

Curriculum Vitae

Roger C. Hiorns

Nationality British	Position Directeur de Recherche, CNRS, HDR
Date of birth 15.10.1967	IPREM (CNRS UMR-5254), UPPA
Situation Separated, 2 children	ORCID: 0000-0002-9887-5280
E-mail: rhiorns@univ-pau.fr	Tel: +33 (0) 760 096 736 / +55 (11) 93779-8662
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Positions

2022 Sept-Dec	Visiting Professor (MS-6) , UNESP, Presidente Prudente, Brazil (FAPESP 2022/07136-4)
2019 -present	Directeur de Recherche CNRS (DR2) , IPREM (CNRS UMR-5254) Syntheses of copolymers for organic photovoltaics, biomaterials and piezoelectrics
2009 - 2019	Chargé de Recherche CNRS (CR1) , IPREM (CNRS UMR-5254) Syntheses of n-type polymers and block copolymers
2007 - 2009	Ingénieur en Sciences des Polymères CNRS , LCPO, ENSCPB, IPB Syntheses of block copolymers for photovoltaic applications
2002 - 2006	Ingénieur en Sciences des Polymères , LPCP, Université de Pau Preparation of thiophene and C ₆₀ based polymers for solar cells
2000 - 2002	Post-doc , LPCP, Université de Pau. Exploitation of a wide range of organo-metallically mediated polymerizations.

Responsibilities

2022	Co-Chair , Fundação para a Ciência e a Tecnologia (FCT) Portugal, Materials Engineering and Nanotechnology, Individual Call to Scientific Employment Stimulus
2018-2021 & 2012-2015	Titular Member , IUPAC Polymer Division
2015 - present	IUPAC Division IV representative , <i>Pure and Applied Chemistry</i>
2015 - 2017	Member , Commission Energie et Développement Durable, Communauté de Communes de Vic-Montaner
2014 - 2020	Chair , IUPAC Subcommittee on Polymer Terminology
2016 - 2017	Associate Member , IUPAC Polymer Division
2010 - 2013	Secretary , IUPAC Subcommittee on Polymer Terminology
2010 - 2011	Associate Member , IUPAC Polymer Division
2009 - present	Associate Editor , <i>Polymer International</i>
2007 - present	Member , IUPAC Subcommittee on Polymer Terminology
2000 - 2008	Technical Editor , <i>Polymer International</i>

Publications

Patents	8
Peer Reviewed Articles	78
Wikipedia pages	1
Book Chapters	5
Guest Editing Special Issues, and Associate Editor guiding the Guest Editor	6
Invited Lectures at International Conferences	21
Invited Lectures at National Conferences	1
Invited Seminars	32
Taught courses	2
Conference Oral Presentations by Peer Review	45
Poster presentations by Peer Review	46
h factor (Google Scholar)	26
i10-factor (Google Scholar)	50
citations (Google Scholar)	>2800
Responsible for funding since 2009	ca 4.3 M€

Other Responsibilities to the Scientific Community

Visiting Professor, Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP), Presidente Prudente, Brazil, September 2012, 2015, 2017, 2018, February, September and November 2019, February 2020.

Visiting Professor, Escola de Artes, Ciências e Humanidades, Universidade de São Paulo, Feb. 2020.

Visiting Researcher, School of Engineering & Applied Science, Aston University, UK, April 2012 & Oct. 2017.

Journal *Advanced Materials, Advanced Functional Materials, Advanced Energy Materials,*

Referee *Australian Journal of Chemistry, Biomacromolecules, Chemical Communications, Dalton Transactions, Physical Chemistry Chemical Physics, Journal of the American Chemical Society, Journal of Materials Chemistry, Macromolecules, Macromolecular Materials and Engineering, Macromolecular Chemistry and Physics, Nature, Nature Chemistry, Polymer, Polymer International, The Journal of Organic Chemistry, and Organic Letters etc.*

Project Referee Research Centres of Excellence: Aston Management, Aston University 2011;

FCT, CEECInd2020, Review Panel Member, Portugal.

FCT, CEECInd2018, Complaint Analysis Panel, Portugal.

FCT CEECInd2022, Review Panel Co-Chair.

ANR referee for the 'Programme Blanc', 2012, 2013, 2016, 2020;

Member Société Chimique de France (SCF) and

Groupe Français d'études et d'applications des Polymères (GFP)

Special Issue Guest Editor or Overseeing Associate Editor working with the Guest Editor

'In honour of Professor Reiss', *Polymer International*, **2020**, volume 69, issue 11;

'Melanin and Melanin-like Substances', *Polymer International*, **2016**, volume 65, issue 11;

'DIELOR 2013', A. Moliton, R. C. Hiorns, *Polymer International*, **2014**, volume 63, issue 8;

'DIELOR 2011', A. Moliton, R. C. Hiorns, *Polymer International*, **2012**, volume 61;

'Professor R. G. 'Dick' Jones' Retirement Special Issue', *Polymer International*, **2009**, issue 58;

'DIELOR 2004', A. Moliton, R. C. Hiorns, *Polymer International*, **2006**, issue 55.

Habilitation à Diriger des Recherches (HDR) 2011, Université de Pau et des Pays de l'Adour

'Chimie des Polymères, notamment les copolymères à base de Fullerène/'Polymer Chemistry, notably copolymers based on fullerene'

Jury Members

Prof. Jean-Pierre Vairon, Université Pierre et Marie Curie (Président)

Prof. Christophe Derail, Université de Pau et des Pays de l'Adour (Directeur)

Prof. Piérick Hudhomme, Université d'Angers (Rapporteur)

Prof. Jenny Nelson, Imperial College London (Rapporteur)

Prof. Dr. Mag. Niyazi Serdar Sariciftci, FRSC, Johannes Kepler University of Linz (Rapporteur)

Dr. Hans-Joachim Egelhaaf, Konarka Technologies GmbH (now OPVIUS GmbH) (Examineur)

Dr. Danielle Gonbeau, Université de Pau et des Pays de l'Adour (Examineur)

Education

1994-1998 **PhD** (UK) and **Doctorat** (France) by *cotutelle*, 'Synthesis and characterisation of novel copolymers of polymethylphenylsilane'. Directors: Prof. R. G. Jones (University of Kent, UK) and Prof. F. Schué (Université de Montpellier, established 1220). Funded by FP3.

1993 - 1994 **MSc**, Materials Chemistry, University of Kent (UK).

1986 - 1989 **BSc (Hons)**, Chemistry, University of Birmingham (UK).

Additional Experience

1998-1999 **Editorial Assistant** for the Society of Chemical Industry, London

1989-1993 **Photographer** and b/w printer for the national press (Independent, The Guardian, Times, Daily Mirror etc.)

Project Coordinator – Grant Awards

- 15 'Appui au MONTage de projet de Recherche en Coordination Européenne (AMORCE)', awarded by the CNRS for EEC project construction. 1/4/2022 to last 9 months. **Project awarded 10 000 €.**
- 14 'Synthesis and Modeling of Stable and Novel Organic Materials for High Efficiency Solar Cells', European Union's Horizon H2020 Research and Innovation under the Marie Skłodowska-Curie Grant Agreement N° 945416/UPPA, for G. M. Aibara Paschoal, PhD Fellow, 09/2021-08/2024, **Project awarded 100 k€**
- 13 'Polymer-based piezoelectricity improved through the use of novel additives: structure-property relationships' . Awarded by *Eiffel-doctorat/Campus France for Mme Jessyka BITTENCOURT to visit IPREM from 1/01/2021 for 12 months. Project awarded ca 20 000 k€.*
- 12 'Augmenter l'efficacité des panneaux solaires organiques' (ASCENSEUR). Awarded by the *Agence Nationale de la Recherche*. Funds for EEC project construction. Starting 1/11/2019 to last 24 months. **Project awarded 30 000 €.**
- 11 'Dispositivos piezoelétricos e fotovoltaicos orgânicos para geração de energia limpa / Piezoelectrics and organic photovoltaics for energy harvesting' (POPEH). Awarded by UNESP/CAPES PrInT. From 10/2019 to 4/2020. To Prof. C. Olivati (Coordinator for Brazil), Prof. D. Agostini (Brazil), Prof D. Bégué and Prof. M. Rerat (UPPA, France). **Project awarded 119145.60 R\$.**
- 10 Modelling, synthesis and characterisation of a novel acceptor for organic photovoltaics', Starting 1/1/2020 to last 12 months. PhD direction by Profs. D. Bégué (UPPA) and C. Olivati (UNESP, Brazil). **Project awarded around 20 000 €.**
- 9 Pre-industrialisation of a new piezoelectric device (Pre-PZE). *E2S-UPPA. Projet de Transfert de technologie*. Starting 1/1/2019 to last 6 months. In close collaboration with Prof. C. Olivati and Prof. D. Agostini, UNESP, Brazil, **Project awarded 50 000 €.**
- 8 Increasing the Efficiency of Organic Solar Panels (INFO). *Agence Nationale de la Recherche*. Funds for EU project construction. Started 1/09/2017 for 18 months. **Project awarded 19 500 €.**
- 7 Synthesis and Characterisation of Amphiphilic Poly(fullerene) Copolymers for Bio-electronic Applications (SCAFOL). Awarded by *Université de Pau et des Pays de l'Adour*. Funds for one PhD. Starting 1/09/2017 to last 3 years. Dr R. C. Hiorns (Director), Prof. D. Bégué (Co-director). **Project awarded 100 000 €.**
- 6 Development Grant for Realisation of Graphene-based Materials for Organic Solar Cells, (GRaphT). Awarded by *Aquitaine Science transfer*. Funds for one Post-Doc. Starting 1/11/2015 to last 6 months. Prof. D. Bégué and Dr R. C. Hiorns (Co-Coordinators, IPREM, France). **Project awarded 30 000 €.**
- 5 'A Brief Guide to Polymer Terminology', IUPAC project 2012-048-3-400. Starting 3/6/2013 to last 36 months. Submitted by: Dr R. J. Boucher (J. Wiley and Sons, UK), Dr. C. H. Do (Korea), Dr R. Duhlev (Elsevier, UK), Dr K.-H. Hellwich (Germany), Dr R. C. Hiorns (**Coordinator**, France), Prof. P. Hodge (UK), Prof. P. Kratochvíl (Czech Republic), Prof. R. G. Jones (UK), C. Luscombe (USA); Prof. C. K. Ober (USA); Prof. C. K. Ober (USA); Prof. R. F. T. Stepto (UK); Dr. N. Stingelin (UK), Dr. M. Walter (USA), and Prof. J. Vohlidal (**Co-coordinator**, France). **Project awarded 5000 US \$.**
- 4 'Incorporation of Fullerene into Polymers for Photovoltaic Applications' ('Incorporation du Fullerène en Polymère Pour des Applications Photovoltaïques', FULLINC). Awarded by *Conseil Région Aquitaine*. Funds for 1 Post-Doc and 1 PhD Fellow. Started 1/11/2012 to last 36 months. Dr R. C. Hiorns (IPREM, France), Dr C. Dagron (IPREM, France); Prof. Thomas Chassé (Partner leader, Inst. f. Physik. u. Theor. Chemie., Eberhard Karls Universität Tübingen, Germany), Dr H. Piesert (EKUT); Dr A. Sutherland (Partner leader, Aston University); Dr Hans-Joachim Egelhaaf (Partner Leader, Konarka OPV GmbH, Germany). **Project awarded 144 000 €.**
- 3 'Fabrication et caractérisation de cellules solaires basées sur des polymères organiques nanostructurés' (NANOSOL), Awarded by CAPES/COFECUB – Campus France. Funds for 2 visiting PhD students per year, and exchange voyages by Supervisors. Started 1/1/2012 to last 24 months. Dr R. C. Hiorns (Coordinator, IPREM, France), Dr D. Bégué (IPREM, France), Dr C. Dagron (IPREM, France); Prof. C. F. O. Graeff (Coordinator, UNESP, Sao Paulo, Brazil), Prof. C. Olivetti (UNESP, Sao Paulo, Brazil). **Project awarded ca 45 000 €.**

