

Iwijn De Vlaminck

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Education

3/2008	Ph.D. in Science and Engineering <i>K.U. Leuven, Belgium</i> Advisor: Gustaaf Borghs; Co-adviser: Robert Mertens
6/2003	Masters in electrical engineering <i>Burgerlijk elektrotechnisch ingenieur, K.U. Leuven, Belgium</i> Graduate coursework in electrical engineering and solid-state physics
6/2000	Bachelors in civil engineering <i>Kandidatuur Burgerlijk ingenieur, K.U. Leuven, Belgium</i>

Professional Employment

2/2021 - Present	Associate Professor of Biomedical Engineering , <i>Cornell University, USA</i>
1/2015 - 1/2021	Assistant Professor of Biomedical Engineering , <i>Cornell University, USA</i>
1/2012-11/2014	Postdoctoral researcher, HHMI research associate , <i>Stanford University, USA</i> <i>Genomics</i> Stephen Quake lab, Department of Bioengineering
4/2008-12/2011	Postdoctoral researcher , <i>Delft University of Technology, The Netherlands</i> <i>Single molecule biophysics</i> Cees Dekker lab, Department of BioNanoScience
1/2004-3/2008	PhD research , <i>IMEC, K.U. Leuven, Belgium</i>

Awards

2025	Fellow of the American Institute for Medical and Biological Engineering (AIMBE)
2022	Dorothy and Fred Chau, M.S. 74 Excellence in Teaching Award
2022	Emerging Leaders Forum National Academy of Medicine, Invited speaker/panelist
2021	BMES-CMBE Rising Star Junior Faculty Award
2020	Research Excellence Award Cornell College of Engineering
2020	Associate Scientific Advisor Science Translational Medicine
2019	Rainin Foundation Synergy Award
2019	Inspiring mentor Merrill Scholars program, Cornell University
2018	Agilent Early Career Professor Awards Finalist
2017	Robert '55 and Vanne '57 Cowie Excellence in Teaching Award
2017	NIH Director's New Innovator Award
2015	Robert N. Noyce Assistant Professorship in Life Science and Technology , selected by Provost
2014	BOFZAP research professorship award (declined). KULeuven Belgium
2014	Genome advance of the month . National Human Genome Research Institute
2008	Best publication track record award for graduate students at IMEC, Leuven, 2008
2004 – 2008	Graduate research fellowship from IWT, Belgium.

Research Highlights

Co-developed donor cell-free DNA test to diagnose organ transplant rejection (Sci. Transl. Med. 2014, PNAS 2015), already very widely adopted in transplantation medicine

Co-invented the Karius blood test to screen for infection from blood (Cell 2013; PNAS 2015), used in more than 400 US hospitals.

Development of RNA liquid biopsy to monitor inflammatory disease (Nat. Comm. 2024, PNAS 2024,...)

Development of HiPR-FISH technology to spatially map the microbiome (Nature 2020, Nature Microbiology 2024).

Development and application of methods to spatially map RNA in tissues (Nature Biotechnology 2023, PNAS 2024, Nature 2024).

100+ publications and preprints in diverse areas of science and engineering

Inventor on more than 20 patents and provisional applications.

Entrepreneurial and Translational Activities

Co-founder of Romix Biosciences, Inc (2024)

Co-founder of Kanvas Biosciences, Inc (2020)

Chair of the Scientific Advisory Board, Kanvas Biosciences (2020 - Present)

Scientific Advisory Board member, Karius, Inc. (2014-Present)

Scientific Advisory Board member, GenDX. (2022-2024)

Professional Service

Conference program and society activity

Micro and Nano Engineering conference 2010, abstract reviewer

Micro and Nano Engineering conference 2011, abstract reviewer

COMMANMD workshop at BIBM 2015, abstract reviewer.

International Society of Heart and Lung Transplantation 2017, together with Dr. Khush organized session on precision medicine approaches to transplant monitoring.

11th International meeting on Circulating Nucleic Acids in Plasma and Serum 2019, Jerusalem, member of the program committee and session chair.

12th International meeting on Circulating Nucleic Acids in Plasma and Serum 2022, San Francisco, member of the program committee and session chair.

13th International meeting on Circulating Nucleic Acids in Plasma and Serum 2024, Austria, member of the program committee and session chair.

14th International meeting on Circulating Nucleic Acids in Plasma and Serum, Hong Kong 2025, member of the program committee and session chair.

Biomedical Engineering Society Meeting 2019, abstract reviewer and session chair.

