

Short Curriculum Vitae of Koen CLAYS



Full professor, Department of Chemistry, University of Leuven (KU Leuven), Belgium



Adjunct Professor, Department of Physics and Astronomy, Washington State University, Pullman, WA, US



Elected Fellow of the Society of Photo-optical Instrumentation Engineers



Jiangnan Distinguished Professor, Tongji University

MSc in chemistry, Katholieke Universiteit Leuven (KU Leuven), July 1985, *summa cum laude*

PhD in chemistry, KU Leuven, March 9, 1989, *summa cum laude and with congratulations of the examination committee*

- 01.10.1990 – 30.09.1993 Research Associate at the N.F.W.O (“*Aangesteld Navorsers*” N.F.W.O.)
- 01.01.1991 – 31.07.1992 Postdoctoral Fellow at the Corporate Research Laboratories of the Eastman Kodak Company, Rochester, New York, Molecular and Optical Electronics Laboratory, host Dr. David J. Williams
- 01.10.1993 – 30.09.1994 Postdoctoral Fellow at the KU Leuven (“*Postdoctoraal Onderzoeker Onderzoeksfonds KU Leuven*”)
- 01.10.1994 – 30.09.2000 Senior Research Associate at the N.F.W.O (“*Onderzoekslider*” N.F.W.O.)
- 01.10.1997 – 30.09.2000 Lecturer at the KU Leuven (“*Deeltijds Hoofddocent*”)
- 01.10.2000 – 30.09.2002 Associate Professor at the KU Leuven (“*Voltijds Hoofddocent*”)
- 01.10.2002 – 30.09.2005 Professor at the KU Leuven (“*Hoogleraar*”)
- 21.03.2005 – 19.04.2005 **Professeur Invité** à l’Université Bordeaux I, Professeurs Serge Ravaine, Centre de Recherche Paul Pascal (CRPP), et Alexander Kuhn, Ecole Nationale Supérieure de Chimie et Physique de Bordeaux (ENSCP).
- 01.10.2005 - **Full Professor** at the KU Leuven (“*Gewoon Hoogleraar*”)
- 01.10.2005 - Director, Laboratory of Molecular Electronics and Photonics, University of Leuven
- 01.10.2006 - **Adjunct Professor Department of Physics and Astronomy, Washington State University, Pullman**
- 04.08.2009- Elected **Fellow of the Society of Photo-optical Instrumentation Engineers (SPIE)**
- 12.03.2012 – 11.04.2012 **Professeur Invité** à l’Université de Nantes I, Professeur Eléna Ishow, Chimie et Interdisciplinarité, Synthèse, Analyse et Modélisation (CEISAM)
- 20.02.2017 – 21.03.2017 **Professeur Invité** à l’Université Claude Bernard Lyon 1, Professeur Pierre-François Brevet, Institut Lumière Matière (ILM)
- 04.03.2019 – 05.04.2019 **Professeur Invité** à l’Université Bordeaux I, Professeurs Renaud Vallée, Centre de Recherche Paul Pascal (CRPP), et Vincent Rodriguez, Institut des Sciences Moléculaires (ISM).
- 01.09.2019- **Jiangnan Distinguished Professor, Tongji University, Shanghai, China**

Career breaks

Military service, August 1, 1989 - July 31, 1990

Diagnosed with Ewing sarcoma cancer, surgery end 2012, chemotherapy and irradiation treatment in 2013.

Publication summary (from Web of Science, April 2021, "K Clays" is unique author):

391 publications in refereed international scientific journals, h-index 60, 13450 citations

ORCID iD: 0000-0001-9490-0023 (<http://orcid.org/0000-0001-9490-0023>)

Most important publications (10, 1992-2020)