- 2 *'Ensuring Stability in Organic Solar Cells'* (Establis), Marie Curie Initial Training Network (ITN), FP7-PEOPLE-2011-ITN-ESTABLIS-290022. 4 Post-doctoral and 11 PhD Fellows, and one European Project Manager. Starting 1/1/2012 to last 48 months. Dr R. C. Hiorns (Coordinator, France); Partner Leaders: Dr A. Rivaton (CNRS-Université Blaise Pascal, Clermont-Ferrand, France); Dr P. D. Topham (Vice-Coordinator, Aston University, UK); Prof. T. Chassé (Eberhard-Karls-Universität Tübingen, Germany); Prof. S. Bauer (Johannes Kepler Universität Linz, Austria); Prof. F. Uherek (International Laser Centre, Slovakia); Prof. L. Lüer (Instituto Madrileño de Estudios Avanzados, Spain); Prof. G. Juska (Vilnius University, Lithuania); Dr H.-J. Egelhaaf (Advisor to the Coordinator, Konarka Technologies GmbH, Nürnberg, Germany); Dr S. Tierney (Merck Chemicals Ltd, UK); Dr W. Lövenich (Heraeus Precious Metals GmbH & Co KG, Germany). Director of Training: Dr A. Sutherland (Aston University, UK). Associate Partner Leaders: Dr M. Trocha, Evonik Degussa GmbH, Germany; Dr J. Wecker, Siemens Corporate Technology; Dr. B. Jannon, Amcor.
Project awarded 3 870 292.89 €.
- 1 *'A Brief Guide to Polymer Nomenclature'*, IUPAC project 2008-032-1-400. Started 1/1/2009 to last 36 months. R. J. Boucher (J. Wiley and Sons, UK), Dr R. Duhlev (Elsevier, UK), Dr K.-H. Hellwich (Germany), Dr R. C. Hiorns (France), Prof. P. Hodge (UK), Prof. A. Jenkins (UK) Prof. R. G. Jones (UK); Prof. C. K. Ober (USA); Prof. D. W. Smith Jr (USA); Prof. J.-P. Vairon; and Prof. J. Vohlidal. **Project awarded 5000 US \$.**

Project Partner – Grant Awards

- 14 2020/09173-9 FAPESP Scientific initiation fellowship for Ana Beatriz Sanches Brito (co-supervisor): Use of UV-vis and Fluorescence Absorption Spectroscopies in the Study of Propolis-Based Stingless Bee *Melipona quadrifasciata quadrifasciata* and Nano-clay halosite for the Development of Advanced Nanomaterials, **9.2k reals, 2022.**
- 13 102020/09435-3 FAPESP Scientific initiation fellowship for Natália Cristina Pinto Vieira (co-supervisor): Studies of nanocomposite formation from Jataí bee propolis (*Tetragonisca angustula*) and halosite nano clay, by absorption and fluorescence, for the development of drug delivery systems, **9.2k reals, 2022.**
- 12 2020/11440-5 FAPESP Researchers Fellowship for Patricia Targon Campana (co-supervisor, in collaboration with CNRS Bordeaux): Interactions Between Propolis from Stingless Bees And Nanoclays By PM-IRRAS: Studies For Advanced Nanomaterials' Development (**ca. 18k€**), **2021.**
- 11 2020-709, PUB Universidade de São Paulo, : Absorption and fluorescence in the study of the formation of nanocomposites (propolis and nano clay) for the development of drug delivery systems, **4.8 k reals, 2021.**
- 10 139525/2020-3 CNPq PIBIC Undergraduation Fellowship: Use of absorption and fluorescence spectroscopies in the study of the formation of nanocomposites based on stingless bee propolis and halo-mosite nano-clay for the development of drug delivery systems, **4.8 k reals, 2021.**
- 9 'SuperSolar International and Industrial Engagement Award Visitors' fund, September 2017, coordinated by Dr. A. Sutherland, to visit Aston University, UK for 2 x 2 week stays, **3k€.**
- 8 Organic Photovoltaic Community Scale Installations, TEP-CV 2016 with Communauté de Communes Vic-Montaner (**Coordinator**), and Partners Belectric OPV GmbH (Dr. Ralph Pätzold), and IPREM (UMR 5254, CNRS) (Dr. Roger C. Hiorns).



Photo: award ceremony for TEP-CV, December 2016. L-R: Dr. R. C. Hiorns, Mme Ségolène Royal (Ministère de l'Environnement, de l'Énergie et de la Mer), M. P. Baylère (President Commission Énergie et Développement Durable, Communauté de Communes de Vic-Montaner), M. Jean-Louis Curret (President, Communauté de Communes de Vic-Montaner).

- 7 'Revolutionizing Understanding of Organic Solar Cell Degradation to Design Novel Stable Materials' (SolarRevolution), Marie-Curie Intra-European Fellowship for Career Development, FP7-PEOPLE-2012-IEF-SolarRevolution-331795. 1 Post-doctoral Fellow. Starting 1.05.2013 to last 24 months. Dr. Mike Wykes (**Principal Investigator**), Dr. Johannes Gierschner (**Coordinator**), Dr. Larry Lüer, Dr. Begoña Milián-Medina, IMDEA Nanoscience, Madrid, Spain; Dr. Roger C. Hiorns (**Partner Leader**), Dr. Didier Bégué, Dr. Christine Dagron-Lartigau, IPREM (EPCP), UMR-5254, France; Dr. Agnès Rivaton (Partner Leader, Clermont-Ferrand), Dr. Hans-Joachim Egelhaaf (Partner Leader, Belectric OPV). **Project awarded €167 000.**
- 6 'Synthesis and Application of Block Copolymers for Interfacial Stability in Organic Solar Cells' (SYNABCO), FP7-PEOPLE-IEF-SYNABCO-273316, Intra-European Fellowships (IEF) post-doc for 2 years starting 1/9/2011 with Industrial contact with Konarka Technologies GmbH. Participants: Dr Harikrishna Erothu (IEF Fellow, Aston University, UK), Dr Paul Topham (Coordinator, Aston University, UK), **Dr R. C. Hiorns (Partner Leader, IPREM, France)**, Dr Christine Dagron-Lartigau (IPREM, UPPA, France) and Prof. Ahmed Allal (IPREM, UPPA, France). Attained 93.6/100. **Project awarded 209 092 €.**
- 5 'Cellules PHOtovoltaïques Organiques à Couche active Stabilisée', CEPHORCAS, ANR project. Started 1.1.11, to last 4 years. Coordinator, G. Wantz (IPB, Bordeaux), IPREM (EPCP), Christine Dagron-Lartigau (Partner Leader, IPREM, UPPA). **Project awarded ca 750 k€.**
- 4 'Terminology for Chain Polymerizations', IUPAC project 2010-007-1-400, submitted by: Prof. P. Kubisa (Poland), Dr R. C. Hiorns (France), Prof. R. G. Jones (UK), Prof. T Kitayama (Japan), Prof. K. Matyjaszewski (USA), Dr G. Moad (**Coordinator**, Australia), and Prof. G. Russell (New Zealand). **Project awarded 6000 US \$.**
- 3 'Revision of, 'IUPAC Recommendations on Macromolecular Nomenclature – Guide for Authors of Papers and Reports in Polymer Science and Technology'', IUPAC project 2008-020-1-400, submitted by: Prof. K.-H. Hellwich (Germany), Dr R. C. Hiorns (France), Prof. Phil Hodge (**Coordinator**, UK), Prof. J. Kahovec, Prof. R. G. Jones, and Prof. W. Mormann (Germany). **Project awarded 5000 US \$.**
- 2 'Glossary of Terms Relating to Electromagnetic Field-Responsive Polymers', IUPAC project 2006-028-1-400, submitted by: Prof. J. Vohlídal (**Coordinator**, Czech Republic), R. C. Hiorns (France), Prof. R. G. Jones (UK), Prof. C. Ober (USA), Prof. F. Schué (France), and Prof. J. Stejskal (Czech Republic). **Project awarded 6000 US \$.**
- 1 'Fullerene based copolymers for opto-electronic applications', Initiator and Project Assembly for an EGIDE / RSC Franco-British Alliance with Dr S. J. Holder, University of Kent (UK), 2007-2008. **Project awarded 3000 € per participant.**

Publications

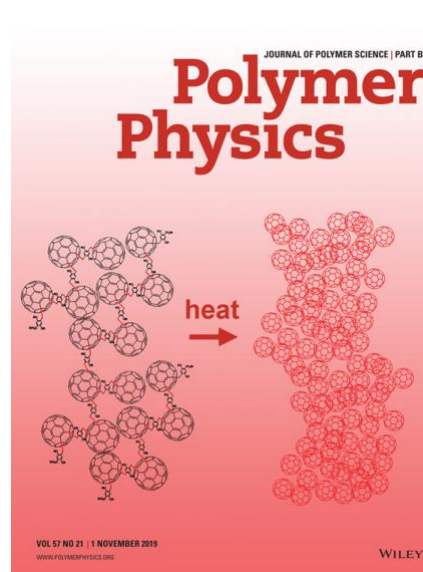
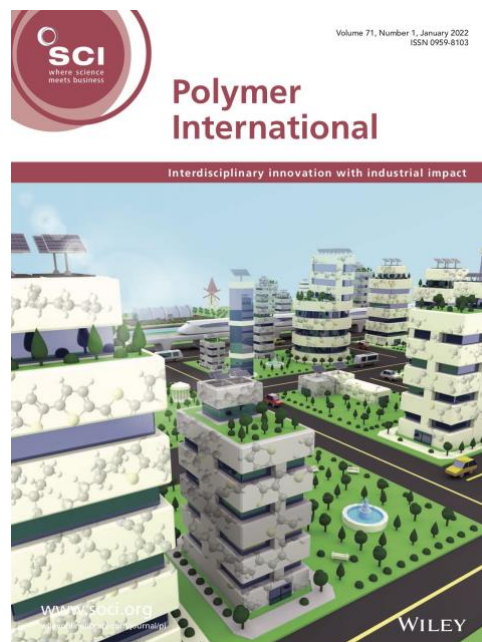
Patents

- 8 (PCT) China, QT PCT/IB2015/000511, HEXABENZOCORONENE-BASED COMPOUND FOR ORGANIC PHOTOVOLTAIC CE, D. Bégué, R. C. Hiorns, H. Santos-Silva, 1 February **2020**.
- 7 European patent PCT/IB2015/000511, 'Graphene-based acceptor molecules for organic photovoltaic', by D. Bégué, R. C. Hiorns, H. Santos-Silva. 28 February **2019**.
- 6 World patent PCT/FR2017/052398 (CNRS ref. DI 07348-04; N/ref. CHNO/isle-F064400384/WO/PCT), 'Matériaux accepteurs alternatifs à base d'hexabenzocoronène', by D. Bégué, R. C. Hiorns, H. Santos-Silva. 11 September **2017**.
- 5 World patent PCT/IB2017/088955 A1, 'Semiconducting Mixtures', R. C. Hiorns (CNRS), H. H. Ramanitra, D. Bégué, H. Santos Silva, A. Distler, S. Dowland, G. Morse. 1 June, **2017**.
- 4 French patent, FR1658459 (CNRS ref. DI 07348-04; N/ref. CHNO/odma-F644/384/FR/BN), 'Matériaux accepteurs alternatifs à base d'hexabenzocoronène, by D. Bégué, R. C. Hiorns, H. Santos-Silva. 12 September **2016**.