Biomedical Engineering Society, Cellular and Molecular Bioengineering 2023, abstract reviewer.

Biomedical Engineering Society, Cellular and Molecular Bioengineering 2024, abstract reviewer.

Service roles at Cornell

University Lecture committee, member (2025-Present)

Chair of the Biomedical Engineering faculty search committee (2023)

Chair of the BRC Genomics Facility Faculty Advisory Board, 2024-Present

Chair of the Molecular Cellular and Systems Engineering track of the Biomedical Engineering Teaching Curriculum

Co-chair for the Cornell Engineering in Medicine Initiative (EIM), 2024-Present

Chair of the Biomedical Engineering search committee (2022) AD White nomination and visit committee, SR Quake, 2019

Cornell Nanoscale Science and Technology Facility, Executive Committee member, 2018 - 2020

BME seminar series, organizer, 2019-Present

Data Science Task Force, Liaison for department

Presidential Life Science Fellowships Committee, member, 2016-2018

William Keeton House, House fellow, 2015-2019

Graduate Field memberships

Graduate Field of Biomedical Engineering, member

Graduate Field of Biophysics, member

Graduate Field of Physics, member

Graduate Field of Computational Biology, member

Graduate Field of Genetics, Genomics and Development, member

Graduate Field of Chemical and Biological Engineering, member

Graduate Field of Tri-Institutional Computational Biology, member

Center memberships

Cornell Center for Vertebrate Genomics, member

Cornell Center for Materials Research, member

Atkinson Center, fellow

International students, PhD committee member

Joris Roels, University of Ghent, Belgium (2011)

Abel Bronkhorst, North-West University, South Africa (2017)

Reviewer for Grants, National

NSF Graduate Research Fellowship Program (2016)

Panel reviewer NIH/SREA (2023)

Panel reviewer NIH-GCAT (2023)

Medical University of South Carolina, Digestive and liver disease program, reviewer (2023)

Panel reviewer NIH-EDIT (2024)

reviewer NIH-CHD (2024).

Reviewer for Grants, International

Reumafonds, The Netherlands (2016)

Kanker Wetenschaps Fonds, The Netherlands (2022)

Fonds voor Wetenschappelijk Onderzoek, Belgium (2018)

FWF Der Wissenschaftsfonds, Austria (2017)

Canada Foundation for Innovation (2023)

Cystic Fibrosis Canada (2023)

European Research Council, EU (2024)

The Israel Science Foundation (2024)

Reviewer for Inaugural Networks Competition, McGill University Health Centre (2025)

Professional society membership

International Society for Heart and Lung Transplantation ISHLT (2015-2018), American Physical Society (2017-2019),

Biomedical Engineering Society (2018-Present), American Heart Association (2024)

Reviewer for Journals

Nano Letters (2012), Nucleic Acids Research (2012-Present), Nanotechnology (2010), New Journal of Physics (2010), Micro electronic engineering (2011), Plos One (2014-Present), Giga Science (2015-Present), American Journal of Transplantation (2015-Present), European Journal of Biophysics (2015-Present), Scientific Reports (2016-Present), Proceedings of the National Academy of Sciences (2015-Present), European Journal of Human Genetics (2016-Present), Journal of Translational Medicine (2017-Present), BMC Bioinformatics (2017-Present), Clinical Chemistry (2017-Present), Science Translational Medicine (2018), EMBO Molecular Medicine (2018), Journal of Immunological Methods (2018), Nature Methods (2018), Cancer Cell (2019), Molecular Diagnosis and Therapy (2019), Nature Biotechnology (2020-Present), Nature Immunology (2021-Present), Nature Communications (2021-Present), Science (2021-Present), Proceedings of the National Academy of Sciences (2020-Present) eLife (2020-Present), Science, Nature, Trends in Genetics.

Editor for Journals

Frontiers in Immunology (2021-Present)
eLife (ad Hoc, 2021-Present)

Mentoring

Postdoctoral Fellows and Research Associates

2024-Present	Conor Loy
2023-Present	Lena Takayasu
2022-Present	Rohit Agarwal
2020-2022	Shaun Cross (current position: Assistant Professor, University of Nebraska Medical Center)
2016-2019	Mridusmita Saikia (current position, lecturer, Cornell University)
2017-2018	Roozbeh Abedini Nassab (current position, Assistant Professor, University of Neyshabur)

