

## 1 personalia




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 Scopus <https://www.scopus.com/authid/detail.uri?authorId=23024820200>

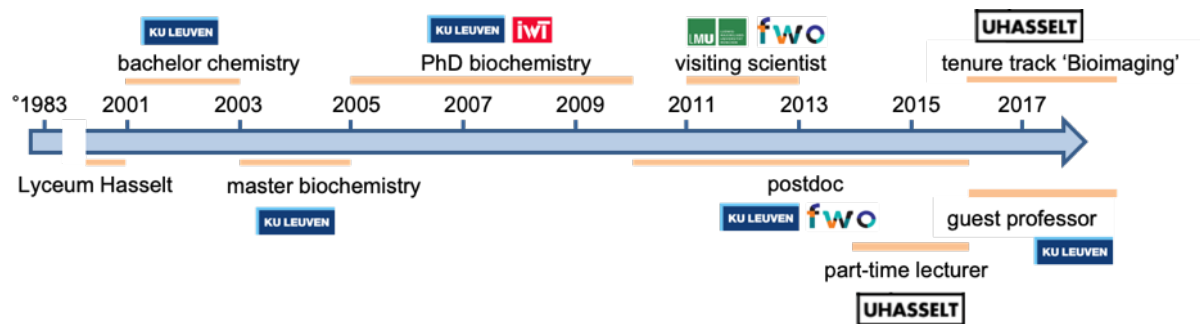


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## 2 education & work history



master thesis title: Study of the interaction of HIV-1 integrase and LEDGF/p75 and characterization of monomeric red fluorescent proteins with fluorescence correlation spectroscopy  
promotor: Yves Engelborghs  
grade: magna cum laude

PhD thesis title: Confocal spectroscopy in living cells - Chromatin and protein interactions of HIV-1 integrase co-factor LEDGF/p75  
promotors: Yves Engelborghs, Zeger Debyser  
funding: Agency for the Promotion of Innovation through Science and Technology Flanders (IWT, now VLAIO)

postdoc topic: development of advanced fluorescence imaging modalities and application in the life sciences  
funding: Research Foundation Flanders (FWO)  
promotor: Johan Hofkens

visiting scientist topic: development of novel pulsed interleaved excitation imaging methods and application in the life sciences  
location: Ludwig-Maximilians-Universität München, Germany  
funding: FWO scholarship for a long term abroad and the German Academic Exchange Service (Deutscher Akademischer Austauschdienst, DAAD).

part-time lecturer location: Hasselt University, Discipline group Chemistry  
tasks: biochemistry lecturer and coordinator interuniversity (Hasselt-Leuven) Bachelor internships

assistant professor location: Hasselt University, BIOMED & Advanced Optical Microscopy Center. Since October 1, 2020: Special research fund tenure track bioimaging label for promising researchers.

guest professor location: KU Leuven Molecular Imaging and Photonics

### 3 mission

We investigate the biomolecular sequence-structure-function paradigm without using complex crystallization procedures. Instead we focus on developing (both hardware and software) and applying advanced fluorescence methods that provide detailed insights in the quaternary (stoichiometry) and tertiary (conformation and dynamics) structure of molecules at the ensemble, sub-ensemble or true single molecule level.

The methods we focus on mostly, as well as the instruments we use in our daily practice, are nicely illustrated on our website: <https://www.uhasselt.be/UH/DBI/Research/methods.html>

Over the last decade, we've managed in this way to provide unprecedented insights in, for example, the workings of retroviruses such as the HIV/AIDS virus. For an overview of our current research lines (excluding projects from collaborators), see our website: <https://www.uhasselt.be/UH/DBI/Research/Projects.html>

### 4 team

We are an interdisciplinary biophysics team of PhD, master and bachelor students with defined methodological expertise and biological project(s) to which these methods are applied. However, we also closely follow up on the fluorescence imaging activities (time-resolved and fluctuation spectroscopy) of many other researchers in our institutes. Our research group is embedded in the UHasselt Biomedical Research Institute (BIOMED) and Faculty of Medicine and Life Sciences. This means we are surrounded with challenging biomedical research questions and supported by an excellent administrative and technical staff.

We run UHasselt's optical microscopy core facility, the [Advanced Optical Microscopy Centre](#), and are a member of the [Flanders Bioimaging](#) Consortium that facilitates access of imaging infrastructure in Flanders.

## 5 funding

### 5.1 personal

IWT PhD Fellow	October 1 <sup>st</sup> 2005 – September 30 <sup>th</sup> 2009
FWO postdoctoral Fellow	October 1 <sup>st</sup> 2010 – September 30 <sup>th</sup> 2013
FWO travel grant	September 5 <sup>th</sup> 2011 – August 31 <sup>st</sup> 2012, 19.8k€
DAAD Research Fellow	March 2013-June 2013
Travel grant	for attending the 58 <sup>th</sup> Annual Meeting of the Biophysical Society in San Francisco, February 14-19, 2014 from the Belgian Society for Microscopy (BSM).
Research Grant (FWO)	1/1/18-31/12/18, 30k€
ERC incentive fund (UH)	1/10/20-30/9/21, 21,5k€

### 5.2 group level – granted

Source	#	date		€
FWO	I00032 1N	01/01/2021- 31/12/2022	FB-III ("FB triple-I") : Flanders BioImaging: Integrating Imaging Infrastructure from cell to man. (Promotor-spokesman: Koen van Laere (KULeuven; co-PI's: Sebastian Munck (VIB-KU Leuven Center for Brain & Disease Research, Flanders Institute for Biotechnology) Sigrid Stroobants (Nuclear Medicine, University of Antwerp) Pieter Vanden Berghe (Lab for Enteric Neuroscience and Cell Imaging Core, TARGID, KU Leuven) Winnok De Vos (Laboratory of Cell Biology and Histology, University of Antwerp) Tony Lahoutte (Nuclear Medicine - Human Research Programme, VUB) Stefaan Vandenberghe (MEDISIP, Ghent University) Kevin Braeckmans (Bio-Photonic Research Group, Ghent University) Jelle Hendrix (Biomedical Research Institute, Advanced Microscopy Center, Hasselt University )	631 k€
FWO	I00171 9N	1/1/2018- 31/12/2020	"Flanders BioImaging: towards an integrated, translational and multimodal imaging platform from molecule to man"	200k€
UHasselt-IOF		2/7/2020	Industrieel onderzoeksfonds: "Marketable solution for advanced microscopy image correlation"	90k€ (50% co-fin.)
UHasselt-BOF		01/11/2019	FABLITE – A light sheet microscopy and microfabrication 'ménage-à-deux' for real-time, high throughput and physiological structural biology. Role: promotor-spokesman	388k€
FWO-SB Scholarship	1S6542 0N	01/11/2019	To Arnoud Jongeling: Development of microdevices for screening membrane protein realtime structure in physiological conditions and investigation of multidrug resistance transporter LmrP. Role: promotor	200k€
BOF extra funding	R- 10495	01/12/2019	To Arnoud Jongeling	25k€
FWO research project	G0B491 5N	01/01/2015- 31/12/2018	Development and application of broadly applicable microscopy methods and probes for diffraction-unlimited fluctuation imaging of dynamic biological systems. role: co-supervisor (supervisor Johan Hofkens, co-supervisor Lily Karamanou), I designed and wrote project	500k€