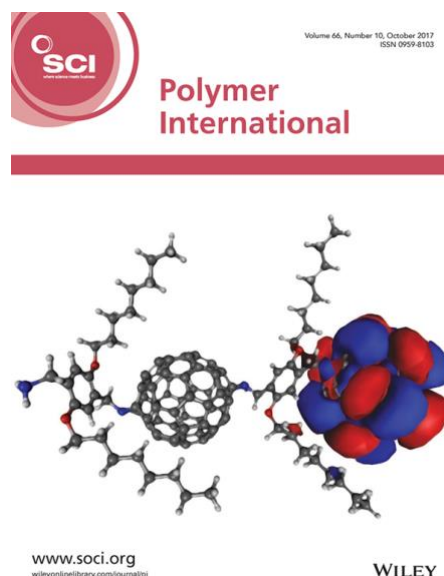
Peer Reviewed Papers

- 78 'Mini-Review: Syntheses of biocompatible polymers for drug delivery applications', Linda W. Oktavia, Didier Bégué, Patricia Targon Campana, Roger C. Hiorns, *submitted*.
- 77 'Influence of the solvents in the morphology of Langmuir and Langmuir-Schaefer films of PCBM and PCBM-based oligomers and polymers', Lucas Roncaselli, Edilene da Silva, Maria Braunger, Hasina Ramanitra, Meera Stephen, Lucas Citolino, José Fernandes, André Simões, Carlos José Constantino, Deuber Agostini, Didier Bégué, Roger Hiorns, Clarissa Olivati, *Physical Chemistry Chemical Physics*, **2022**, 24, 12442.
<https://doi.org/10.1039/d1cp05408b>.
- 76 'A Brief Guide to Polymerization Terminology (IUPAC Recommendations 2021)', Christine K. Luscombe, Graeme Moad, Roger C. Hiorns, Richard G. Jones, Daniel J. Keddie, John B. Matson, Jan Merna, Tamaki Nakano, Gregory T. Russell and Paul D. Topham, *Pure and Applied Chemistry*, **2022**, aop, <https://doi.org/10.1515/pac-2021-0115>
- 75 'Terminology and Nomenclature for conjugates based on polymers or other substrates (IUPAC Recommendations 2020)', Michel Vert, Jiazhong Chen, Andrey Yerin, K.-H. Hellwich, R. C. Hiorns, R. G. Jones, G. Moad, G. P. Moss, *Pure and Applied Chemistry*, **2022**, <https://doi.org/10.1515/pac-2020-0502>
- 74 'Glossary of terms relating to electronic, photonic and magnetic properties of polymers (IUPAC Recommendations 2020)', J. Vohlídal, C. F. O. Graeff, R. C. Hiorns, R. G. Jones, C. Luscombe, F. Schué, N. Stingelin, M. G. Walter, *Pure and Applied Chemistry*, **2022**, 94(1), 15-69. <https://doi.org/10.1515/pac-2020-0501>

- 73** 'Polyfullerene thin films applied as NH₃ sensors', A. V. Santos Simões, L. K. Martins Roncaselli, V. J. Rodrigues de Oliveira, M. E. Rocha Santos Medina, H. H. Ramanitra, M. Stephen, D. L. Silva Agostini, R. C. Hiorns, C. de Almeida Olivati, **2021**, 24(1), *Materials Research*, <https://doi.org/10.1590/1980-5373-MR-2021-0435>
- 72** 'Structure-based nomenclature for irregular linear, star, comb and brush polymers (IUPAC Recommendations 2020)', J. Chen, E. S. Wilks, A. Fradet, K.-H. Hellwich, R. C. Hiorns, T. Nakano, C. dos Santos, P. Théato, *Pure and Applied Chemistry*, **2021**, 93(9), 963-995. <https://doi.org/10.1515/pac-2020-0103>
- 71** **Front page**, 'Review: materials and modelling for organic photovoltaic devices', Olivier Doat, Bruno H. Barboza, Augusto Batagin-Neto, Didier Bégué, Roger C. Hiorns, *Polymer International*, **2022**, 1, 6-25, <https://doi.org/10.1002/pi.6280> and <https://doi.org/10.1002/pi.6344>
- 70** 'Study of the Effect of Solvent on the Conductivity of Langmuir-Schaefer Films of Poly(Fullerene)s', L. K. M. Roncaselli, E. A. Silva, H. H. Ramanitra, M. Steephen, A. V. S. Simões, D. Bégué, R. C. Hiorns, C. A. Olivati, *Materials Research*, **2021**, 24, <https://doi.org/10.1590/1980-5373-MR-2021-0028>
- 69** 'Understanding the Langmuir and Langmuir-Schaefer film Conformation of low-bandgap polymers and their bulk heterojunctions with PCBM', E. A. Silva, A. Gregori, J. D. Fernandes, C. J. L. Constantino, C. Njel, R. Dedryvère, R. C. Hiorns, C. Lartigau-Dagron, C. A. Olivati, *Nanotechnology*, **2020**, 31(31) 315712. <https://doi.org/10.1088/1361-6528/ab8b0b>
- 68** **Front page** 'In-situ generation of fullerene from a poly(fullerene)', Hugo Santos Silva, Hasina H. Ramanitra, Bruna A. Bregadiolli, Aurélien Tournebize, Didier Bégué, Simon Dowland, Christine Lartigau-Dagron, Carlos F. O. Graeff, Andreas Distler, Heiko Peisert, Thomas Chassé, Roger C. Hiorns, *Journal of Polymer Science, Pt B, Polymer Physics*, **2019**, 57, 1434-1452. <https://doi.org/10.1002/polb.24888>
- 67** 'Influence of material migration on the mechanical integrity of inverted organic solar cells', A. Tournebize, D. Deribew, A. Gregori, R. C. Hiorns, A. Distler, H.-J. Egelhaaf, C. Lartigau-Dagron, A. Allal, H. Peisert, T. Chassé, *Solar Energy Materials & Solar Cells*, **2019**, 200, 110008, <https://doi.org/10.1016/j.solmat.2019.110008>



- 66 'A concise guide to polymer nomenclature for authors of papers and reports in polymer science and technology (IUPAC Technical report)', P. Hodge, K.-H. Hellwich, R. C. Hiorns, R. G. Jones, J. Kahovec, C. K. Luscombe, M. D. Purbrick, E. S. Wilks, *Pure Appl. Chem.* **2020**, 92(5): 797–813; <https://doi.org/10.1515/pac-2018-0602>
- 65 'List of keywords for polymer science (IUPAC, technical report)', S. Slomkowski, C. M. Fellows, R. C. Hiorns, R. G. Jones, P. Kubisa, C. K. Luscombe, T. Nakano, G. T. Russell, C. G. dos Santos, C. Scholz, N. Stingelin, M. G. Walter, *Pure and Applied Chemistry*, **2019**, 91(6), 997-1027. DOI: 10.1515/pac-2018-0917; <https://doi.org/10.1515/pac-2018-0917>
- 64 'Molecular organization relationship of low-bandgap polymers at the air-water interface and in solid films,' V. J. R. De Oliveira, E. A. Da Silva, M. L. Braunger, H. Awada, H. De Santana, R. C. Hiorns, C. Dagron-Lartigau, C. de Almeida Olivati, *Journal of Molecular Liquids*, **2018**, 268, 114-121. <https://doi.org/10.1016/j.molliq.2018.07.018>
- 63 'Langmuir and Langmuir-Schaffer Films of Low-bandgap Polymers', M. L. Braunger, E. A. Silva, H. Awada, H. S. Silva, D. Bégué, R. C. Hiorns, C. Dagron-Lartigau, C. A. Olivati, *Polymer International*, **2018**, 67(8), 1028-1034. <https://doi.org/10.1002/pi.5604>
- 62 'Targeting Ideal Acceptor-Donor Materials Based on Hexabenzocoronene', Hugo Santos Silva, Sebastian Metz, Roger C. Hiorns, Didier Bégué, *Journal of Molecular Structure*, **2018**, 1161, 442-452. <https://doi.org/10.1016/j.molstruc.2018.02.067>
- 61 'The role of donor polymer and PEDOT:PSS formulation on delamination processes in inverted organic solar cells', Alberto Gregori, Aurélien Tourné, Stefan Schumann, Heiko Peisert, Roger C. Hiorns, Thomas Chassé, Christine Lartigau-Dagron, Ahmed Allal, *Solar Energy Materials & Solar Cells*, **2018**, 174, 25-33. DOI: 10.1016/j.solmat.2017.08.024; <https://doi.org/10.1016/j.solmat.2017.08.024>
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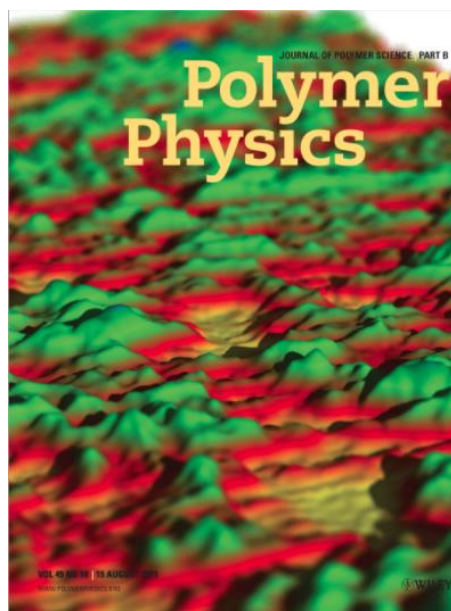
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Book Chapters

- 5 Beatriz Marques Carvalho, Vitor Hugo Uzeloto, Fernandes Mingroni, Bruno Henrique de Santana Gois, Pedro Leonardo Silva, André Antunes da Silva, Jéssica Mantelato Bomfim Corrêa, Lucas Kaique Martins Roncaselli, Lucas Michelão Martins, Luiz Carlos da Silva Filho, Roger Clive Hiorns, Clarissa de Almeida Olivati, Deuber Lincon da Silva Agostini, 'Interferência do acúmulo de cargas nos ensaios eletromecânicos em materiais poliméricos piezoelétricos' in 'Engenharia de materiais, materializando o futuro, Ed. N. Lara, Pimenta cultural, São Paulo, Brazil, November 2022. DOI: 10.31560/pimentacultural/2022.94258
- 4 Marcelo Soares Borro, Vinicius Jessé Rodrigues de Oliveira, Vinicius Jessé Rodrigues de Oliveira, Roger C. Hiorns, Deuber Agostini, Clarissa de Almeida Olivati, FABRICAÇÃO DE FILMES FINOS E NANOFIBRAS DE DERIVADOS DO POLITIOFENO, in 'Ciências Exatas e da Terra: Exploração e Qualificação de Diferentes Tecnologias 2'. DOI: 10.22533/at.ed.85620271015, October 2020.

- 3 André Vítor Santos Simões, Lucas Kaique, Hasina Harimino Ramanitra, Meera Stephen, Deuber Lincoln Agostini, Roger C. Hiorns, Clarissa de Almeida Olivati, CARACTERIZAÇÃO DE FILMES FINOS DE DERIVADOS DE POLIFULERENOS, in Ciências Exatas e da Terra: Exploração e Qualificação de Diferentes Tecnologias, in DOI: 10.22533/at.ed.85820030614, June 2020,
- 2 'Hybrid Conjugated Polymer-Inorganic Objects: Elaboration of Novel Organic Electronic Materials', Antoine Bousquet, Roger C. Hiorns, Christine Dagrón-Lartigau, Laurent Billon, Hybrid Organic-Inorganic Interfaces: Towards Advanced Functional Materials, Volume 2, Eds. M. H. Delville, A. Taubert, Wiley VCH, January **2018**, ISBN: 978-3-527-34255-6
- 1 'Progress in organic optoelectronics', A. Moliton,* R. Antony, B. Lucas, B. Ratier, R. C. Hiorns, 'Recent Research Developments in Applied Physics', Transworld Network, Kerala, India, **2004**, 7(1), 197.

Wikipedia Pages

- 1 IUPAC Polymer Nomenclature, https://en.wikipedia.org/wiki/IUPAC_polymer_nomenclature, published July **2012**.
Receives *ca* 8400 visits per year.