1. Koen Clays and André Persoons,
Hyper-Rayleigh Scattering in Solution,
Physical Review Letters **66** (23), 2980-2983 (1991).
recognized as a major breakthrough in the field of optics in 1991 by the Optical Society of America in Optics in '91, Optics & Photonics News **2** (12), 23-24 (1991).
2. Koen Clays, Eric Hendrickx, Myriam Triest, Thierry Verbiest, André Persoons, Christophe Dehu, and Jean-Luc Brédas,
Nonlinear Optical Properties of Proteins Measured by Hyper-Rayleigh Scattering in Solution,
Science **262**, 1419-1421 (1993).
3. Geert Olbrechts, Rik Strobbe, Koen Clays, and André Persoons,
High-frequency demodulation of multi-photon fluorescence in hyper-Rayleigh scattering,
Review of Scientific Instruments **69**(6), 2233-2241 (1998).
recognized as a major breakthrough in the field of optics in 1998 by the Optical Society of America in Optics in '98, Optics & Photonics News **9** (12), 28-29 (1998).
4. Koen Clays, Sven Van Elshocht and André Persoons,
Bacteriorhodopsin, a natural (nonlinear) photonic bandgap material
Optics Letters **25**(18), 1391-1393 (2000).
recognized as a major breakthrough in the field of optics in 2000 by the Optical Society of America in Optics in 2000, Optics & Photonics News **11** (12), 31 (2000).
6. James E. Reeve, Harry L. Anderson, and Koen Clays,
Dyes for Biological Second Harmonic Generation Imaging,
Physical Chemistry Chemical Physics **12**(4), 13484-14498 (2010)
invited "Perspective"
7. Kuo Zhong, Liwang Liu, Xiaodong Xu, Michael Hillen, Atsushi Yamada, Xingping Zhou, Niels Verellen, Kai Song, Stijn Van Cleuvenbergen, Renaud Vallée, and Koen Clays,
Defect Mode Passband Lasing in Self-Assembled Photonic Crystal,
ACS Photonics, **3**, 2330-2337 (2016)
8. Kuo Zhong, Jiaqi Li, Liwang Liu, Stijn Van Cleuvenbergen, Kai Song, and Koen Clays
Instantaneous, simple and reversible revealing of invisible patterns encrypted in robust hollow sphere colloidal photonic crystals
Advanced Materials **30**, article number 1707246 (2018)
9. Valerie Van Steenbergen, Werend Boesmans, Z. Li, Yovan de Coene, Karin Vints, P Baatsen, Ilse Dewachter, Marcel Ameloot, Koen Clays, and Pieter Vanden Berghe,
Molecular Understanding of label-free second harmonic imaging of microtubules
Nature Communications **10**, 3530 (2019)

10. Huajun Xu, Fenggang Liu, Delwin L. Elder, Lewis E. Johnson, Yovan de Coene, Koen Clays, Bruce H. Robinson, and Larry R. Dalton, Ultrahigh Electro-Optic Coefficients, High Index of Refraction, and Long-Term Stability from Diels-Alder Cross-Linkable Binary Molecular Glasses, *Chemistry of Materials* 32, 1408-1421 (2020)
“Highly Cited Paper” by Web of Science,

Invited presentations:

Koen Clays has been Keynote or Invited Speaker at many major chemistry, physics, and materials science conferences, demonstrating the broad impact of his research: invited speaker at the annual meetings of the SPIE (invited speaker in 1992 (2), 1993, 1994, 1995, 1996, 2001, 2002 (2), 2003 (2), 2006, 2007 (2, Keynote and Invited), 2008, 2009 (2), 2010 (2), 2011 (3), 2012 (Keynote), 2017, 2018, 2019; 23 invited and 2 keynote presentations on a total of 74 SPIE proceeding papers) SPIE Fellow profile at <https://spie.org/profile/Koen.Clays-12666?SSO=1>

Other invited presentations at meetings of professional societies include the ones at Materials Research Society (MRS) meetings in San Francisco and in Boston 1993, and the one in Phoenix, 2018; at the American Chemical Society/Optical Society of America (ACS/OSA) topical meeting series Organic thin films for photonic applications: 1993, Toronto; 1995, Portland (postdeadline); 1997, Long Beach (postdeadline); Boston, 1998; Washington DC, 2000; at the American Physical Society (APS) meeting Dallas, TX, 2011; at the 1993 CLEO/QELS meeting in Baltimore; at the ICONO (International Conference on Organics for Nonlinear Optics) meeting series : ICONO'4 Chitose, Hokkaido, Japan 1999; ICONO'6 Tucson, US, 2001; ICONO'9, Bruges, BE 2006 (2), ICONO'10, Santa Fe, 2008 (2), ICONO'11, Beijing China 2009 (3); at the NOMA (Novel Optical Materials and Applications) meeting series in Cetraro, Italy : 2003, 2005, 2007, 2009; at a NATO Advanced Research Workshop on “Frontiers in Spectroscopy of Emergent Materials”, Sudak, Crimea, Ukrain, 2003; at the Particles 2004 Conference, Orlando, FL; at the meeting series “Frontiers of Nonlinear Optics”: Boston, MA, 2016, Nassau, Bahamas, 2017, Saratoga Springs, NY, 2018, Dayton, OH, 2019; at the ICFPAM conference series: Pretoria, South Africa, 2011; St. George, Malaysia, 2019.

Other invited lectures were presented at the occasion of being invited by Prof. M. Matsuda as a JSPS fellow (Japan Society for the Promotion of Science) in Japan in 1993 (month of March), at the occasion of being invited by dr. Y. Zhao to China at the Chinese Academy of Sciences (Oct. 2006), at the occasion of being invited by dr. N. Matsuda to Japan (April 2008), at the time of Professeur Invité at the University of Nantes (March 2012), invited presentations at University of Rennes and Angers, France, and at the Institut de Recherche en Santé de l'Université de Nantes, at the Fitzpatrick Institute for Photonics of Duke University and at the Chemistry Department of North Carolina State University, Sept. 2015, at the Wroclaw Institute of Science and Technology, May 2019; at Jiangnan Campus of Tongji University, Sept. 2019...