

Ian R. SIMS: Brief Curriculum Vitae

Identity and contact details : born 5 June 1963, Wimbledon, UK; work address: Institut de Physique de Rennes, UMR 6251 du CNRS – Université de Rennes 1, 35042 Rennes Cedex, France; tel.: +33 2 23 23 69 18, mob: +33 6 33 77 93 68, ian.sims@univ-rennes1.fr, <http://www.researcherid.com/rid/F-8989-2014>

Higher Education: BA/MA Natural Sciences (Chemistry), University of Cambridge, (1982-5); PhD (supervisor: IWM Smith), University of Birmingham (1989; ‘State selected kinetics of CN radical reactions’)

Career

2011- Professeur des Universités Classe Exceptionnelle (section 30) (Distinguished professor)

2007-2011 Professeur des Universités Première Classe (section 30) (Full professor)

2004-2007 EU Marie Curie Chair ("Cool Chemistry – Chemistry at Extremely Low Temperatures")

2003- Professeur des Universités 2^{ème} Classe, Section 30 at the Université de Rennes 1 (Associate professor)

1998-2003 Lecturer and Senior Lecturer (2001-) in Physical Chemistry at the University of Birmingham, UK

1993-1998 EPSRC Advanced Fellow at the University of Birmingham, UK

1991-1993 EU Postdoc / CNRS “Poste Rouge” at the Université de Rennes 1, France

1989-1991 SERC-NATO postdoc in the group of Professor Ahmed Zewail, Caltech, USA

Distinctions and responsibilities: 2000, **EU Descartes Prize** (with the Birmingham and Rennes teams). Award of an EU **Marie Curie Chair** in 2004 for 3 years. P.I. at Rennes for an EU Marie Curie Research Training Network (RTN) 2004-2008. Assistant director of the PALMS Laboratory 2006-7. Assistant director of the Institute of Physics – Rennes (UMR6251) 2008-2011. **Director of the Rennes Physical Sciences Doctoral School**, 2016- (Assistant Director 2010-2016). ANR blanc research grants, 2006-2010 (268 k€) and 2013-2016 (274 k€). Articles in *Science* 2007, 2010 and 2011. 6 month CNRS research positions in 2008-09, 2011-12, 2012-13. **ERC Advanced Grant** CRESUCHIRP (2.1 M€ 2016-21).

Publications and presentations : **82 publications**, 74 articles in peer-reviewed journals, 4 peer-reviewed proceedings, 3 chapters in edited books and 1 book edited. **117 oral presentations** personally delivered since 1992, including **61 invited lectures** (24 since 2012). **h-index 33** (Web of Science, June 2017).

Current research interests: the kinetics and dynamics of molecular collisions in the gas phase, in particular at low temperatures. This work has had a major impact for the understanding of chemical reactivity and in particular on models of cold environments such as dense interstellar clouds.

Research administration : 2016- P.I. for grants from the ERC (2.1 M€), Brittany Region/FEDER (453 k€), Rennes Métropole (100 k€). 2003—2015 P.I. for grants from the EU (593932 €, 2004-2008), the Region of Brittany (147500 €, 2005-2008), Rennes Métropole (80000 €, 2005-2008). Coordinator of EU TMR RTN ‘Astrophysical Chemistry’, 1997-2002. Chairman of Advisory Board of RTN “The Molecular Universe” 2004-2008. Co-investigator for US NSF-Collaborative Research in Chemistry (CRC) Network "Chemistry of Unsaturated Hydrocarbons in Titan's Atmosphere" (100000 US\$, 2006-11). France-Berkeley Fund Grant for collaborative work with Professor Stephen Leone, UC Berkeley (10000 US \$, 2012-13). Supervised 6 postdocs and 10 doctoral students (and co-supervised a further 3 doctoral students) who have now been awarded their PhDs. Co-chair of the RSC Faraday Discussion 133 ‘Chemical Evolution in the Universe’, 2006, St Jacut-de-la-Mer, France. Chair of RSC FD 147 ‘Chemistry of the Planets’, 2010, St Jacut-de-la-Mer, France.

Refereeing/External Administration: Member of the International Astronomical Union Commission 34/Division VI Astrochemistry Working Group 2009-, Member of WG 1: Radical- and Ion-Induced Reactions, COST Action ‘The Chemical Cosmos’ (2008-2012) Referee for *Science*, *J. Phys. Chem.*, *Phys. Chem. Chem. Phys.*, *Chem. Phys. Lett.*, *J. Chem. Phys.*, *Int. J. Chem. Kinet.*, *Astrophys. J.* and *Mon. Not. Royal Astron. Soc.*. External examiner / “rapporteur” for 9 PhDs and two “HDR”. Member of NASA Laboratory Astrophysics Grant Panel, Washington, D.C., USA, June 2009. Expert for ERC 2012-13. Refereeing for the ANR Blanc Program, 2007-2013. Member of the EPSRC Chemistry College, 1998-2001 and EPSRC Bonding and Reaction Mechanisms grant panel, 2000; Referee for the EPSRC and NERC.

5 Significant Publications

1. M. Tizniti, S. D. Le Picard, F. Lique, C. Berteloite, A. Canosa, M. H. Alexander*, and I. R. Sims*, Measurement of the rate of the $F + H_2$ reaction at very low temperatures **Nature Chemistry** 6, 141 (2014).
2. H. Sabbah, L. Biennier, S. J. Klippenstein*, I. R. Sims*, and B. R. Rowe, *Exploring the Role of PAHs in the Formation of Soot: Pyrene Dimerization*, **J. Phys. Chem. Lett.** 1 (2010), 2962-2967
3. S. D. Le Picard*, M. Tizniti, A. Canosa, I. R. Sims*, and I. W. M. Smith*, *The Thermodynamics of the Elusive HO₃ Radical*, **Science** 328 (2010), 1258-1262.
4. C. Berteloite, M. Lara, A. Bergeat, S. D. Le Picard, F. Dayou, K. M. Hickson, A. Canosa, C. Naulin, J. M. Launay*, I. R. Sims*, and M. Costes*, *Kinetics and Dynamics of the $S(^1D_2) + H_2 \rightarrow SH + H$ Reaction at Very Low Temperatures and Collision Energies*, **Phys. Rev. Lett.** 105 (2010), 203201.
5. H. Sabbah, L. Biennier, I. R. Sims*, Y. Georgievskii, S. J. Klippenstein*, and I. W. M. Smith*, *Understanding reactivity at very low temperatures: The reactions of oxygen atoms with alkenes*, **Science** 317 (2007), 102-105.