C Boone (2016) *Exploring genetic suppression interactions on a global scale*. Science 354, 599.
10. M Costanzo, B VanderSluis, EN Koch, A Baryshnikova, C Pons, G Tan, W Wang, M Ušaj, J Hanchard, SD Lee, V Pelechano, EB Styles, M Billmann, **J van Leeuwen**, N van Dyk, ZY Lin, E Kuzmin, J Nelson, JS Piotrowski, T Srikumar, S Bahr, Y Chen, R Deshpande, CF Kurat, SC Li, Z Li, M Mattiazzi Ušaj, H Okada, N Pascoe, BJ San Luis, S Sharifpoor, E Shuteriqi, SW Simpkins, J Snider, H Garadi Suresh, Y Tan, H Zhu, N Malod-Dognin, V Janjic, N Przulj, OG Troyanskaya, I Stagljjar, T Xia, Y Ohya, AC Gingras, B Raught, M Boutros, LM Steinmetz, CL Moore, AP Rosebrock, AA Caudy, CL Myers, BJ Andrews, and C Boone (2016) *A global genetic interaction network maps a wiring diagram of cellular function*. Science 353, 1381.
 9. **J van Leeuwen**, BJ Andrews, C Boone, and G Tan (2015) *Rapid and efficient plasmid construction by homologous recombination in yeast* (protocol). Cold Spring Harb Protoc 9, pdb.prot085100.
 8. **J van Leeuwen**, BJ Andrews, C Boone, and G Tan (2015) *Construction of multi-fragment plasmids by homologous recombination in yeast* (topic introduction). Cold Spring Harb Protoc 9, pdb.top084111.
 7. **J van Leeuwen**, NPE Vermeulen, and JC Vos (2012) *Yeast as a humanized model organism for biotransformation-related toxicity*. Curr Drug Metab 13, 1464-1475.
 6. **J van Leeuwen**, B Ünlü, NPE Vermeulen, and JC Vos (2012) *Differential involvement of mitochondrial dysfunction, cytochrome P450 activity and active transport in the toxicity of structurally related NSAIDs*. Toxicol In Vitro 26, 197-205.
 5. **J van Leeuwen** (2012) *Yeast as a model eukaryote in drug safety studies: New insights on diclofenac-induced toxicity* (in Dutch). BVLT 39, 225-230.
 4. **J van Leeuwen**, NPE Vermeulen, and JC Vos (2011) *Involvement of the pleiotropic drug resistance response, protein kinase C signaling, and altered zinc homeostasis in resistance of *Saccharomyces cerevisiae* to diclofenac*. Appl Environ Microbiol 77, 5973-5980.
 3. J Reinen, **J van Leeuwen**, Y Li, L Sun, PDJ Grootenhuis, CJ Decker, J Saunders, NPE Vermeulen, and JNM Commandeur (2011) *Efficient screening of P450 BM3 mutants for their metabolic activity and diversity towards a wide set of drug-like molecules in chemical space*. Drug Metab Dispos 39, 1568-1576.
 2. **J van Leeuwen**, R Orij, M Luttik, GJ Smits, NPE Vermeulen, and JC Vos (2011) *Subunits Rip1p and Cox9p of the respiratory chain contribute to diclofenac-induced mitochondrial dysfunction*. Microbiology 157, 685-694.
 1. **J van Leeuwen**, G Vredenburg, S Dragovic, TFJ Tjong, JC Vos, and NPE Vermeulen (2011) *Metabolism related toxicity of diclofenac in yeast as model system*. Toxicol Lett 200, 162-168.