Invited Lectures at International Conferences

- 21 'Large-scale organic photovoltaics – experiences from small community installations', Madiran', Patrick Baylère, Tobias Sauermann, Hermann Issa, Roger C. Hiorns, World Nano Congress on Advanced Science and technology, (WNCST) 2021, Virtual event hosted at Vellore, India, March **2020**.
- 20 'Poly(fullerene)s for Organic Solar Cells', B. A. Bregadiolli, M. Stephen, H. H. Ramanitra, S. Dowland, H. Santos Silva, M. Raïssi, D. Bégué, C. F. O. Graeff, M. Salvador, H. Peisert, S. Rajoelson, A. Osvet, H.-J. Egelhaaf, C. J. Brabec, K. Genevičius, K. Arlauskas, G. Juška, T. Chassé, G. E. Morse, A. Distler, H. Erothu, E. Ibarboure, H. Bejbouji, C. Dagron-Lartigau, R. C. Hiorns, Macro2018, Cairns, Australia, July **2018**.
- 19 'Linear Chains from Round Monomers for Photovoltaics', B. A. Bregadiolli, M. Stephen, H. H. Ramanitra, S. Dowland, H. Santos Silva, M. Raïssi, D. Bégué, C. F. O. Graeff, M. Salvador, H. Peisert, S. Rajoelson, A. Osvet, H.-J. Egelhaaf, C. J. Brabec, K. Genevičius, K. Arlauskas, G. Juška, T. Chassé, G. E. Morse, A. Distler, H. Erothu, E. Ibarboure, H. Bejbouji, H. Cramail, E. Cloutet, L. Vignau, C. Dagron-Lartigau, R. C. Hiorns, XVI Brazil MRS Meeting, Gramado, Brazil, September **2017**.
- 18 'Integrating Organic Photovoltaics Into Public Places', N. de Palma, H. Issa, P. Baylère, J. L. Curret, R. C. Hiorns, 100% Renewable Energy, Flensburg, Germany, October **2016**.
- 17 'Linear Polymers from Spherical Monomers; a Game of Two Halves', B. A. Bregadiolli, M. Stephen, H. H. Ramanitra, S. Dowland, H. Santos Silva, D. Bégué, M. Salvador, H. Peisert, C. Dagron-Lartigau, S. Rajoelson, A. Osvet, H.-J. Egelhaaf, C. J. Brabec, C. Olivati, K. Genevičius, K. Arlauskas, G. Juška, T. Chassé, G. E. Morse, A. Distler, C. F. O. Graeff, R. C. Hiorns, XV Brazil MRS Meeting, Campinas, Brazil, September **2016**.
- 16 'Stabilizing Organic Photovoltaic Devices Against Thermal Degradation with Poly(fullerene)s', H. H. Ramanitra, B. A. Bregadiolli, M. Stephen, S. Dowland, H. Santos Silva, D. Bégué, M. Salvador, C. Dagron-Lartigau, S. Rajoelson, A. Osvet, H.-J. Egelhaaf, C. J. Brabec, C. Olivati, K. Genevičius, K. Arlauskas, G. Juška, G. E. Morse, A. Distler, P. Baylère, H. Issa, C. F. O. Graeff, R. C. Hiorns, XV Brazil MRS Meeting, Campinas, Brazil, September **2016**.
- 15 'A General Overview of the Structure of and Results from the European ITN "Ensuring stability in organic solar cells" (ESTABLIS) Project', I. Fraga Dominguez, A. Gregori, A. Isakova, S. Karuthedath, J. Kolomanska, O. Kozlova, H. H. Ramanitra, M. Seck, H. Santos Silva, M. Stephen, I. Topolniak, A. Tournebize, B. A. Bregadiolli, T. Sauermann, C. M. Combe, D. Deribew, S. Dowland, A. Allal, K. Arlauskas, S. Bauer-Gogonea, D. Bégué, P.-O. Bussièrre, J. C. Gonzalez, A. Elschner, D. Hasko, L. Gardette, K. Genevicius, J. Gierschner, H. Peisert, A. Satka, R. Schwoediauer, S. Schumann, S. Thèrias, R. Wannemacher, A. Vincze, S. Bauer, C. J. Brabec, D. Gaiser, C. F. O. Graeff, A. Osvet, S. Rajoelson, M. Salvador, N. Blouin, T. Chassé, G. Juska, W. Lövenich, G. E. Morse, S. Tierney, F. Uherek, C. Dagron-Lartigau, A. Distler, H.-J. Egelhaaf, L. Lüer, A. Rivaton, M. Pédeutour, A. J. Sutherland, P. Topham, R. C. Hiorns, Workshop on Lifetime and Stability of Hybrid and Organic Devices, Université Pierre et Marie Curie (Sorbonne Universities), Paris, France, 21-22 April **2016**. <http://thinfacew2016.sciencesconf.org>
- 14 'Community-Scale Organic Photovoltaics', Patrick Baylère, Hermann Issa, Roger C. Hiorns, SU2P 7th Annual Symposium, Edinburgh, April **2016**.
<http://www.su2p.com/Home/Symposium2016/Programme.aspx>
- 13 'Testing Delamination in OPV Devices: A Study of Materials Influence on Mechanical Properties', A. Gregori, S. Schumann, A. Tournebize, A. Elschner, H. Peisert, T. Chassé, C.

- Dagron-Lartigau, R. C. Hiorns, A. Allal, XIV Brazil MRS Meeting, 8th International Summit on Organic and Hybrid Solar Cells Stability (ISOS-8), Rio de Janeiro, September/October **2015**.
- 12** 'ATRAP as a Route to PolyPCBM... and Stabilising Organic Photovoltaic Devices', H. H. Ramanitra, S. A. Dowland, H. Santos Silva, C. M. Combe, D. Bégué, C. Dagron-Lartigau, Graham Morse, A. Distler, R. C. Hiorns, 7th International Symposium on Engineering Plastics, Xining, China, August **2015**.
 - 11** 'Using fullerene as a monomer and stabilizing organic solar cells', H. H. Ramanitra, H. Santos Silva, A. Tournebize, C. M. Combe, D. Bégué, H. Peisert, T. Chassé, J.-L. Gardette, S. Thérias, A. Rivaton, C. Dagron-Lartigau, R. C. Hiorns, The 3rd KIT International Symposium on Advanced Polymer Materials and Fiber Science, Kyoto, Japan, February **2015**.
 - 10** 'Polyfullerenes for photovoltaics', H. H. Ramanitra, B. Bregadiolli, R. Marques Ferreira, H. Santos Silva, C. M. Combe, D. Bégué, F. C. Lavarda, C. Dagron-Lartigau, C. F. O. Graeff, R. C. Hiorns, EMN Meeting on Polymers, Energy Materials and Nanotechnology, Orlando, Florida, USA, January **2015**.
 - 9** 'Polyfullerenes and stabilizing polymer-based organic photovoltaic cells', H. H. Ramanitra, H. Santos Silva, A. Tournebize, D. Bégué, H. Peisert, T. Chassé, J.-L. Gardette, S. Thérias, A. Rivaton, C. Dagron-Lartigau, R. C. Hiorns*, 3rd Kathmandu Symposia on Advanced Materials 2014 (KaSAM), Kathmandu, Nepal, September **2014**.
 - 8** 'Nomenclature and Terminology: prerequisite or nuisance for polymer science education?', R. C. Hiorns, IUPAC Macro 2014, Chiang Mai, Thailand, July **2014**.
 - 7** 'Multi-scale molecular modeling applied to design and performance increase of organic materials for electronics applications' H. Santos Silva,* M. Arnaud, D. Bégué, Isabelle Baraille, C. Dagron-Lartigau, and R. C. Hiorns ICCMSE 2014, in Athens, Greece, **April 2014**.
 - 6** 'Using Fullerene as a Comonomer for Organic Photovoltaic Applications', H. Santos Silva, H. H. Ramanitra, D. Bégué, C. Dagron-Lartigau, R. C. Hiorns*, 6th International Symposium on Engineering Plastics, Xiamen, China, August **2013**.
 - 5** 'Fullerene as a Monomer', E. Dupeu, C. Dagron-Lartigau, R. C. Hiorns*, 11th SBPMat, Florianopolis, Brazil, September **2012**.
 - 4** 'Le Photovoltaïque : Présent et Avenir', R. C. Hiorns*, 63^{eme} Foire de Pau, Parc des Exposition de Pau, Salle Navarre, September **2011**.
 - 3** 'Designing polyfullerenes for organic photovoltaic cells', R. C. Hiorns,* A. Khoukh, H. Preud'homme, C. Dagron-Lartigau, E. Cloutet, E. Ibarboure, H. Bejbouji, L. Vignau, N. Lemaitre, M. Raissi, S. Guillerez, C. Absalon, H. Cramail, 43rd IUPAC World Chemistry Congress, Puerto-Rico, August **2011**.
 - 2** 'Caves and self-assembly', R. J. Hiorns* and R. C. Hiorns*, In the conference, "Caves", King's College London, UK, 17th February **2011**.
 - 1** 'Fullerene and morphology: polymers for photovoltaics,' R. C. Hiorns*, in a special satellite meeting 'Organic and Polymer Solar Cells' to PPC11, Cairns, Australia, 8th December **2009**.

Invited Lectures at National Conferences

- 1 'Organic Photovoltaic Installations in Adour-Madiran', Patrick Baylère, Tobias Sauermann, Hermann Issa, Roger C. Hiorns, Journées annuelles OERA, IUT Aix Marseille, Aix-en-Provence, October **2018**.

Teaching

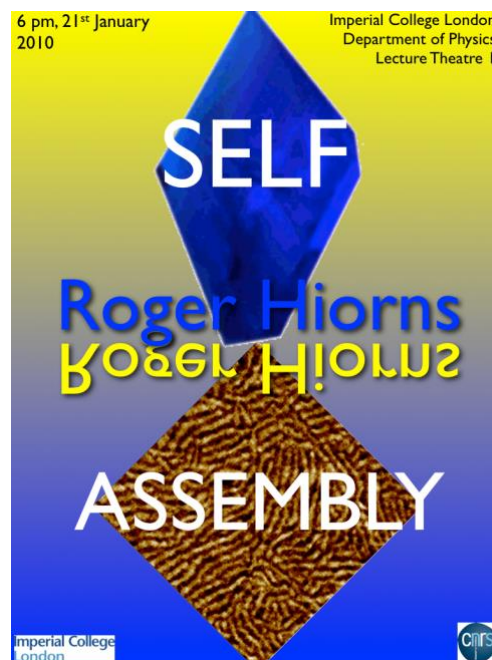
- 4 4 Hour taught course 'Polymer Terminology and Nomenclature' for PhD and MSc students, Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP), Presidente Prudente, São Paulo, Brazil, November **2022**.
- 3 16 Hour taught course 'Chemistry of materials for organic electronics: how structure changes everything' for PhD and MSc students, Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP), Presidente Prudente, São Paulo, Brazil, November **2022**.
- 2 6 Hour taught course '*Chemistry and physics of organic polymers for photovoltaic and piezoelectrical applications*' / 'Química e física de polímeros orgânicos para aplicações fotovoltaicas e piezoelétricas' for 17 PhD and MSc students, Universidade de São Paulo, São Paulo, Brazil, January **2020**.
- 1 12 Hour taught course '*Chemistry and physics of organic polymers for photovoltaic and piezoelectrical applications*' / 'Química e física de polímeros orgânicos para aplicações fotovoltaicas e piezoelétricas' for PhD and MSc students, Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP), Presidente Prudente, Sao Paulo, Brazil, November **2019**.