Hercules large-scale infrastructure	ZW15_09	01/10/2016-31/09/2021	consortium (Dept. Chemistry, Centre for Surface Chemistry and Catalysis, Dept. Mechanical Engineering) for a commercial laser scanning microscope equipped with (among other things) pulsed interleaved excitation. Title: Multimodal fluorescence microscopy and nanoscopy platform. role: co-promoter (promoter Johan Hofkens, co-promoters Hans van Oosterwyck, Peter Dedecker and Maarten Roeffaers). I had a substantial contribution in wrting the project.	1.8M€
KU Leuven Cat. 1 project	C14/16/053	01/09/2016-31/09/2020	Role: co-supervisor (promoter Hideaki Mizuno, cosup. Susana Rocha), I designed the methodological and part of applications part of the project	583k€
IWT scholarship	111595		to Doortje Borrenberghs: 'Development of an advanced model system for studying retroviral replication at the single-virus level.' start date January 1, 2011. role: promotor, I designed and coordinate project	200k€
IWT scholarship	141515	start date January 1, 2015	to Niels Vandenberg: 'The E.coli Sec reaction pathway for cellular protein sorting under an innovative single-molecule loupe': role: co-promotor, I designed and coordinated project	200k€
KUL Cat. 1 project	C12/16/024	01/10/2016-31/09/2018	Scientific collaborator, promotor Rik Schrijvers	
UHasselt-BOF-New Initiatives		Start date 1/2019	To Keerthana Ramanathan: Moleculaire dynamica en kracht generatie: een nieuwe kijk op celmechanosensatie en communicatie. Role: promotor	206k€
UHasselt-BOF / KUL-BOF		Start date 10/2016	To Veerle Lemmens: Een patch-clamp fluorometrie platform om de structuur functie relatie van glycine receptoren te ontrafelen. Role: promotor	200k€
H2020-MSCA-ITN-2018		Start 2019	NanoCarb 'Glyco-Nanoparticles for Applications in Advanced Nanomedicine' project from VITO-Mol. I am the scientific promotor of the project for one of the PhD students.	

## 6 teaching

With *publication pressure* being grafted onto everyone, the importance of high-level education is sometimes overlooked. Luckily, however, I have a true passion for teaching science in a simple and understandable manner. In my opinion, this is the only way people (scientists or not) can appreciate its true value.

### 6.1 Diploma

Basic education diploma via EVC education (VSNU certified) in recognition of didactic competence for lecturers in science education, june 2020.

### 6.2 current duties

KU Leuven course	± students	Level		role
B-KUL-G0G59A	30	Master	Advanced fluorescence and fluorescence microscopy	Lecturer

UHasselt course	± students	Level		role
3408	50	Bachelor	Cell biology (dutch)	coordinator
3354	50	Bachelor	Histologie en Fysiologie van de gewervelden (dutch)	lecturer
3620	90	Bachelor	Immunity (dutch)	lecturer
		Bachelor	Internship	coordinator
3951	40	Master	Innovative Imaging Techniques	coordinator
3979	20	master	Advanced Light Microscopy	coordinator

### 6.3 past duties

I followed a course in educational professionalization in 2016-2017, and regularly attend educational focus days at Hasselt University.

I am a former lecturer at Hasselt University of the entry level course in Biochemistry (Inleiding tot de biochemie, course number 1399) and of the coordinator of the interuniversity bachelor internships UHasselt-KU Leuven.

I lectured in the following courses at KU Leuven:

- Spectroscopy of Biomolecules (B-KUL-G0058C)
- Geïntegreerd practicum (B-KUL-G0057C)
- Advanced Enzymology (B-KUL-G0U19A)
- Advances in Microscopy (B-KUL-E08F8A)

I lectured the following classes at LMU Munich:

- instrumentation for microscopy
- physical biochemistry
- advanced fluorescence spectroscopy

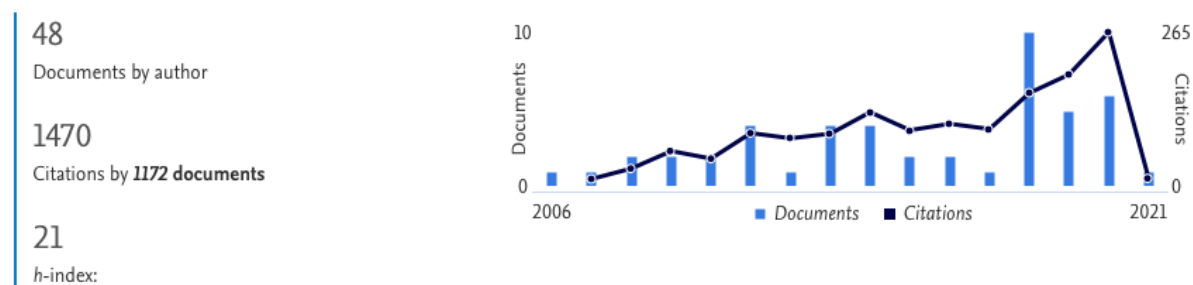
## 7 organization of conferences

date	Place	conference	role	Partner(s)
2013	Leuven	International Conference of Photochemistry, ICP2013	Help in organization	Johan Hofkens
2012, 2014, 2016, 2018	Munich	European Workshop on Advanced Fluorescence Imaging and Dynamics	Help in organization, invited lecturer	Don Lamb
4/2016	Leuven	1-day symposium on fluorescence imaging at the level of a single virus, in the context of the Interuniversity Attraction Pole BelVir IAP 7/45 'Virus-host interplay at the early stages of infection'	Main organizer	Zeger Debyser
2017	Bruges	Methods and Applications in Fluorescence (MAF15) conference	Help in organization	Johan Hofkens, Maarten Roeffaers
9/2018	Hasselt	NanoMacro workshop. <a href="https://www.uhasselt.be/NanoMacroImaging-2018">https://www.uhasselt.be/NanoMacroImaging-2018</a> . We welcomed about 50 participants from Belgium, Ireland, Germany, the Netherlands and even Mexico for an immersive course (lectures, demos, exercise classes) on microscopy from the nanoscale all the way to the organism level.	Main organizer	Marcel Ameloot, Nick Smisdom

