

Curriculum Vitae

Hassen Boucekif, Ph.D.



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Educational Background

2002	Ph.D. , Macromolecular Engineering	Aston University	Birmingham, United Kingdom
1997	DEA (M.Ph.) , Polymer Science	University of Bordeaux	Pessac, France
1996	Maîtrise (B.Sc.) , Chemistry	University of Bordeaux	Pessac, France

Academic and Industrial Experience

04/12-present	KAUST – PHYSICAL SCIENCES AND ENGINEERING DIVISION POSTDOCTORAL FELLOW – KCC - POLYMER SYNTHESIS LABORATORY With PROF NIKOS HADJICHRISTIDIS	THUWAL, KSA
01/08 – 03/12	UNIVERSITE BORDEAUX 1 – LCPO – IPB – ENSCBP, CNRS RESEARCHER – LABORATOIRE DE CHIMIE DES POLYMERES ORGANIQUE With PROF ALAIN DEFFIEUX	PESSAC, FRANCE
11/06 – 12/07	LAURENTIAN UNIVERSITY RESEARCH FELLOW with DR RAVIN NARAIN	SUDBURY, ONTARIO, CANADA
05/05 – 11/06	UNIVERSITY OF MASSACHUSETTS BOSTON SCIENTIFIC CORPORATION (CAMBRIDGE) RESEARCH FELLOW with PROF RUDOLF FAUST	LOWELL, MASSACHUSETTS, USA
11/01 – 04/05	NANOLEDGE SA PROJECT MANAGER R&D	FRANCE / QUEBEC
09/97 – 09/01	ASTON UNIVERSITY QINETIQ FORT HALSTEAD (Formerly DEFENSE EVALUATION RESEARCH AGENCY - MOD) PH.D. CANDIDATE – CHEMICAL ENGINEERING & APPLIED CHEMISTRY SCHOOL With DR ALLAN J. AMASS	BIRMINGHAM, UNITED-KINGDOM

Skills and Experiences in Polymers

- Polymerization techniques including controlled and living techniques: ionic (cationic and ring-opening) polymerizations, radical (ATRP, RAFT/MADIX, NMRP and conventional radical) polymerizations, emulsion (co)polymerizations (latex) and suspension (co)polymerizations (polymers and resins beads), reaction injection molding (RIM, S-RIM & R-RIM).
- Drybox for Carbocationic Polymerization technique, glass blowing and schlenk vacuum line techniques.

- Synthesis: Custom monomers and specialty polymers synthesis with controlled architectures, i.e. homopolymers, copolymers (block, alternating, (pseudo)periodic, statistical and graft), (hyper)branched (co)polymers, end-functionalized polymers, post-functionalization of polymers and macromonomers.
- Characterization and Analysis Technique: multiple detection size exclusion chromatography (SEC), vapor pressure osmometer (VPO), membrane osmometer (MO), nuclear magnetic resonance spectroscopy (NMR), static and dynamic light scattering (SLS/DLS), differential scanning calorimetry (DSC), fluorescence spectroscopy, infrared spectroscopy (FTIR), UV-VIS spectroscopy, optical microscopy, transmission electron microscopy (TEM), atomic force microscopy (AFM), Dynamic Mechanical Analyzer (DMA), Gas chromatography Mass spectrometer (GCMS).

Conferences & Seminars

CONFERENCE LECTURES

- **IUPAC Int. symposium NMS & FCFP (Shanghai 2011 (Invited by Prof. Yuping Wu – Fudan University) and Wuhan 2010 (Invited by Prof. Jin-Lin Li - South-Central University for Nationalities)) ACS Meeting (Boston 2007), BPS (Bayreuth 2001), GFP (Méditerranée 2003), IUPAC Int. Symposium on Ionic Polymerization (Akron 2011, Krakow 2009, Boston 2003 and Hersonisoss 2001), MACRO GROUP UK (Warwick 2002), Macromolecules 99 (Bath 1999).** Numerous internal workshops.