Invited Seminars

- 32 'Polymerising fullerenes for photovoltaics and medical applications', CICECO, University of Aveiro, Portugal, November **2021**.
- 31 'Polymers and the never-ending name game', 1ª Reunião Técnica Virtual do Programa de Ciência e Tecnologia de Materiais, ministrando a atividade Palestra, Brazil, December **2020**.
- 30 'Large-scale organic photovoltaic installations', Summer School in Photovoltaics, Virtual presence, Southern University of Denmark, August **2020**.
- 29 'Basic Introduction to Piezoelectricity and Polymers,' Deuber L. S. Agostini and Roger C. Hiorns, Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP), Presidente Prudente, Sao Paulo, Brazil, September **2018**.
- 28 'Polymerising C₆₀ and PCBM for Photovoltaics,' Roger C. Hiorns, Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP), Presidente Prudente, Sao Paulo, Brazil, September **2018**.
- 27 'Polymer Nomenclature and Terminology – all you didn't want to know about naming polymers,' Roger C. Hiorns, Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP), Presidente Prudente, Sao Paulo, Brazil, September **2017**.
<http://www.fct.unesp.br/#!/noticia/787/palestra-com-o-professor-roger-c-hiorns-da-univ-de-pau---france/>
- 26 'Fullerene-based polymers for organic photovoltaics,' Roger C. Hiorns, Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP), Presidente Prudente, Sao Paulo, Brazil, September **2017**.
- 25 'Integrating Organic Photovoltaics into Public Places', Nicolas de Palma, Hermann Issa,

- Patrick Baylère, Jean Louis Curret, Roger C. Hiorns, University of Auckland, February **2017**.
- 24** 'Making Chains from Balls—Polymers for Organic Photovoltaics; and Community Scale OPV installations', M. Stephen, H. H. Ramanitra, H. Santos Silva, D. Bégué, C. Dagron-Lartigau, K. Genevičius, K. Arlauskas, G. Juška, H. Issa, P. Baylère, R. C. Hiorns, Mads Clausen Instituttet, Sønderborg, Denmark, October, **2016**.
 - 23** 'A General Overview of the Structure of and Results from the European ITN "Ensuring stability in organic solar cells" (ESTABLIS) Project', R. C. Hiorns, Centre de Recherche Paul Pascal, Bordeaux, France, September **2016**.
 - 22** 'Community-Scale Organic Photovoltaics', Patrick Baylère, Hermann Issa, Roger C. Hiorns, Ross Priors, University of Strathclyde, February **2016**.
 - 21** 'A Thankfully Brief Guide to IUPAC Polymer Nomenclature,' Roger C. Hiorns, Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP), Presidente Prudente, Sao Paulo, Brazil, September **2015**.
 - 20** 'It's ATRAP! Stabilising Organic Photovoltaic Cells', TN-ESTABLIS-290022, Ensuring Stability in Organic Solar Cells,' Hasina H. Ramanitra, Hugo Santos Silva, Craig M. Combe, Simon Dowland, Didier Bégué, Christine Dagron-Lartigau, Heiko Peisert, Thomas Chassé, Jean-Louis Gardette, Sandrine Thérias, Agnès Rivaton, Graham Morse, Andreas Distler, Roger C. Hiorns, Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP), Presidente Prudente, Sao Paulo, Brazil, September **2015**.
 - 19** 'ITN-ESTABLIS-290022, Ensuring Stability in Organic Solar Cells,' Mélanie Pédeutour, Roger C. Hiorns, Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP), Presidente Prudente, Sao Paulo, Brazil, September **2015**.
 - 18** 'Managing FP7-PEOPLE-2011, ITN-ESTABLIS-290022, Ensuring Stability in Organic Solar Cells,' For ITN-INFORM-2014, Coordinated by Imperial College London, October **2015**.
 - 17** 'Some advances in polyfullerenes and the stabilization of polymer-based organic photovoltaic cells', H. Santos Silva, H. H. Ramanitra, A. Tournebize, C. M. Combe, D. Bégué, H. Peisert, T. Chassé, J.-L. Gardette, S. Thérias, A. Rivaton, C. Dagron-Lartigau, R. C. Hiorns, University of North Carolina at Charlotte, Orlando, Florida, USA, January **2015**.
 - 16** 'Polyfullerenes and stabilizing polymer-based organic photovoltaic cells', H. H. Ramanitra, H. Santos Silva, A. Tournebize, D. Bégué, H. Peisert, T. Chassé, J.-L. Gardette, S. Thérias, A. Rivaton, C. Dagron-Lartigau, R. C. Hiorns*, Imperial College London, December **2014**.
 - 15** 'Coordinating a Marie-Curie ITN programme', R. C. Hiorns, Horizon 2020, Université de Pau et des Pays de l'Adour, France, December **2013**.
 - 14** 'Polymers for organic photovoltaic cells', C. Dagron-Lartigau*, F. Ouhib, H. Medlej, H. Awada, S. Khiev, L. Billon, A. Bousquet, R. C. Hiorns, UNESP – Bauru, Brazil, August **2013**.
 - 13** 'Making Polymers from Fullerene for Photovoltaics', E. Dupeu, C. Dagron-Lartigau, R. C. Hiorns*, Eberhard Karls Universität Tübingen, Tübingen, Germany, February **2013**.
 - 12** 'Making Polymers from Fullerene for Photovoltaics', E. Dupeu, C. Dagron-Lartigau, R. C. Hiorns*, IMDEA, Madrid, Spain, December **2012**.
 - 11** 'Fullerene-based Polymer for Photovoltaic Devices', E. Dupeu, C. Dagron-Lartigau, R. C. Hiorns*, UNESP, Presidente Prudente, Sao Paulo, Brazil, October **2012**.
 - 10** 'A Personal Brief Introduction to Polymer Nomenclature', R. C. Hiorns*, UNESP, Bauru, Sao Paulo, Brazil, October **2012**.
 - 9** 'Fullerene-based Polymer for Photovoltaic Devices', E. Dupeu, C. Dagron-Lartigau, R. C. Hiorns*, UNESP, Bauru, Sao Paulo, Brazil, October **2012**.
 - 8** 'Polymers as Active Layers in Organic Solar Cells and the Incorporation of Polyfullerenes', R. C. Hiorns*, Aston University, UK, 30th April **2010**.

- 7 'Organic solar cells and fullerene: making wires (and lamellae) from spheres,' R. C. Hiorns*, Université Blaise Pascal, Clermont-Ferrand, France, 10th March **2010**.
- 6 'Self-Assembly', R. J. Hiorns* and R. C. Hiorns*, A joint lecture on the use of material self-organisation in art and in science.
R. J. Hiorns <http://www.artangel.org.uk>
R. C. Hiorns <http://iprem-epcp.univ-pau.fr/live/personnel/HIORNS>
Imperial College London, UK, 21st January **2010**.
- 5 'Towards Cheap Solar Cells', R. C. Hiorns*, CRPP, Université de Bordeaux, France, 17th of June **2009**.
- 4 'Block copolymers containing conjugated segments', R. C. Hiorns*, Ecole Nationale Supérieure de Chimie et de Physique de Bordeaux, France, 14th of December **2006**.
- 3 'An ordered approach to photovoltaic cells', R. C. Hiorns*, Linz Institute of Organic Solar Cells (LIOS), Johannes Kepler University Linz, Austria, 24th of October **2006**.
- 2 'A general introduction to polymer based photovoltaics', R. C. Hiorns*, F. Ouhib, A Khoukh, J. Leroy, M. Firon, B. Gourdet, R. De Bettignies, S. Baily, C. Sentein, C. Dagron-Lartigau, University of Kent at Canterbury, UK, 7th of April **2006**.
- 1 'Self-assembly of multi-block copolymers containing conjugated segments—a route to well ordered systems?', R. C. Hiorns*, H. Martinez, C. Dagron-Lartigau, J. François, CEA, Grenoble, France, 28th of October **2003**.



Conference Presentations by Peer Review

- 45 'Modelling of Stable and Novel Organic Materials Targeting High-Efficiency Solar Cells', G. Paschoal, J. Bittencourt, L. Citolino, W. Lafargue-Dit-Hauret, C. Olivati, D. Agostini, D. Bégué*, R. C. Hiorns, SBPMat, Foz do Iguaçu, Brazil, September **2022**.
- 44 'Main-chain poly(fullerene xylene)s - exploring fullerene in the next dimension', E. Batagianni, J. Bittencourt, L. K. Martins Roncaselli, A. V. Santos Simões, V. J. Rodrigues de Oliveira, M. E. Rocha Santos Medina, H. Ramanitra, M. Stephen, D. L. Silva Agostini, C. Olivati, D. Bégué, P. Targon Campana, R. C. Hiorns, SBPMat, Foz do Iguaçu, Brazil, September **2022**.
- 43 'Main-chain poly(fullerene xylene)s - exploring fullerene in the next dimension', E. Batagianni, J. Bittencourt, L. K. Martins Roncaselli, A. V. Santos Simões, V. J. Rodrigues de Oliveira, M. E. Rocha Santos Medina, H. Ramanitra, M. Stephen, D. L. Silva Agostini, C. Olivati, D. Bégué, P. Targon Campana, R. C. Hiorns, ICSM, Glasgow, UK, July **2022**.
- 42 'Poly(fullerene) syntheses and their impacts on structural, morphological and opto-electronic properties', L. K. M. Roncaselli, A. A. da Silva, P. L. Silva, H. H. Ramanitra, M. Stephen, B. Bregadiolli, C. F. O. Graeff, D. L. S. Agostini, C. A. Olivati, R. C. Hiorns, SBP-Mat, Balneário Camboriú, Brazil, September **2019**.
- 41 'Linear Polymers from Round Monomers: Polymerising C₆₀ and PCBM for Photovoltaics', M. Stephen, H. H. Ramanitra, S. Dowland, H. Santos Silva, B. A. Bregadiolli, D. Bégué, C. F. O. Graeff, M. Salvador, H. Peisert, C. Dagron-Lartigau, S. Rajoelson, A. Osvet, H.-J. Egelhaaf, C. J. Brabec, K. Genevičius, K. Arlauskas, G. Juška, T. Chassé, G. E. Morse, A. Distler, R. C. Hiorns, AMN-8, Queenstown, New Zealand, February **2017**.
- 40 'PolyPCBM: Polyfullerenes for Organic Photovoltaic Cells', H. H. Ramanitra, H. Santos Silva, S. Dowland, D. Bégué, H. Peisert, T. Chassé, J.-L. Gardette, S. Thérias, A. Rivaton, C. Dagron-Lartigau, G. Morse, A. Distler, R. C. Hiorns, XIV Brazil MRS Meeting, 8th International Summit on Organic and Hybrid Solar Cells Stability (ISOS-8), Rio de Janeiro, September/October **2015**.
- 39 'Charge transfer process in grafted organic-inorganic systems', B. A. Bregadiolli, H. Awada, O. N. Neto, C. Dagron-Lartigau, L. Billon, A. Bousquet, R. C. Hiorns, F. E. G. Guimarães, C. F. O. Graeff, XIV Encontro da SBPMat Rio de Janeiro, Brazil, September, **2015**.
- 38 'Synthesis and characterization of macromolecular azafulleroids thin films for applications in organic solar cells', B. Bregadiolli, R. Marques Ferreira, F. C. Lavarda, C. Dagron-Lartigau, C. F. O. Graeff, R. C. Hiorns, RSC ISACS17 Challenges in Chemical Renewable Energy, Rio de Janeiro, September **2015**.
- 37 'Identification of the weakest mechanical point in OPV devices', A. Tournebize, A. Gregori, S. Schumann, A. Elschner, C. Dagron-Lartigau, R. C. Hiorns, A. Allal, H. Peisert, T. Chassé, DPG Spring Meeting, Berlin, Germany, March **2015**.
- 36 'Polyfullerenes for photovoltaics', H. H. Ramanitra, B. Bregadiolli, R. Marques Ferreira, C. M. Combe, H. Santos Silva, D. Bégué, F. C. Lavarda, C. Dagron-Lartigau, C. F. O. Graeff, R. C. Hiorns, Advanced Materials and Nanotechnology AMN7, Nelson, New Zealand, February **2015**.
- 35 'Delamination in OPV Devices: A New Technique to Identify the Weakest Mechanical Point,' A. Gregori, S. Schumann, A. Tournebize, H. Peisert, T. Chassé, C. Dagron-Lartigau, R. C. Hiorns, A. Allal, ISOS-7, Barcelona, Spain, September **2014**.
- 34 'Is there any photostable conjugated polymer for efficient solar cells?', A. Rivaton, A. Tournebize, J.-L. Gardette, C. Taviot-Gueho, D. Bégué, M. Alexandre, C. Dagron-Lartigau, H. Medlej, R. C. Hiorns, S. Beaupré, M. Leclerc, MoDeST2014, Portoroz, Slovakia, August/September **2014**.
- 33 'Incorporation of Fullerene into Polymers for Photovoltaic Applications', Hasina H. Ramanitra,