6/2017	Hasselt	Advanced Optical Microscopy Launch event in collaboration with Zeiss	Main organizer	Marcel Ameloot, Nick Smisdom
10/2018	Leuven	Advanced multiscale fluorescence imaging @ Arenberg Imaging Centre	Main organizer	Johan Hofkens, Peter Dedecker, Hans van Oosterwyck, Maarten Roeffaers
9/2021	Hasselt	Illuminating biological processes using fluorescence microscopy	Main organizer	Werend Boesmans

## 8 publications

Scopus citation report for 'Hendrix Jelle' on January 10, 2020:



Since 2006, I have published in peer-reviewed internationally recognized journals, including top journals such as the *Journal of Cell Biology* (first author), *ACS Nano* (corresponding author), *Nucleic Acids Research* (one first author, and one corresponding author), *Science Advances* (first author), *Nature Methods*, *Nature Communications*, *PLoS Pathogens* and *PNAS*.

I am corresponding author on 13 A1 publications and first author on 9 papers/reviews/book chapters.

I have published together with different groups at KU Leuven, UGhent, UHasselt, ULB-Charleroi, VUB-VIB and with different universities across the globe.

### 8.1 list

° = shared authorship

\* = corresponding author

# = running number

type: R = review

type: A1 = peer-reviewed internationally recognized journal

c = number of citations on April 13, 2020, according to Scopus.

IF = impact factor at time of publication

IF5 = 5-year impact factor

year	#	type	c	IF	IF5	
2020	44.	A1			6.4	Giovannozzi S, Lemmens V, <b>Hendrix J</b> , Gijsbers R, Schrijvers R., Live Cell Imaging Demonstrates Multiple Routes Toward a STAT1 Gain-of-Function Phenotype, <i>Front Immunol</i> , 2020, Jun 9
	43.	A1			13.5	Rocha S, <b>Hendrix J</b> , Borrenberghs D, Debyser Z, Hofkens J., Imaging the Replication of Single Viruses: Lessons Learned from HIV and Future Challenges To Overcome, <i>ACS Nano</i> , 2020, Sep 22.
	42.	A1		12.1	13.9	Hedvig Tamman, Katleen Van Nerom, Hiraku Takada, Niels Vandenberk, Daniel Scholl, Yury Polikanov, Johan Hofkens, Ariel Talavera, Vasili Hauryliuk*, <b>Jelle Hendrix*</b> and Abel Garcia-Pino*, "A nucleotide-switch mechanism mediates opposing catalytic activities of bifunctional Rel enzymes", <i>Nature Chemical Biology</i> , in press
	41.	A1				Lemmens, V., Ramanathan, K., <b>Hendrix, J.*</b> , "Fluorescence microscopy data for quantitative mobility and interaction analysis of proteins in living cells", <i>Data in Brief</i> 2020, 29, 105348



2019	40.	A1		4.0	4.5	Zurnic I, Dirix L, Lemmens V, Borrenberghs D, Rocha S, Christ F, Hofkens J, <b>Hendrix J</b> , Debyser Z, "Capsid labeled HIV reveals nuclear envelope uncoating and questions capsid role during integration.", J Virology 2020 94(7).
	39.	A1	2	3.7	3.8	Marco Longfils*, Nick Smisdom, Marcel Ameloot, Mats Rudemo, Veerle Lemmens, Guillermo Solís Fernández, Magnus Röding, Niklas Lorén, <b>Jelle Hendrix*</b> , Aila Särkkä, Raster Image Correlation Spectroscopy Performance Evaluation, Biophysical Journal 2019, 117(10), pp. 1900-1914.
	38.	A1	0			Harshita Bhatia, Julian A. Steele, Cristina Martin, Masoumeh Keshavarz, Guillermo Solis-Fernandez, Haifeng Yuan, Guillaume Fleury, Haowei Huang, Iurii Dovgaliuk, Dmitry Chernyshov, <b>Jelle Hendrix</b> , Maarten B. J. Roeffaers, Johan Hofkens, Elke Debroye, Single-Step Synthesis of Dual Phase Bright Blue-Green Emitting Lead Halide Perovskite Nanocrystal Thin Films, Chemistry of Materials, 2019, American Chemical Society, August 2019
	37.	A1	1	11.6	10.2	Borrenberghs D, Dirix L, Cereseto A, Hofkens J, Debyser Z* and <b>Hendrix J*</b> , "Post-mitotic BET-induced reshaping of integrase quaternary structure supports wild-type MLV integration" Nucleic Acids Research. 2019 February 20; gky1157
	36.	A1	2	4.9	5.0	Vandenberk N, Karamanou S, Portaliou AG, Zorzini A, Hofkens J, <b>Hendrix J*</b> , Economou A*, "The preprotein binding domain of SecA displays intrinsic rotational dynamics." Structure. 2019 January 2
2018	35.	A1	13	12.3		Huang H, Yuan H, Zhao J, Solís-Fernández G, Zhou C, Seo JW, <b>Hendrix J</b> , Steele J, Hofkens J, Long J, Roeffaers M, "C(sp3)-H Bond Activation by Perovskite Solar Photocatalyst Cell" ACS Energy Letters, January 2019
	34.	A1	3	9.7	10.4	Barth A, <b>Hendrix J</b> , Fried D, Barak Y, Bayer EA, Lamb DC*, "Dynamic interactions of type I cohesin modules fine-tune the structure of the cellulosome of Clostridium thermocellum" Proceedings of the National Academy of Sciences USA. 2018 November 14
	33.	A1	52	26.9	41.9	Hellenkamp B°, Schmid S°, Adariani SR, Ambrose B, Aznauryan M, Barth A, Birkedal V, Bowen ME, Chen H, Cordes T, Eilert T, Fijen C, Gebhardt C, Götz M, Gouridis G, Gratton E, Ha T, Hao P, Hanke CA, Hartmann A, <b>Hendrix J</b> , Hildebrandt LL, Hirschfeld V, Hohlbein J, Hua B, Hübner CG, Kallis E, Kapanidis AN, Kim JY, Krainer G, Lamb DC, Lee NK, Lemke EA, Levesque B, Levitus M, McCann JJ, Naredi-Rainer N, Nettels D, Ngo T, Qiu R, Robb NC, Röcker C, Sanabria H, Schlierf M, Schröder T, Schuler B, Seidel H, Streit L, Thurn J, Tinnefeld P, Tyagi S, Vandenberk N, Vera AM, Weninger KR, Wunsch B, Yanez-Orozco IS, Michaelis J*, Seidel CAM*, Craggs TD* and Hugel T, "Precision and accuracy of single-molecule FRET measurements - a multi-laboratory benchmark study" Nature Methods 2018, 15:669-676
	32.	A1/R	5	3.8	3.7	Parveen N, Borrenberghs D, Rocha S, <b>Hendrix J*</b> , "Single Viruses on the Fluorescence Microscope: Imaging Molecular Mobility, Interactions and Structure Sheds New Light on Viral Replication." Viruses. May 10 2018. 10(5) pii: E250.
	31.	A1	22	3.5	3.7	Schrumpf W°, Barth A°, <b>Hendrix J</b> and Lamb DC, "PAM: A Framework for Integrated Analysis of Imaging, Single-Molecule, and Ensemble Fluorescence Data." Biophysical Journal, April 10, 2018, 114 (7), p1518-1528.