INVITED SEMINAR LECTURES

- **UMET (Ingénierie des systèmes polymères: Biomatériaux) Villeneuve d'Ascq (2010) - Prof Bernard Martel; BASF Ludwigshafen (2008 & 2010) - Dr Philippe Desbois & Prof. Volker Warzelhan; Laurentian University Ontario (2006) - Dr Ravin Narain (University of Alberta since 2010); BASF Ludwigshafen (2008 & 2010); University of Cambridge - Melville Laboratory (2004) - Dr Stephen Moratti (University Otago since 2008)**

Patents & publications

- Competitive Processes in Controlled Cationic Ring-Opening Polymerization of Oxetane: a Lotka-Volterra Predator-Prey Model of Two Growing Species Competing for the same Resources. **Bouchékif, H. *Macromolecular Symposia* (2011), 308, 112-121.**
- Pseudoperiodic “Living” and/or Controlled Cationic Ring-Opening Copolymerization of Oxetane with Tetrahydropyran: Microstructure of Polymers vs Kinetics of Chain Growth. **Bouchékif, H.; Colclough, E.; Philbin, M. I.; Amass, A. J.; *Macromolecules* (2010), (43), 845-855.**
- Facile Synthesis of Controlled-Structure Primary Amine-Based Methacrylamide Polymers via the Reversible Addition-Fragmentation Chain Transfer Process. **Deng, Z.; Bouchékif, H.; Babooram, K.; Housni, A.; Choytun, N.; Narain, R.; *Journal of Polymer Science: Part A: Polymer Chemistry* (2008), (46), 4984-4996.**
- Cationic Ring-Opening Polymerization of Oxetane via a Non-steady state Controlled Polymerization Process: a Comparison of Initiator Yielding Living and Nonliving Polymers. **Bouchékif, H.; Colclough, E.; Philbin, M. I.; Amass, A. J.; *Macromolecules* (2008), (41), 1989-1995.**
- Reversible Addition-Fragmentation Chain Transfer Polymerization of N-Isopropylacrylamide: A Comparison between a Conventional and a Fast Initiator. **Bouchékif, H.; Narain, R.; *Journal of Physical Chemistry B* (2007), 111(38), 11120-11126.**
- Living cationic sequential block copolymerization of isobutylene with 4-tert-butoxystyrene: synthesis and characterization of poly(p-hydroxystyrene-b-isobutylene-b-p-hydroxystyrene) triblock copolymers. **Bouchékif, H.; Som, A.; Sipos, L.; Faust, R.; *Journal of Macromolecular Science, Part A: Pure and Applied Chemistry* (2007), 44(4), 359-366.**
- Non-steady-state living polymerization: a new route to control cationic ring-opening polymerization (CROP) of oxetane via an activation chain end (ACE) mechanism at ambient temperature. **Bouchékif, H.; Philbin, M.; Colclough, E.; Amass, A. J.; *Chemical Communications (Cambridge, United Kingdom)* (2005), (30), 3870-3874.**
- Bouchékif, H.; Carlotti, S.; Deffieux, A.; Desbois, P. Synthesis of cross-linked PA6 by anionic polymerization. Submitted for U. S. Pat. Appl. Publ., **September 2010.**
- Bouchékif, H.; Carlotti, S.; Deffieux, A.; Desbois, P. Synthesis of cross-linked PA6 by anionic polymerization. Submitted for U. S. Pat. Appl. Publ., **Mai 2010.**

- Novel Methods for forming copolymers comprising olefin and protected and unprotected hydroxylstyrene units". U. S. Pat. Appl. Publ., **2007**, 9pp, cont-in-part of Appl. No PCT/US2005/004739.
- Grac, Mathieu; Bouchekif, Hassen; Scheidt, Christian; Tahir, Said; Sainte Catherine Julien. **Production of composite carbon-based electrodes for synthesis of carbon nanotubes by electric arc process, using carbon and carbon nanotube catalyst powders**. FR2861089, **2005**.

Research interests

- Synthesis of complex macromolecular architectures by the combination of cationic and other polymerization techniques
- Ionic polymerization kinetics and mechanisms
- Advanced thermoplastic elastomers and block copolymers for medical device applications (e.g. Bioactive Drug Eluting Stents)