- C. M. Combe, H. Santos Silva, D. Bégué, C. Dagron-Lartigau, and Roger C. Hiorns, IUPAC Macro2014, Chiang Mai, July **2014**.
- 32** 'Synthesis of macromolecular azafulleroids for inverted solar cells', B. Bregadiollic, C. M. Combe, R. M. Ferreira, H. Santos Silva, H. H. Ramanitra, D. Bégué, F. C. Lavarda, C. Dagron-Lartigau, C. F. O. Graeff, R. C. Hiorns, E-MRS Spring meeting, Lille, France, May **2014**.
- 31** 'Fullerene as a monomer', E. Dupeu, C. Dagron-Lartigau, R. C. Hiorns, IUPAC-MACRO 2012, Virginia Tech, USA, June **2012**.
- 30** 'Incorporating fullerene into the back-bone of a block copolymer for a photovoltaic device', R. C. Hiorns, D. Bégué, P. Iratçabal, C. Dagron-Lartigau, E. Cloutet, E. Ibarboue, H. Cramail, L. Vignes, N. Lemaitre, S. Guillerez, IUPAC-MACRO 2010, Glasgow, July **2010**.
- 29** Flash presentation, 'Main-chain fullerene polymers for photovoltaics', R. C. Hiorns, E. Cloutet, E. Ibarboue, L. Vignau, N. Lemaitre, S. Guillerez, C. Absalon, H. Cramail, 42nd IUPAC World Chemistry Conference, Glasgow UK, August **2009**.
- 28** 'Electronically active block copolymers', A. de Cuendias, M. Le Hellaye, E. Cloutet, M. Urien, S. Lecommandoux, R. C. Hiorns, E. Ibarboue, L. Vignau, N. Lemaitre, S. Guillerez, H. Cramail, 42nd IUPAC World Conference, Glasgow UK, August **2009**.
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- 45** 'Altering the optoelectronic properties of conjugated polymers using convective self-assembly', Otto Todor-Boer, Ioan Petrovai, Raluca Tarcan, Leontin David, Simion Astilean, Roger C. Hiorns, Natalie Stingelin, Ioan Botiz, Bordeaux Polymer Conference, France, May **2018**.
- 44** 'Caracterização do polímero low bandgap PCPDTBT para aplicação como camada ativa em dispositivos fotovoltaicos orgânicos', Vinicius Jessé Rodrigues de Oliveira, Maria L. Braunger, Roger C. Hiorns, Christine Dagron Lartigau, Clarissa de Almeida Olivati, 14th Congresso Brasileiro de Polímeros, Brazil, October, **2017**.
- 43** 'Filmes de Langmuir e Langmuir-Schaefer de polímeros low bandgap puros e com PCBM', Edilene Assunção da Silva, Maria L. Braunger, Roger C. Hiorns, Christine Dagron-Lartigau, Clarissa de Almeida Olivati, 14th Congresso Brasileiro de Polímeros, Brazil, October, **2017**.
- 42** 'Adhesion at donor polymer - PEDOT:PSS interfaces in inverted organic solar cells', A. Gregori, A. Tournebize, S. Schumann, H. Peisert, R. C. Hiorns, T. Chassé, Christine Lartigau-Dagron, A. Allal, ANAKON, Tübingen, Germany, April, **2017**.
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- 37** 'Versatile Functional Poly(3-hexylthiophene) for Hybrid Particles Synthesis by Grafting Onto Technique: Core@Shell ZnO Nanorods for PhotoVoltaic devices', H. Awada, M.-H. Delville, R. C. Hiorns, A. Bousquet, C. Dagron-Lartigau, L. Billon, ERMS, Strasbourg, France, May **2014**.
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See <http://www.sudouest.fr/2017/04/11/photovoltaïques-la-revolution-est-lancee-3356560-4344.php>

Pau Agglo

Photovoltaïques : la révolution est lancée

HÉLIOPARC Un chercheur de l'Iprem a mis au point des panneaux photovoltaïques 100 % organiques et recyclables. Plus légers, moins énergivores et bientôt moins chers

ROMAIN BÉLY
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Le bureau de Roger Hiorns, à Hélioparc, au nord de Pau, ressemble en tous points à celui qu'on pourrait imaginer d'un chercheur en polymères (1). Un ordinateur, des dizaines de boîtiers baptisés « Chemistry » ou « Polymer », un tableau périodique des éléments, des dessins chiffrés au mur et pas mal de tasses à café sur l'étagère. Ce chercheur anglais au CNRS a débarqué en France au début des années 2000. « J'aime Pau, c'est un petit paradis secret », indique ce Londonien d'origine marié à une Française. Spécialiste du photovoltaïque, il vient de réaliser ce que peu de chercheurs réussissent dans le monde : porter sa trouvaille scientifique au stade industriel.

Roger Hiorns a longtemps travaillé sur sa technologie photovoltaïque organique 100 % recyclable. Un secret qui tient en deux molécules injectées dans une encre verte, rouge, bleue ou noire. « Une première molécule attrape la lumière et l'écrite. Cette deuxième est ensuite captée par une troisième molécule qui la renvoie en électricité. » Ce photovoltaïque différent du silicium classique occupe des centaines de chercheurs depuis sa découverte en 1993 par un chercheur californien, Serdar Sunseri.

Un coup de pouce du destin
La double molécule fabriquait alors très peu d'électricité, moins de 1 % de rendement. Mais les recherches menées partout dans le monde ont permis de grimper à 5 % aujourd'hui. En comparaison, les panneaux silicium ont un rendement de 8 à 10 %. « À l'Institut des sciences analytiques et de physico-chimie pour l'environnement et les matériaux (Iprem), on s'est mis en 2002 à chercher des nouveaux polymères, se souvient le Londonien du CNRS. On est parti de 13 % pour parvenir à des points à 13 % maintenant. Ça avance et ça va continuer. La recherche a aussi permis de



Roger Hiorns et Patrick Baylère, le chercheur et le promoteur d'une nouvelle technologie photovoltaïque.

progresser dans la résistance de ces panneaux, cinq ans au départ, quinze aujourd'hui. » Avec pareille progression, la conversion industrielle de cette technologie n'était plus très loin. « Le problème c'est que ça restait un peu trop dans les laboratoires et à l'abri de l'économie et des pouvoirs publics », résume Roger Hiorns. Un petit coup de pouce du destin allait changer la donne.

Patrick Baylère, ingénieur à l'Ipren, un étage en dessous du bureau de « Roger », est également maire de Sedze-Maubecq, une commune de la Communauté de communes Adour-Madiran (CCAM). Lorsqu'il entend parler des recherches au deuxième, l'idée est alors en pleine constitution d'un dossier de candidature au label territoire en devenir à énergie positive pour la croissance verte, porté par Ségolène Royal. « L'unité de méthanisation qui était

dans le projet prevait du temps, il y avait des recours, explique le responsable de la commission énergie à la CCAM. J'ai pensé intégrer les panneaux de Roger au projet. » La réponse positive du ministère et ses 25 millions d'euros – la moitié pour les panneaux – ont tout accéléré.

700 panneaux commandés

Ce premier marché assuré, Opvitus, une société allemande qui surveille de près les travaux de l'Ipren, s'est lancée dans ses propres travaux. Elle a trouvé des plaques de polycarbonate qui permettent d'avoir un photovoltaïque transparent où la couleur de l'encre devient une décoration.

Ces panneaux sont moins lourds que ceux vendus aujourd'hui aux particuliers. Plus respectueux de l'environnement aussi. Celui signé Opvitus est 100 % recyclable et sa matière première est extrêmement limitée.

L'énergie nécessaire à sa fabrication est remboursée en trois semaines de rendement contre trois ans pour les panneaux en silice.

La CCAM a commandé 700 panneaux Opvitus qu'elle installera sur huit sites de l'intercommunalité. Tous auront des formes et couleurs diverses. De quoi assurer un coup de pub qui, espèrent Roger et Patrick, convaincra d'autres collectivités, entreprises ou particuliers.

« À 10 000 commandes, le panneau organique coûtera deux fois moins cher, assure Patrick Baylère. Et ce sera parti. » Un accord passé entre l'Ipren, la CCAM et Opvitus assure qu'en cas de déclinaison industrielle importante, une ligne de production sera installée à Sedze-Maubecq.

(1) Substances composées de molécules caractérisées par la répétition d'un ou plusieurs atomes.



LE PIÉTON

A bien en voyant cette voiture parlée d'un avis d'amende pour stationnement illégitime, boulevard des Pyrénées, et d'un flyer pour voter Macron. Visiblement, la police municipale n'est pas au courant que le maire de Pau, son patron, s'est désisté en faveur de Macron... Mais dans la main, même pour le stationnement non ?



PHOTOGRAPHIE ALEX BARRICHERE

AGENDA

AUJOURD'HUI
Fête foraine. Jusqu'au 23 avril, tous les jours, de 17h à 20h ; mercredi, samedi, dimanche et vacances scolaires, de 14h à 20h, au stade Tissot.

Rencontre. Avec Michel Julien autour de son livre « Denise au Ventoux », à 18 h 30, au Pavés, centre Leclerc, avenue Louis-Sallanave. Entrée libre.

Conférence. Proposée par l'Acadap sur le thème « La livraison du dernier kilomètre doit-elle transformer l'organisation de la ville ? » par Bruno Durand, maître de conférences en logistique et Supply Chain Management, chercheur en sciences de gestion au Laboratoire d'économie et de management de Nantes, table ronde avec Jean-Paul Binn, adjoint au maire et Didier Laporte, président de la CO Pau-Béarn. À 13 h, à la médiathèque André-Labarère. Inscriptions par mail leuva@sudagp.org

DEMAIN
Rencontre reportée. Raphaël Enthoven était attendu pour une rencontre autour de son livre « Little brother », demain, au centre Leclerc. Le rendez-vous est finalement reporté.

Forum jobs d'été. De 13 h 30 à 17 h, au Palais Beaumont. Rens. sur www.lesmissionslocalesdubéarn.com

UTILE

« Sud Ouest », 9 place d'Espagne 64000 Pau.
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Horaires : lundi à vendredi, de 8 h à 12 h et de 14 h à 17 h.
Abonnements : tél. 05 57 29 09 33.

EN BREF

ZONE DE GRATUITÉ
Le Centre social de la pépinière organise sa 10^e édition de la Gratipép (zone de gratuité). Initialement prévue le 7 avril, elle aura finalement lieu le vendredi 5 mai de 10 h à 17 h. La zone de gratuité est un espace pour donner une seconde vie aux vêtements, objets de décoration, livres, CD, DVD, petits meubles, jeux, jouets, etc., afin de consommer autrement. Chaque personne peut donner et/ou prendre sans contrepartie. Lors de la zone de gratuité, les visiteurs pourront repartir

avec dix objets maximum par personne. Les dons seront reçus à partir du 28 avril au centre social, au 4 à 8, avenue Robert-Schuman, à Pau.

MÉTIERS DU NUMÉRIQUE
Un Zoom sur les métiers du numérique est organisé aujourd'hui, de 10 h 30 à 12 h 30 à la médiathèque André-Labarère pour découvrir ce secteur et ses métiers. Cette action est menée par l'espace des métiers Aquitaine, EMA, et la Mission locale Pau Pyrénées. Rens. au 05 59 98 40 40.