	30.	A1	42	12.2		Huang H, Yuan H, Janssen KPF, Solis-Fernandez G, Wang Y, Tan CYX, Jonckheere D, Debroye E, Long JL, <b>Hendrix J</b> , Hofkens J, Steele JA, Roeffaers, M.B.J., "Efficient and Selective Photocatalytic Oxidation of Benzylic Alcohols with Hybrid Organic-Inorganic Perovskite Materials." ACS Energy Letters, May 2018, 3(4), pp755-759
	29.	A1	7	11.5		Talavera A°, <b>Hendrix J</b> °, Versées W, Jurénas D, Van Nerom K, Vandenberg N, Singh RK, Konijnenberg A, De Gieter S, Castro-Roa D, Barth A, De Greve H, Sobott F, Hofkens J, Zenkin N, Loris R, Garcia-Pino A, "Phosphorylation decelerates conformational dynamics in bacterial translation elongation factors." Science Advances. 2018 Mar 14; 4(3), eaap9714
	28.	A1	3	3.1		Vandenberg N, Barth A, Borrenberghs D, Hofkens J, <b>Hendrix J*</b> , "Evaluation of Blue and Far-Red Dye Pairs in Single-Molecule Förster Resonance Energy Transfer Experiments." J. Phys. Chem. B. March 15, 2018; 122(15), pp 4249-4266
	27.	A1	2	4.0	3.9	Schrimpf W°, Lemmens V°, Smisdom N, Ameloot M, Lamb DC*, <b>Hendrix J*</b> , "Crosstalk-free multicolor RICS using spectral weighting." Methods. 2018 May 1;140-141:97-111
	26.	A1	15	13.3	12.8	Rosam M, Krader D, Nickels C, Hochmair J, Back KC, Agam G, Barth A, Zeymer C, <b>Hendrix J</b> , Schneider M, Antes I, Reinstein J, Lamb DC, Buchner J., "Bap (Sil1) regulates the molecular chaperone BiP by coupling release of nucleotide and substrate." Nat Struct Mol Biol. 2018 Jan;25(1):90-100.
2017	25.	A1	2	13.9		Burger VM, Vandervelde A, <b>Hendrix J</b> , Konijnenberg A, Sobott F, Loris R, Stultz CM (2017). Hidden States within Disordered Regions of the CcdA Antitoxin Protein. J Am Chem Soc. 2017 Feb 22;139(7):2693-2701. doi: 10.1021/jacs.6b11450
2016	24.	A1	14			Doortje Borrenberghs, Lieve Dirix, Flore De Wit, Susana Rocha, Jolien Blokken, Stéphanie De Houwer, Rik Gijssbers, Frauke Christ, Johan Hofkens, <b>Jelle Hendrix*</b> & Zeger Debyser* (2016). Dynamic Oligomerization of Integrase Orchestrates HIV Nuclear Entry, <i>Scientific Reports</i> 6 (doi: 10.1038/srep36485)
	23.	A1	19	3.5		<b>Jelle Hendrix*</b> , Tomas Dekens, Waldemar Schrimpf and Don C. Lamb* (2016). Arbitrary-Region Raster Image Correlation Spectroscopy, <i>Biophysical Journal</i> 111(8):1785-1796
2015	22.	A1	44	9.8		<b>Jelle Hendrix</b> , Viola Baumgärtel, Waldemar Schrimpf, Sergey Ivanchenko, Michelle A. Digman, Enrico Gratton, Hans-Georg Kräusslich, Barbara Müller and Don C. Lamb (2015). Direct observation of the onset of HIV-1 assembly in living cells, <i>The Journal of Cell Biology</i> 210(4):629-646 (IF most recent: 9.8)
	21.	A1	39	12.1		Röhl A, Wengler D, Madl T, Lagleder S, Tippel F, Herrmann M, <b>Hendrix J</b> , Richter K, Hack G, Schmid AB, Kessler H, Lamb DC, Buchner J (2015). Hsp90 regulates the dynamics of its cochaperone Sti1 and the transfer of Hsp70 between modules. <i>Nat Communications</i> 6:6655. (doi: 10.1038/ncomms7655)
2014	20.	A1	22	3.7		Ozgen H., Schrimpf W., <b>Hendrix J.</b> , de Jonge J.C., Lamb D.C., Hoekstra D., Baron W. and Kahya N. (2014) The Lateral Membrane Organization and Dynamics of Myelin Proteins PLP and MBP Are Dictated by Distinct Galactolipids and the Extracellular Matrix. <i>PLoS ONE</i> 9(7):e101834. (doi: 10.1371/journal.pone.0101834)
	19.	A1	7	4.7		<b>Hendrix, J.</b> °, Van Heertum, B.°, Vanstreels E, Daelemans D and De Rijck, J. (2014) Dynamics of the