Past PhD Students

2015-2019	Philip Burnham, Physics, CSO Kanvas Biosciences.
2015-2020	Hao Shi, Physics, Founder and CEO Kanvas Biosciences.
Summer 2015	Carolina Malcher Amorim de C. Silva, visiting PhD student, University of Sao Paulo, Brazil
2016-2021	Alex Cheng, Biomedical Engineering, current position: postdoc Weill Cornell Medicine
2018-Present	Michael Wang, Computational Biology, current position: Computational Scientist, Altos Labs
2018-Present	David McKellar, Biomedical Engineering, co-advised with Dr. Cosgrove, Cornell University, Research scientist at New York Genome Center
2019-Present	Benjamin Grodner, Biomedical Engineering, Cornell University, postdoc at University of Washington
2019-Present	Adrienne Chang, Biophysics, Cornell University, Patent Agent, Wolf Greenfield
2019-Present	Madhav Mantri, Computational Biology, Cornell University, postdoc at Stanford University
2020-Present	Omary Mzava, Biomedical Engineering, Cornell University, postdoc at Johns Hopkins University
2020-Present	Conor Loy, Genetics Genomics and Development, Cornell University, Ignite Fellow for New Ventures, Cornell

Current PhD Students

2021-Present	Yannis Ntekas, Biomedical Engineering, Cornell University, expected graduation Spring 2025
2021-Present	Liz-Audrey Djomnang Kounatse, Biomedical Engineering, Cornell University, expected graduation Fall 2025
2023-Present	Shaowen Jiang, Computational Biology, Cornell University, expected graduation Spring 2027
2023-Present	Annie Gardella, BMCB, Cornell University, expected graduation Spring 2027
2023-Present	Daniel Eweis-Labolle, BMCB, Cornell University, expected graduation Spring 2027
2024-Present	Chase Holdener, Computational Biology, Cornell University, expected graduation Spring 2028
2024-Present	Glory Feyisayo Agun, BMCB, Cornell University, expected graduation Spring 2028
2024-Present	Andreas Stephanou, BMCB, Cornell University, expected graduation Spring 2028
2025-Present	Janahara Freedman, Biophysics, Cornell University, expected graduation Spring 2029

Research Staff

Tiffany Ho (2017), Joan Sesing Lenz (2017-Present), Deepan Thirupatthy (2018-2019), Emma Belcher (2023-Present), Peter Schweitzer (2023 - Present), Andrew Bliss (2023-Present)

Masters Students

Jiaming Xu, Biomedical engineering, Cornell University (2015-2016), Eamon Collins, Biomedical Engineering, Cornell University (2016), Selina Taferner, visiting from University of Applied Sciences Krems, Austria (2016), Julie Shields, Biomedical Engineering, Cornell University (2018), Fanny Chen, Biomedical Engineering, Cornell University (2018)

Undergraduate Students

Logan Allen (2015), Min Seong Kim (2015-2016), Fanny Chen (2015-2018), Rosario Majano (2015, HHMI CHAMPS program), Rena Ryumae(2016), Micheal Heyang(2016-Present), Gefei Xu (2016-2017), Sara Keshavjee (2016-2019), Nancy Engel (2017-2018), Michael Bashta (2017-2018), Jonathan Han (2017-2019), Leo Song (2019-Present), Jordan Johnson (2019-2020), Aaron Yao-Smith (2019-2020), Peter Kaplinsky (2019-Present), Andrew Bliss (2020-2023), Owen Farchione (2020-2023), Soleil Su (2022 - Present), Adam Yang (2023- Present), Sally Scofield (2023 - Present), Angelina Chen (2023 - Present), Eujin Lee (2023-Present).

High School Students

Hayley Ackermann (summer 2017), Isaiah Gutman (summer 2017 and 2018), Mufei Guo (summer 2019)

Freshman advising

2016-2020 Contact and mentor for 17 first-year students in the College of Engineering.

2021-2023 Contact and mentor for 23 first-year students in the College of Engineering.

2024-2028 Contact and mentor for 22 first-year students in the College of Engineering.

Before 2015 **Supervisor** for several students during their Bachelor and Master theses and summer research projects: Johan den Blanken (Master), Ludovit Zweifel (Master), Thomas Henighan (Master), Venkatesh Sivasubramaniam (Master), Rachid El Boubsi (Master), Thomas Batardi (summer research project), Rik Naulaerts (summer research project), Koen Hooning (Bachelor), Julius Huijts (Bachelor)

Invited tutor at the workshop QECG2011: Linkage and Recombination in Genome Sequences (Okinawa, Japan)