ARTIGA
VENTE AU DEBALLAGE WEEK-END DE PAQUES MAGASIN D'USINE DE MAGESCO
14, 15, 16 ET 17 AVRIL 2017
VENTES DE 10H A 19H
5 rue brémontier 40140 MAGESCO (A63, sortie 11)

14. Press Release at <http://www.opvius.com/high-tech-solar-power-for-cultural-sites.html> published, March **2017**.
Widely used, for example, see:
<http://www.osadirect.com/news/article/1914/opvius-develops-and-ships-organic-solar-cells-laminated-in-polycarbonate-to-french-village/>
13. Press Release at <http://www.opvius.com/consequat-vitae.html> published, December **2015**.
- 12 'Roger Hiorns Times Two', by Susanna Davies-Crook, in Dazed Digital, published February **2011**.
- 11 'Buckyball polymers promise cheap, flexible solar cells', based on report by M. Berger in Nanowerk (see General Media Article **10** below), Iranian Government Innovation Committee of Ministry of Industries and Mines, published November **2010**.
- 10 'Buckyball polymers promise cheap, flexible solar cells', on Nanowerk.com by M. Berger published 1/11/2010, citing articles 27 'Synthesis of Donor-Acceptor Multiblock Copolymers Incorporating Fullerene Backbone Repeat Units', R. C. Hiorns *et al.*, *Macromolecules*, **2010**, *43*, 6033-6044, 26 'Main-chain fullerene polymers for organic photovoltaics', R. C. Hiorns *et al.*, *Macromolecules*, **2009**, *42*(10), 3549-3558; article 25 'Alternatively linking fullerene and conjugated polymers', R. C. Hiorns, *et al.* *Journal of Polymer Science Part A: Polymer Chemistry*, **2009**, *47*(9) 2304-2317, and article 12 'A tentative theory for conjugated rod-coil multi-block copolymer self-assembly and the initial characterisation by atomic force microscopy and small angle neutron scattering of poly(polymethylphenylsilane-*block*-polyisoprene)', R. C. Hiorns *et al.*, *Synthetic Metals*, **2003**, *139*(2), 463-469.
- 9 'Fullerene as a Repeat Unit in a Novel Donor-Acceptor Polymer' *Synfacts 2010*, *10*, 1127-1127, as selected by Timothy M. Swager and Stefanie A. Sydlik, published October 2010, working from article 27, 'Synthesis of Donor-Acceptor Multiblock Copolymers Incorporating Fullerene Backbone Repeat Units', R. C. Hiorns, E. Cloutet, E. Ibarboure, A. Khoukh, H. Bejbouji, L. Vignau, H. Cramail, *Macromolecules*, **2010**, *43*, 6033-6044.
- 8 'Bucky balls offer cheap solar route', *Chemistry and Industry*, by P. Walter published 16 July 2010, working from article 27, 'Synthesis of Donor-Acceptor Multiblock Copolymers Incorporating Fullerene Backbone Repeat Units', R. C. Hiorns, E. Cloutet, E. Ibarboure, A. Khoukh, H. Bejbouji, L. Vignau, H. Cramail, *Macromolecules*, **2010**, *43*, 6033-6044.
- 7 'Basic Guidelines to Polymer Nomenclature', R. C. Hiorns, *Chemistry International*, **2009**, *31*(4).
- 6 'Combining the fullerenes and polymers for next-generation solar cells', ChemJ, China, Published 06/06/**2010**.
- 5 'Combining the properties of fullerenes and polymers for next-generation solar cells' Zangani Investor Community, USA, published 05/06/2009
- 4 '풀러렌과 고분자의 조합: 태양 전지 응용', Gyeonggi Technology Network, Korea, published 04/06/2009
- 3 '풀러렌과 고분자의 조합: 태양 전지 응용', Industrial Technology Service Inc. (ITSTV), Korea, published 02/06/2009

- 2 '풀러렌과 고분자의 조합: 태양 전지 응용', National Science Digital Links (NDSL), Korea, Global Trends Briefing, published 01/06/2009
- 1 'Combining the properties of fullerenes and polymers for next-generation solar cells', on Nanowerk.com by M. Berger published 29/5/2009, citing article 26 'Main-chain fullerene polymers for organic photovoltaics', R. C. Hiorns *et al.*, *Macromolecules*, **2009**, 42(10), 3549-3558; and article 25 'Alternatively linking fullerene and conjugated polymers', R. C. Hiorns, *et al.* *Journal of Polymer Science Part A: Polymer Chemistry*, 2009, 47(9) 2304-2317.

Meeting Chair, International Advisory Committees, and Conference Session Chair

IUPAC

Chair of IUPAC Subcommittee on Polymer Terminology

- 7 29th June to 2nd of July **2020**, Virtual meeting, 42 attendees.
- 6 8th to 11th of July **2019**, Paris, France. 47 attendees.
- 5 26th to 29th of June **2018**, Cairns, Australia. 35 attendees.
- 4 10th to 13th of July **2017**, São Paulo, Brazil. 35 attendees.
- 3 12th to 15th of July **2016**, Istanbul, Turkey. 22 attendees.
- 2 10th to 14th of August **2015**, Busan, South Korea. 22 attendees.
- 1 29th of June to 3rd of July **2014**, Chiang Mai, Thailand. 24 attendees.

FP7-2011-ITN-ESTABLIS-290022

Chair of Supervisory Board Meetings

- 8 UPPA, 11/2015, 1 day.
- 7 Institut d'Études Scientifiques de Cargèse, Corsica, 06/2015, 18 minutes.
- 6 Aston University (UK), 06/2014, 1/2 day.
- 5 UPPA, Mid-Term review, 11/2013, 1/2 day.
- 4 IMDEA, Madrid, Spain, 6/2013, 1/2 day.
- 3 Université Blaise Pascal, Clermont-Ferrand, 12/2012, 1/2 day.
- 2 Belectric OPV GmbH, Nuremberg, 10/2012, 3 days.
- 1 Université de Pau et des Pays de l'Adour, Pau, 1/2012, 1 day.

Chair of Science and Training Committee Meetings

- 9 UPPA, Closing meeting, 11/2015, 1 day.
- 8 Institut d'Études Scientifiques de Cargèse, Corsica, 06/2015, 1/2 day.
- 7 University of Tübingen (Germany), 11/2014, 3 days.
- 6 Aston University (UK), 06/2014, 4 days.
- 5 UPPA, Mid-Term review, 11/2013, 2 days.
- 4 IMDEA, Madrid, Spain, 6/2013, 3 days.
- 3 Université Blaise Pascal, Clermont-Ferrand, 12/2012, 3 days.
- 2 Belectric OPV GmbH, Nuremberg, 10/2012, 3 days.
- 1 Université de Pau et des Pays de l'Adour, Pau, 1/2012, 1 day.

Chair of Recruitment Committee Meeting

- 1 Université de Pau et des Pays de l'Adour, Pau, 1/2012, 1 day.

Coordination of Workshops organised by partners in FP7-PEOPLE-ITN-ESTABLIS-290022

Each was between 2 and 5 days long

- 10 Establis Workshop on Scientific Writing and Communication Skills, Cargèse, France, 06/2015.
- 9 Establis Workshop on Material Interfaces and Management, Tübingen, Germany, 12/2014.
- 8 Establis Workshop on Monitoring Thermal Changes in Organic Solar Cells, Johannes Kepler University Linz, Austria, 09/2014.

- 7 Laboratory techniques for Polymer Chemistry, Entrepreneurial Skills, Career Development, Grant Writing and Patents, Aston University, Birmingham, UK, 6/2014.
- 6 Industrial Rheology and Science Outreach, UPPA, Pau, 12/2013.
- 5 Charge Carrier Transport in OSCs, Vilnius University, Lithuania, 10/2013.
- 4 Computation Modelling, and Science Outreach, IMDEA, Madrid, Spain, 6/2013.
- 3 Material Bulk and Surface Characterisation, International Laser Center, Bratislava, Slovakia, 3/2013.
- 2 Organic Solar Cell Photodegradation and Stabilisation, Université Blaise Pascal, 12/2012.
- 1 Organic Solar Cell Building and Characterisation, Belectric OPV GmbH, Nuremberg, 10/2012.

Conference Committees and Session Chair

Macro2020, International Advisory Board Member, Jeju Island, July 2019 (now 2020+).

FOREverOPV, Organising and Science Committee Member, Pau, July 2018.

Macro2018, Session Chair, 6th International *Polymer International*-IUPAC Awards, Cairns, Australia, July, **2018**.

Macro2018, Session Chair, *Energy, Optics and Optoelectronics*, Cairns, Australia, July, **2018**.

International Advisory Committee Member, Kathmandu Symposia on Advanced Materials (KaSAM), Kathmandu, Nepal, October, **2018**.

International Advisory Committee Member [Energy Materials Nanotechnology Meeting on Polymer \(EMN\)](#), Hong Kong, China, January, **2016**.

Event Chair, Science Committee Chair, [European Training School and Conference on Organic Photovoltaic Stability](#), Cargese, Corsica, France, June, **2015** and as Coordinator for Establis, overseer for this conference and training event (*ca* 105 people).

International Advisory Committee Member of [The Seventh International Symposium on Engineering Plastics \(EP'2015\)](#), Xining, China, August **2015**.

International Advisory Committee Member, [International Conference on Green Initiatives in Science and Technology](#), Faridabad, India, January **2015**.

International Advisory Committee Member and **Session Chair** of [Energy Materials Nanotechnology Meeting on Polymer \(EMN\)](#), Orlando, Florida, January, **2015**.

Co-Chair, [6th International Summit on Organic Photovoltaic Stability \(ISOS-6\)](#), Chambéry, France, December **2013**.

Session Chair of [DIELOR 2013](#), Limoges, November **2012**.

Session Chair of GFP2011 Session Chair, Pau, November **2011**

Session Chair and **Organizing Committee Member**, 3rd Aquitaine Conference on Polymers, October **2011**.

Organizing Committee Member, 2nd Aquitaine Conference on Polymers, **2009**.

Outreach

- 17 'Le Photovoltaïque Organique : L'Énergie Solaire du Futur ?', lecture for 13-14 year olds at College Langevin Wallon, Tarnos, March 2018.
- 16 Ciné/Rencontre "Les cellules photovoltaïques du futur", film and lecture for general public, Lacq Odyssee, Maison intercommunale des Cultures et des Sciences Le Mi(x) Mourenx, October 2017.
- 15 'Le Photovoltaïque Organique : L'Énergie Solaire du Futur ?', lecture for 16-18 year olds at Lycée Théophile-Gautier, Tarbes, March 2017.
- 14 'Food-dye solar cells', practical classes in making solar cells using items from a local supermarket, Papakura High School, Auckland, New Zealand, February 2017.
- 13 Science, on Tourne ! Film et visioconference sur Photovoltaïque Organique, Severene Marcq, Christine Dagron-Lartigau, Didier Bégué and Roger C. Hiorns, <https://huit.re/filmpanneauxsolairesIPREM> December 2016.
- 12 ESOS Solar Outreach event, June 2016, <http://www.project-establis.eu/esos>, Cargèse, Corsica, France.
- 11 'Food-dye solar cells', practical classes in making solar cells using items from a local supermarket, Papakura High School, Auckland, New Zealand, February 2015.

www.stuff.co.nz

NEWS

PAPAKURA COURIER, FEBRUARY 18, 2015 9

Scientist's visit inspires students

By TAO LIN

Squeezing Twink, food colouring, a sponge and copper inside a plastic CD case might seem a dubious solution for saving the world.

But the unlikely combination has given Papakura High School students a glimpse into a better future.

The students, ranging from year 9s to senior physics students, enjoyed a visit from Dr Roger Hiorns, an English researcher for the French National Centre for Scientific Research.

He taught them how to make solar cells out of normal supermarket items as a science experiment with a crucial message.

"I really want them to understand solar energy and also to know it can be our future. If we carry on burning fossil fuels then we are going to run ourselves into the ground," he says.

The experiment involved putting food colouring and iodine solution on a kitchen sponge and encasing it with a CD case that had pencil rubbed inside it.

Each case had copper wires sticking out and these were used to measure the amount of voltage generated when a light was shone on to the case.

Hiorns says his fellow researchers have taken the



Educational visit: Researcher from the French National Centre for Scientific Research Dr Roger Hiorns taught a group of Papakura High School students how to make solar cells out of items from the supermarket to help them understand solar energy. From left: Janesh Latchman, Emily Thammavongsar, Tehinureina Karaka and Arven Gonzales.

Photo: TAO LIN

same experiment to a number of other countries including Germany, Spain, Russia and Poland as well as around the United Kingdom as part of a requirement of some funding received from the European Economic Committee.

He says he was "stunned" by the questions asked by Papakura High's year 9 students, showing their

appreciation of solar energy. Papakura High School's head of science Cheryl Mitchell says it shows a lot when that many year 9 students stay focused for that length of time.

"Forty-five year 9 students were engaged for two hours. That's says to me they were enjoying what they were doing. That was because they could understand what

they were doing," she says.

As well as exposing the students to the possibilities of solar energy, Hiorns' visit also served another purpose from the school's perspective.

"They get the idea that the world is your oyster," Mitchell says. "Education can lead to anything they want.

Right now they can be anything they want to be and education can take them

there. All they have to do is work at it."

Mitchell says she's planning to invite more science professionals to the school to give talks or teach guest classes to try and help students become inspired for their own futures.

She also plans to start up an environmental club at the school following Hiorns' visit.