					ternary complex formed by c-Myc interactor JPO2, transcriptional co-activator LEDGF/p75 and chromatin. <i>Journal of Biological Chemistry</i> 289(18):12494-506. (doi: 10.1074/jbc.M113.525964)
	18.	A1	5	12.0	Borrenberghs, D., Thys, W., Rocha, S., Demeulemeester, J., Weydert C., Dedecker, P., Debyser, Z., Hofkens, J., and <b>Hendrix, J.*</b> HIV virions as nanoscopic test tubes for probing oligomerization of the integrase enzyme (2015). <i>ACS Nano</i> 8(4):3531-45. (doi: 10.1021/nn406615v). <ul style="list-style-type: none"> <li>• <b>Knack magazine</b>, nr. 27, 02/07/2014 – ‘Eiwitten volgen in een virus’ (door Dirk Draulans, gedrukte versie)(Knack is a Belgian (Flemisch) weekly news magazine covering local news, politics, sports, business, jobs, and community events)</li> <li>• <b>KU Leuven Campuskrant</b>, jaargang 25, nr. 9, 28/05/2014 – ‘Hiv-deeltje omgetoverd tot proefbuis om geneesmiddelen te testen’ (<a href="#">newspaper</a> of KU Leuven)</li> <li>• <b>Imaging&amp;Microscopy Newsletter</b> May 14, 2014</li> <li>• <b>ScienceDaily</b></li> </ul>
	17.	A1/R	8		<b>Hendrix J*</b> , Lamb DC*, “Implementation and application of pulsed interleaved excitation for dual-color FCS and RICS.” <i>Methods Mol Biol.</i> 2014;1076:653-82
2013	16.	A1	30	3.7	<b>Hendrix, J.*</b> , Schrimpf, W., Holler, M., and Lamb, D.C.* (2013). Pulsed interleaved excitation fluctuation imaging. <i>Biophys J</i> 105, 848-861. <ul style="list-style-type: none"> <li>• Highlighted in <b>New &amp; Notable</b> column of the <i>Biophysical Journal</i>: Wiseman, P.W. (2013). Fluctuation Imaging Spiced Up with a Piece of PIE. <i>Biophys J</i> 105, 831.</li> </ul>
	15.	A1/R	19	2.0	<b>Hendrix, J.</b> , and Lamb, D.C. (2013). Pulsed interleaved excitation: principles and applications. <i>Methods Enzymol</i> 518, 205-243.
	14.	A1	6	4.7	De Graeve, S., Marinelli, S., Stolz, F., <b>Hendrix, J.</b> , Vandamme, J., Engelborghs, Y., Van Dijck, P., and Thevelein, J.M. (2013). Mammalian ribosomal and chaperone protein RPS3A counteracts alpha-synuclein aggregation and toxicity in a yeast model system. <i>Biochem J</i> 455, 295-306.
	13.	A1	80	5.7	Desimmie, B., Schrijvers, R., Demeulemeester, J., Borrenberghs, D., Weydert, C., Thys, W., Vets, S., Van Remoortel, B., Hofkens, J., De Rijck, J., <b>Hendrix, J.</b> , Bannert, N., Gijssbers, R., Christ, F., Debyser, Z. (2013). LEDGINS inhibit late stage HIV-1 replication by modulating integrase multimerization in the virions. <i>Retrovirology</i> , 10, art.nr. 10.1186/1742-4690-10-57, 57.
2012	12.	A1	40	7.0	Desimmie, B., Humbert, M., Lescrinier, E., <b>Hendrix, J.</b> , Vets, S., Gijssbers, R., Ruprecht, R., Dietrich, U., Debyser, Z., Christ, F. (2012). Phage display-directed discovery of LEDGF/p75 binding cyclic peptide inhibitors of HIV replication. <i>Molecular Therapy</i> , 20 (11), art.nr. 10.1038/mt.2012.132, 2064-2075
2011	11.	A1	23	3.9	McNeely, M. <sup>o</sup> , <b>Hendrix, J.<sup>o</sup></b> , Busschots, K., Boons, E., Deleersnijder, A., Gérard, M., Christ, F., Debyser, Z. (2011). In vitro DNA tethering of HIV-1 integrase by the transcriptional coactivator LEDGF/p75. <i>Journal of Molecular Biology</i> , 410 (5), 811-830.
	10.	A1	14	3.7	Cuyvers, S., <b>Hendrix, J.</b> , Dornez, E., Engelborghs, Y., Delcour, J., Courtin, C. (2011). Both Substrate Hydrolysis and Secondary Substrate Binding Determine Xylanase Mobility as Assessed by FRAP. <i>Journal of Physical Chemistry B</i> , 115 (16), 4810-4817.

2010	9.	A1	41	7.8	<b>Hendrix, J.</b> , Gijsbers, R., De Rijck, J., Voet, A., Hotta, J., McNeely, M., Hofkens, J., Debyser, Z., Engelborghs, Y. (2010). The transcriptional co-activator LEDGF/p75 displays a dynamic scan-and-lock mechanism for chromatin tethering. <i>Nucleic Acids Research</i> , 39 (4), 1310-1325.
	8.	A1	75	4.2	Nath, S., Meuis, J., <b>Hendrix, J.</b> , Carl, S., Engelborghs, Y. (2010). Early aggregation steps in alpha-synuclein as measured by FCS and FRET: evidence for a contagious conformational change. <i>Biophysical Journal</i> , 98 (7), 1302-11.
	7.	A1	75	3.0	Ricicova, M., Kucharikova, S., Tournu, H., <b>Hendrix, J.</b> , Bujdakova, H., Van Eldere, J., Lagrou, K., Van Dijck, P. (2010). Candida albicans biofilm formation in a new in vivo rat model. <i>Microbiology-SGM</i> 156, 909-919.
2009	6.	A1	41	2.5	Briers, Y., Schmelcher, M., Loessner, M., <b>Hendrix, J.</b> , Engelborghs, Y., Volckaert, G., Lavigne, R. (2009). The high-affinity peptidoglycan binding domain of Pseudomonas phage endolysin KZ144. <i>Biochemical and Biophysical Research Communications</i> , 383 (2), 187-191.
	5.	A1	66	5.3	Bartholomeeusen, K., Christ, F., <b>Hendrix, J.</b> , Rain, J., Emiliani, S., Benarous, R., Debyser, Z., Gijsbers, R., De Rijck, J. (2009). Lens epithelium-derived growth factor/p75 interacts with the transposase-derived DDE domain of PogZ. <i>Journal of Biological Chemistry</i> 284 (17), 11467-11477.
2008	4.	A1	92	4.7	<b>Hendrix, J.</b> , Flors, C., Dedecker, P., Hofkens, J., Engelborghs, Y. (2008). Dark states in monomeric red fluorescent proteins studied by fluorescence correlation and single molecule spectroscopy. <i>Biophysical Journal</i> , 94 (10), 4103-4113. <ul style="list-style-type: none"> <li>Highlighted in <a href="#">BioPhotonics</a>, an online journal discussing latest developments in the biological applications field of photonics.</li> </ul>
	3.	A1	91	5.7	Buyens, K., Lucas, B., Raemdonck, K., Braeckmans, K., Vercammen, J., <b>Hendrix, J.</b> , Engelborghs, Y., De Smedt, S., Sanders, N. (2008). A fast and sensitive method for measuring the integrity of siRNA-carrier complexes in full human serum. <i>Journal of Controlled Release</i> , 126 (1), 67-76.
2007	2.	A1	98	9.3	Hombrouck, A., De Rijck, J., <b>Hendrix, J.</b> , Vandekerckhove, L., Voet, A., De Maeyer, M., Witvrouw, M., Engelborghs, Y., Christ, F., Gijsbers, R., Debyser, Z. (2007). Virus evolution reveals an exclusive role for LEDGF/p75 in chromosomal tethering of HIV. <i>PLoS Pathogens</i> , 3 (3), e47.
2006	1.	A1	141	5.3	De Rijck, J., Vandekerckhove, L., Gijsbers, R., Hombrouck, A., <b>Hendrix, J.</b> , Vercammen, J., Engelborghs, Y., Christ, F., Debyser, Z. (2006). Overexpression of the lens epithelium-derived growth factor/p75 integrase binding domain inhibits human immunodeficiency virus replication. <i>Journal of Virology</i> , 80 (23), 11498-509.

## 8.2 in preparation or in submission

- Vandenberg N, Hofkens J, **Hendrix J\***, "Dynamic structural biology using single-molecule FRET." Review (in preparation).
- Simone Giovannozzi, Veerle Lemmens, **Jelle Hendrix**, Rik Gijsbers, Rik Schrijvers, Live cell imaging demonstrates multiple routes towards a STAT1 gain-of-function phenotype. (submitted)

- Roth A., Martens C., **Hendrix J\*** and Govaerts C\*. Conformational and dynamic heterogeneity of the multidrug transporter LmrP (BioRxiv)
- Scholl D., Colomer R., **Hendrix J.**, Govaerts, C. Nucleotide binding domain of the cystic fibrosis transport receptor (in preparation).
- Parveen N., Solís-Fernández G, Couck Q., Zurnic I., Hofkens J., Debyser Z., **Hendrix J.\***, Single-virus FLIM analysis reveals subviral intasome heterogeneity. (in preparation)

### 8.3 reviews and book chapters

° = shared authorship

\* = corresponding author

type: R = review, A1 = peer-reviewed internationally recognized journal

c = number of citations on December 19, 2018, according to Web of science

IF = impact factor at time of publication

year	type	c	IF	
2018	A1/R	5	3.8	Parveen N, Borrenberghs D, Rocha S, <b>Hendrix J*</b> , "Single Viruses on the Fluorescence Microscope: Imaging Molecular Mobility, Interactions and Structure Sheds New Light on Viral Replication." <i>Viruses</i> . May 10 2018. 10(5) pii: E250.
2014	A1/R	8		<b>Hendrix J*</b> , Lamb DC*, "Implementation and application of pulsed interleaved excitation for dual-color FCS and RICS." <i>Methods Mol Biol</i> . 2014;1076:653-82
2013	A1/R	19	2.0	<b>Hendrix, J.</b> , and Lamb, D.C. (2013). Pulsed interleaved excitation: principles and applications. <i>Methods Enzymol</i> 518, 205-243.
2011		2		Christ, F., Busschots, K., <u>Hendrix, J.</u> , McNeely, M., Engelborghs, Y., Debyser, Z. (2011). Assays for evaluation of HIV-1 integrase enzymatic activity, DNA binding, and cofactor interaction. In: Neamati N. (Eds.), <i>HIV-1 Integrase. Mechanism and Inhibitor Design, Chapt. 12</i> . Hoboken, New Jersey, USA: John Wiley & Sons, Inc., 151-16

## 9 talks and posters

### 9.1 invited talks

date	where	
23-27/8/11	Budapest, Hungary	Visualizing and quantifying HIV-host interactions with fluorescence microscopy, 8th European Biophysics Congress
21/10/14	Brussel	Probing biomolecular structure and function with single-photon sensitive fluorescence imaging, Modern Biophysical Techniques for the Life Sciences, Koninklijke Akademie voor Wetenschap
September 28 - October 2, 2014	University of Bayreuth, Germany	<b>Keynote lecture</b> - Physics on the Scale of the Cell - Theoretical concepts and Experimental Methods
2012, 2014, 2016, 2018	Munich, Germany	NIM Workshop on Advanced Fluorescence Methods, <b>a total of 8 invited talks</b>
1-5 June 2015	Oulu, Finland	Modern biophysical methods for protein-ligand interactions
October 2, 2015	Leuven	Research seminar, Medical School Leuven, invited by Prof. Zeger Debyser
February 20-24, 2017	University of Luxembourg	"Fluorescence fluctuation spectroscopy - the confocal as a molecular speedometer" 2 <sup>nd</sup> Hands-on-Light Microscopy Workshop (Invited by Zeiss Microscopy).
October 2018	Düsseldorf	<b>Plenary talk:</b> FRET theory in practice at the Satellite Workshop of the DGfB biannual meeting "Advanced Fluorescence Spectroscopy and Imaging"

September 2018	Leuven	"Single virus imaging" at the Frontiers in Retrovirology Conference 2018
September 2018	M4I - Maastricht University	"Dynamic structural biology via fluorescence: A tale on molecular interplay and wobbliness"
September 2019	Antwerp, Belgium	"Imaging molecular dynamics using fluorescence microscopy", Picores-2-Numbers image analysis workshop, Winnok de Vos, UAntwerpen.
December 2019	Munich, Germany	"There and back again, confocal microscopy to study molecular diffusion and structure", Muenchner Physik Kolloquium
February 2020	San Diego, USA	"Raster image correlation spectroscopy" – Young Fluorescence Investigator Award Lecture at the 64 <sup>th</sup> Biophysical Society Annual Meeting.
January 2021	Venice, Italy (online)	International School of Biophysics, Venice Jan 2021.
March 2021	Berlin, Germany (online)	13th International Course on "Time-resolved Microscopy and Correlation Spectroscopy", March 2-5, 2021 - online event hosted from Berlin, Germany