- 10 'Les nouvelles cellules solaires', Meera Stephene, Jeanne François, Roger C. Hiorns, College d'Arudy, France, December 2014.
- 9 'Les nouvelles cellules solaires', Hasina H. Ramanitra, Alberto Gregori, Jeanne François, Roger C. Hiorns, College d'Arudy, France, Novembre 2014.
- 8 'Organic Photovoltaics', Roger Hiorns, Lycée Jacques Monod, Pau, France, January, 2014.
- 7 'Parrain Scientifique', Lycée Saint Cricq, Pau, 2013 to present date.

A video following an Establis event in 2014 is available at:

http://www.dailymotion.com/video/x208yr6_thanks-establis_school

- 6 'Career Science', Alberto Gregori, Roger Hiorns, Lycée Saint Cricq, Pau, September 2013.
- 5 Chair and Organiser, 'Platform for exchange' A forum for Horizon 2020, future projects and employment.' IPREM, Pau, November 2013, with ca 40 participants from industry and academia.
- 4 'Bientôt des panneaux solaires en plastiques?', Presentation and discussion, Café des Sciences, Pau, October 2012.
- 3 Presentation of Polymers and Solar Cells, 6^{ème} Édition du Goûter des Sciences à la Maison Écocitoyenne de Bordeaux, 4th of June 2012. With *Les Petits Débrouillards* presentations and activities for 100 students from the schools A. Dupeux, Paul Doumer, Pins Francs and Ste Marie Bastide. **Videos** and photos of the activities are visible on <http://www.lespetitsdebrouillardsaquitaine.org/spip.php?article459>
- 2 'Chimie et photovoltaïque: comment sauver la planète?' Class presentation for 12-14 year olds, L'Ensemble Scolaire Pradeau-La Sède, Tarbes, France, May 2011.
- 1 'Plastique et photovoltaïque : comment sauver la planète?' Class presentation for 13-14 year olds, Lycée Mont de Marson, Mont de Marson, France, February 2011.

Book Translations

- 4 'Solid-State Physics for Electronics', A. Moliton, Wiley-ISTE (London), **2009**.
- 3 'Applied Electromagnetism and Materials', A. Moliton, Springer (New York), **2007**.
- 2 'Basic Electromagnetism and Materials', A. Moliton, Springer (New York), **2006**.
- 1 'Optoelectronics of Molecules and Polymers', A. Moliton, Springer (New York) **2005**.

Jury Participation

Polymer International-IUPAC prize, 2019.

Hanwha-Total Award, and the Samsung IUPAC Young Polymer Scientist Prize

Jury member, **2018, 2016, 2014**.

European Project Manager

'ESTABLIS' position for 4 years funded by the project. EPCP-IPREM (UMR 5254), Pau, (**Director**) October **2011**.

Assistant Professor

Maitre de Conférences, Section 32 (Organic, mineral and industrial chemistry), Université de Pau et des Pays de l'Adour, June **2011**.

PhD jurist

- 13 Sidra Shaor Kiani, 'Surface Modification of Activated Carbon by Selective Metals and Organic Amine based Impregnants for the Removal of Toxic Gases from Air', Hazara University, Pakistan, April **2022**.
- 12 Clément Drou, 'Assemblages supramoléculaires à base de nouveaux dérivés du fullerène C₆₀', Université d'Angers, April **2022**.
- 11 Jury President, Hisham Idriss, 'Elaboration de copolymères à blocs rigide-rigide à base de polymères absorbant dans le proche infra-rouge pour l'électronique organique', Université de Pau et des Pays de l'Adour, December **2020**.
- 10 Lauriane Giraud, 'Dérivés de la vanilline pour la synthèse de polymères π -conjugués biosourcés ;

- application en électronique organique’, Université de Bordeaux, December **2019**.
- 9 Golnaz Sherafatipour, ‘Degradation pathways in Organic Small Molecule and Hybrid Solar Cells’, University of Southern Denmark, September **2018**.
 - 8 Bhushan Ramesh Patil, ‘Interfacial layers and semi-transparent electrodes for large area flexible organic photovoltaics’, University of Southern Denmark, December **2017**.
 - 7 Petru Apostol, ‘Synthesis and liquid crystal and magnetic properties of 1,8,15,22-tetraalkoxy-metal(II/III)-phthalocyanines’, CRPP, Université de Bordeaux 1, (*rapporteur*), September **2016**.
 - 6 Parantap Sarkar, ‘The Ceramidone and Perkin Approaches to Aromatic Nanoribbons’, CRPP, Université de Bordeaux 1, (*rapporteur*), July **2011**.
 - 5 Aurel Diacon, ‘Polymers functionalized with chromophores for applications in photovoltaics, photonics and medicine’, Universitatea Politehnica di Bucuresti and Université d’Angers (*rapporteur*), September **2011**.
 - 4 Julien Kelber, ‘Cristaux liquides colonnaires donneurs et accepteurs pour cellules solaires organiques’, CRPP, Université de Bordeaux 1, September **2011**.
 - 3 H. Erothu, ‘Synthesis and Photovoltaic Properties of Novel Copolymers Based on Poly(3-hexylthiophene)’, ENSCBP, Institut Polytechnique de Bordeaux, France, **2011**.
 - 2 F. Ouhib, ‘Elaboration de matériaux dérivés du polythiophenes. Application aux cellules photovoltaïques organiques.’ Université de Pau et des Pays de l’Adour, **2007**.
 - 1 S. Lamaison, ‘Effet de la microstructure sur les propriétés rhéologiques de différents polymères linéaires’, Université de Pau et des Pays de l’Adour, **2002**.

MSc jurist

- 1 Aline Orvalho Pereira, ‘Desenvolvimento de scaffolds eletrofiados a partir do polímero policaprolactona (PCL) com adição de fluoróforos de interesse para aplicação em terapia fotodinâmica’, Escola de Artes, Ciências e Humanidades, Universidade de São Paulo, September **2020**.

Professional Training Courses Undertaken

- 7 ‘Le Management pour les responsables d’équipes et les chefs de service’, including ‘La fonction du manager’ and ‘Négociation et gestion de conflits’, CNRS Training, Toulouse, 23, 24 April, and 23, 24 May, 2013.
- 6 ‘Animer une équipe projet’ (Project team management), CNRS Training, Bordeaux, 9, 10 February 2012.
- 5 ‘Animer des réunions efficaces (Chairing meetings efficiently)’, CNRS Training, Bordeaux, 2-3 February 2012.
- 4 ‘Nanorgasol, Rencontres Photovoltaïque Organique et Hybride : état de l’art de la recherche académique et technologique en France’, CNRS Training, Paris, 24-26 October 2010.
- 3 ‘Concevoir un projet pour répondre a un appel d’offre ANR ou autre (Project construction for ANR or other calls)’, CNRS Training, Bordeaux 4, 5, 18, and 19 October 2010.
- 2 ‘Formation individuelle : Monter et coordonner un projet européen dans le 7^{ème} PCRD (Individual Training: Build and Coordinate a European Project in the 7th PCRD)’, Bordeaux, 9 June 2010.

- 1 'Préparer et suivre le Budget des Appels a projet (Prepare and follow budgets for project calls)', CNRS Training, Bordeaux, 10, 11 May 2010.

Training and Research Management

Supervision of Postdoctoral and PhD Research Fellows

- 22 Giovana Miti Aibara Paschoal, PhD Fellow on EDENE EU funding, 09/2021-08/2024. **Director** with Co-directors Prof. Didier Bégué and Prof. Dr. Clarissa de Almeida Olivati.
- 21 Jessyka Carolina Bittencourt, PhD Fellow cotutelle with UNESP, Brazil, 01/01/2022-31/12/2022. **Director** with Prof. Dr. Clarissa de Almeida Olivati.
- 20 Lucas Vinicius de Lima Citolino, PhD Fellow cotutelle with UNESP, Brazil, 09/2017-08/2021. **Co-Director** with Directors Prof. Didier Bégué and Prof. Dr. Clarissa de Almeida Olivati.
- 19 Deuber L. S. Agostini, Post-doctoral Fellow, 2020. **Director**.
- 18 Eleftheria Batagianni, PhD Fellow, 09/2017-08/2020. **Director** with Co-director Prof. Didier Bégué.
- 17 Edilene SILVA, Ciências sem Fronteiras PhD Fellow cotutelle with UNESP, Brazil, 4/2015-3/2016. **Co-encadrant**.
- 16 Dr. Craig COMBE, Region Aquitaine, Fullinc Postdoctoral Fellow, 12/2013-12/2014. **Director 100%**.
- 15 Dr. Harikrishna Erothu, Co-Director, in project SYNABCO, FP7-PEOPLE-IEF-SYNABCO-273316, 2011-2012, Intra-European Fellowships (IEF) post-doc, directed by Dr Paul Topham.
- 14 Meera STEPHEN, FP7-PEOPLE-ITN-Establish-290022, PhD Fellow, (cotutelle with Vilnius University, Lithuania), 1/2013-12/2015. **Director 33%/67%** with Prof. Kestutis Arlauskas. PhD completed 10/2016 with *Felicitations de Jury*.
- 13 Maria Luisa BRAUNGER, CAPES/COFECUB PhD Fellow (Brazil, UNESP, cotutelle), 3/2011-10/2015. Cotutelle, UNESP, Brazil. **Co-encadrant**. PhD completed 10/2015 with *Felicitations de Jury*.
- 12 Bruna BREGADIOLLI, CAPES/COFECUB PhD Fellow, (Brazil, UNESP, cotutelle with Prof. Carlos F. O. Graeff), 10/2011-9/2015. Cotutelle, UNESP, Brazil. **Director 100%**. PhD completed 10/2016 with *Felicitations de Jury*.
- 11 Hasina H. RAMANITRA, Region Aquitaine, Fullinc PhD Fellow, and in cotutelle with Prof. T. Chassé and Dr. H. Peisert of the University of Tübingen 11/2012-10/2015. **Director 100%**. PhD completed 12/2015 with *Magna Cum Laude Felicitations de Jury*.
- 10 Alberto GREGORI, FP7-PEOPLE-ITN-Establish-290022, PhD Fellow, 9/2012-8/2015. **Co-encadrant**.
- 9 Hugo SANTOS SILVA, FP7-PEOPLE-ITN-Establish-290022, PhD Fellow, 9/2012-8/2015. **Director** with Prof. Bégué and in cotutelle with Prof. T. Chassé and Dr. H. Peisert of the University of Tübingen. PhD completed 16/7/2015 with *Summa Cum Laude/Felicitations de Jury*.
- 8 Marc-Alexandre ARNAUD, ECP/EPCP, IPREM, defended October 2012, "Modelling of Intra and Inter-Macromolecular Conjugation in Polythiophenes". **Co-encadrant**.

- 7 Hussein MEDLEJ, EPCP, IPREM, UPPA, 11/2008-10/2011. "Copolymères à blocs « rigide-rigides » à base de thiophène pour l'application photovoltaïque". **Co-encadrant.**
- 6 Harikrishan EROTHU, LCPO, ENSCBP, IPB, defended February 2011, "The synthesis and characterisation of well-defined block copolymers for photovoltaic applications" **Co-encadrant.**
- 5 Farid OUHIB, defended 2008, LPCP, UPPA, "Elaboration de matériaux dérivés du polythiophène. Application aux cellules photovoltaïques organiques". **Co-encadrant.**
- 4 Adel CHAÏEB, defended 2005, LPCP, UPPA, "Synthèse et caractérisation de nouveaux dérivés du poly(*p*-phénylène vinylène) PPV". **Co-encadrant.**
- 3 Sandrine LAMAISON, defended 2002, LPCP, UPPA, "Effet de la microstructure sur les propriétés rhéologiques de différents polymères linéaires". **Co-encadrant.**
- 2 Emmanuel BEAUDOIN, defended 2001, LPCP, UPPA, **Co-encadrant.**
- 1 Emmanuel MIGNARD, defended 2001, LPCP, UPPA, "Synthèse et Caractérisation de Nouveaux Copolymères en Étoile à Coeur de Fullerène Comportant des Séquences de Poly(1,4-phenylène)". **Co-encadrant.**