### 9.2 *international talks, abstract-selected*

- Targeting replication and integration of HIV - TRIoH General Assembly, Barcelona, Spain, 8-12/12/06
- Joint Biophysical Society 52nd Annual Meeting and 16th IUPAB International Biophysics Congress, Long Beach, California, USA, 2-6/02/08
- Targeting HIV integration co-factors - 2nd General Assembly, Prague, Czech Republic, 29-30/01/09
- 7th European Biophysics Congress, Genoa, Italy, 11-15/07/09
- 12th Carl Zeiss sponsored workshop on FCS and related methods, Cargèse, Corsica, 12-16/10/09
- 18th International Workshop on Single Molecule Spectroscopy and Ultrasensitive Analysis in the Life Sciences, Berlin, Germany, 5-7/9/12
- 3rd European Workshop on Advanced Fluorescence Imaging and Dynamics, October 8-12, 2012 in Munich, Germany
- Dutch meeting on Molecular and Cellular Biophysics, Veldhoven, The Netherlands 30/9-1/10, 2013
- 26th International Conference on Photochemistry, July 21-26, 2013, Leuven, Belgium
- Biophysical Society 57th Annual Meeting, February 2-6, 2013 in Philadelphia, USA
- 25<sup>th</sup> Single-molecule and super-resolution microscopy Workshop – Picoquant, 3-6 September 2019, Berlin, Germany
- EMBO Membrane protein structural biology Workshop, October 9-11, 2019, Hamburg, Germany

### 9.3 *international poster presentations, abstract-selected*

For poster prizes, see 'Awards'

- Targeting replication and integration of HIV - TRIoH General Assembly, Barcelona, **Spain**, 8-12/12/06

- Zeiss International Workshop on Fluorescence Correlation Spectroscopy methods, Stockholm, **Sweden**, 4-6/12/06
- Joint Biophysical Society 52nd Annual Meeting and 16th IUPAB International Biophysics Congress, Long Beach, **California**, USA, 2-6/02/08
- 7th International Weber Symposium on Innovative Fluorescence Methodologies in Biochemistry and Medicine and 11th International Workshop on Fluorescence Correlation Spectroscopy and Related Methods, Kauai, **Hawaii**, USA, 6-12/06/08
- 58th Annual Meeting of the Biophysical Society, **San Francisco**, 15-19 February 2014
- National poster presentations, abstract-selected
- I attended multiple local symposia and conferences where I presented posters, without abstract selection.
- Belgian Physical Society & Belgian Biophysical Society General Scientific Meeting, Universiteit **Hasselt**, 01/04/09
- Advanced Light Microscopy Symposium, University of **Ghent**, 23-24/09/10

## 10 collaborators

### 10.1 external

- Inge Nelissen, VITO Mol - nanoparticle imaging (H2020-ITN)
- Johan Hofkens, KU Leuven Molecular Imaging and Photonics - smFRET & FLIM method development (FWO, Hercules)
- Anastassios Economou, KU Leuven Rega Institute - protein structural biology via smFRET
- Niklas Lorén - RISE & Chalmers Sweden - molecular dynamics in food
- Cedric Govaerts, ULB Bruxelles - protein structural biology via smFRET
- Abel Garcia Pino, ULB Charleroi - protein structural biology via smFRET
- Don C. Lamb, LMU Munich - software development
- Hans van Oosterwyck, KU Leuven Biomechanics - mechanosensation (BOF)
- Susana Rocha, KU Leuven Molecular Imaging and Photonics - biosynthetic hydrogels (BOF)
- Zeger Debyser, KU Leuven Molecular Medicine - single virus imaging
- Rik Schrijvers, KU Leuven Clinical Immunology - protein dynamics (KUL Cat1)
- Peter Dedecker, KU Leuven Biochemistry - imaging molecular dynamics
- Hideaki Mizuno, KU Leuven Biochemistry - signaling pathways (KUL Cat1)
- Maarten Roeffaers, KU Leuven, Bioengineering COK - perovskite FLIM

### 10.2 internal

- BIOMED & UHasselt researchers - microscopy support
- Marcel Ameloot, Biophysics - method development
- Ronald Thoelen, IMO - microfluidics
- Jean Manca, Rob Cornelissen, XLab & Bart Cleuren, Physics - cable bacteria

## 11 Research Networks

### 11.1 euro-bioimaging

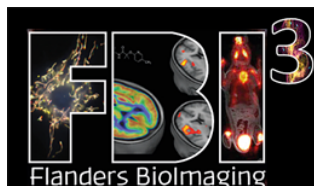


We also take part in the European Research Infrastructure for Imaging Technologies in Biological and Biomedical Sciences (Euro-BioImaging), that provides open physical user access to a broad range of state-of-the-art technologies in biological and biomedical imaging for life scientists. In addition, EuBI offers image data support and training for infrastructure users and providers. <http://www.eurobioimaging.eu/content-page/about-euro-bioimaging>

### 11.2 Global FRET community

I am an active member of the [FRET community](http://fret.community/) (<http://fret.community/>) that regularly meets to discuss on recent developments in the field, on strategic plans for the FRET field in general, to disseminate knowledge on FRET and single-molecule FRET, and to organize workshops on FRET methods and applications. Recent publications of the community: <https://doi.org/10.1038/s41592-018-0085-0>  
<https://arxiv.org/abs/2006.03091>

### 11.3 Flanders Bioimaging



I represent UHasselt in the Flanders BioImaging (FBI) interuniversity consortium dedicated to biomedical imaging and advanced light microscopy, that was set up to integrate, optimize, rationalize and coordinate available imaging infrastructure in Flanders, facilitating access to external users.

### 11.4 Scientific research communities (FWO)

I am part of two FWO funded scientific research communities:

- Coordinated by Anastassios Economou (KUL) on protein dynamics
- Coordinated by Johan Hofkens (KUL) on Optical Trapping and Microscopy of Nanoparticles: Collective Optofluidic Dynamics (COODY)

### 11.5 Royal Belgian Society for Microscopy

I am a member of the RBSM ([www.microscopy.be](http://www.microscopy.be)) board since July 29, 2020. Because of my RBSM membership I am de facto member of the European Microscopy Society (<https://www.euremicsoc.org/en/>).



## 12 awards

- Winner of the prestigious [Young Fluorescence Investigator Award](#) 2020 at the 64th Biophysical Society Annual Meeting “for significant advancements and/or contributions in or using fluorescence methodologies”.
- **Best poster presentation** - LEDGF/p75 switches from a dynamic to a tight chromatin interaction upon binding to HIV-1 integrase, Targeting HIV integration co-factors, 2nd General Assembly, Prague, Czech Republic, 29-30/01/09
- European Physical Journal award for **best poster presentation** - LEDGF/p75 switches from a dynamic to a tight chromatin interaction upon binding to HIV-1 integrase, Belgian Physical Society & Belgian Biophysical Society General Scientific Meeting, Hasselt, 01/04/09
- Third prize in the Belgian Society of Microscopy **Poster Award** - The transcriptional co-activator LEDGF/p75 displays a dynamic scan-and-lock mechanism for chromatin tethering, Advanced Light Microscopy Symposium, University of Ghent, 23-24/09/10

## 13 valorisation

- In 2018 a patent was filed at UHasselt on channel-based spectral RICS (WO2019/138028) and we are in contact with potential licensees.

## 14 science communication

We strive for **broadly accessible research**, which is f.e. why I directly contacted the Press service of KU Leuven after the publication of our HIV work ACS Nano. This resulted in three broad-audience articles concerning our work:

- **Campuskrant**, jaargang 25, nr. 9, 28/05/2014 – ‘Hiv-deeltje omgetoverd tot proefbuis om geneesmiddelen te testen’ (<http://www.kuleuven.be/ck/files/ck25-nr09.pdf>) (newspaper of KU Leuven).
- **Knack magazine**, nr. 27, 02/07/2014 – ‘Eiwitten volgen in een virus’ (door Dirk Draulans) (<http://magazine.knack.be/weekblad/magazines/02-07-2014/#>, gedrukte versie) (Knack is a Belgian (Flemisch) weekly news magazine covering local news, politics, sports, business, jobs, and community events)
- **Imaging&Microscopy** Newsletter May 14, 2014 (<http://www.imaging-git.com/news/single-molecule-fluorescence-imaging-new-technique-tracks-protein-single-hiv-particle>).
- Our latest PNAS paper will be featured in the Weizmann institute circular
- Our latest Nature Methods paper was covered in a UHasselt press release: <https://www.uhasselt.be/UH/DBI/News/2018/Press-release.html>
- Press release on our new imaging center: <https://www.uhasselt.be/UH/Nieuws/2017/Gloednieuwe-microscopen-zien-het-licht-in-BIOMED.html>

I gladly allow mentioning our work on **meta-scientific forums**. For example, we wrote a meta-scientific review of our latest work on HIV assembly in the **Atlas of**

**Science:** <http://atlasofscience.org/on-their-way-out-structural-hiv-proteins-team-up-before-escaping-from-infected-cells/#more-1894>.

Uhasselt has an excellent communication team and meta-scientific forum:  
<https://www.uhasselt.be/insight>

## 15 promotorships

- **PhD promotor:** Veerle Lemmens, Keerthana Ramanathan, Arnoud Jongeling, Alessia Pancaro, Ivan Maslov, Pedro Silva, Tom Kache
- **PhD copromotor:** Dr. Doortje Borrenberghs (IWT), Danai Laskaratou (BOF), Dr. Bart Van Heertum (IWT), Dr. Niels Vandenberg (IWT), Öykü Uslu (BOF), Guillermo Solis-Fernandes (FWO-Aspirant), Simone Giovanozzi (KUL), Aurélie Roth (ULB)
- **PhD assessor:** Milena Helmer-Lauer (joint PhD programme KU Leuven & Federal University of Espírito Santo), Jolien Blokken (KUL), Subhalakshmi Sharma (KUL), Ovia Margaret (KUL), Sofie Kessels (UH), Melanie Loix (UH), Koen Wouters (UH), Quinten Coucke (KUL), Kinga Reka Tasnady (UH), Daniel Scholl (ULB).
- **PhD exam commission:** Ta Duy Tien (UH)
- **Master thesis promotor:** Jens De Wachter, Maarten Verveckens, Robbert Boudewijns, Niels Vandenberg, Doortje Borrenberghs, Eva Marting, Guillermo Solis Fernandez, Steven Mertens, Dries David, Veerle Lemmens, Bart Thevelein, Stijn Dilissen, Cristina Quilez Lopes, Laura Rodriguez Martin
- **Master internship promotor:** Thierry Verheyen, Erik Soons, Michael Vanhemelen, Joris Rombouts, Lieven Lemaire, Herlinde de Keersmaecker, Sam Vanspauwen, Mahnoor Arif, Hanneke Schroyen,
- **Bachelor thesis promotor:** Eva Marting (UHasselt), Chloe Geeroms, Pieter Noyens, Bea Timmermans, Helen Hamaekers, Charlotte David, Laurant Reyniers, Bert Jacobs, Alex Maes, Jolien van Haarlem, Laura Swinnen, Elien Jacques, Tom van Helden, Sigurd Vogler (LMU), Nicolas Demelio, Lore Plessers, Jolien Broeckmans, Steff Borgmans

## 16 miscellaneous

### 16.1 editorial activities

I review papers on a regular basis for many different peer-reviewed scientific journals, such as ChemPhysChem, Biophysical Journal, Nucleic Acids Research, Scientific Reports, Cell Research, Frontiers in Molecular Neuroscience, ChemComm, ACS Omega,... In peer-review about 10 papers per year.

### 16.2 Language proficiency

- Dutch, English: native
  - o I attended the **Academic English** course of the Arenberg Doctoral School, although my English level stems mostly from being from an internationally oriented country, from writing papers and grant proposals, and from presenting at international conferences.
- German, French: B2
- Spanish, Russian: A2

### 16.3 Computer skills

- Mac & windows: advanced
- Word, Excel, Onenote, Powerpoint, Coreldraw, Origin: expert
- MATLAB (programming): expert
- IgorPro (programming): beginner

### 16.4 Leadership skills

- Ontwikkelen van leiderschapscompetenties (September 2020, Obelisk)
- Leidinggeven op afstand (September 2020, Obelisk)
- Leading a research team – 4 day course, KULeuven, 2016
- Ready, set, go – successful PhD supervision course, 2018
- Ethics of image editing, 2019
- Consortium development, 2017