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EDUCATION

- 2017 HDR, University of Strasbourg (France)
- 2007 Ph.D., University of Toronto (Canada)
- 2002 DEA Polymères (equivalent to M.Sc. in Polymer Sciences), University of Bordeaux (France)

SCIENTIFIC ACTIVITIES

- 2011-present CNRS researcher, Institut Charles Sadron (UPR 22), Strasbourg (France)
Macromolecular engineering (sequence-controlled oligomers based on natural and synthetic building blocks; synthesis of polymers using peptide-bearing macromonomers and their functionalization; synthesis of hyperbranched polymers on upconversion nanoparticles) for targeted applications (drug/gene delivery, antimicrobial materials, compatibilization of polymer blends and hybrid materials)
- 2007-2011 Postdoctoral research associate, Polymer Science and Engineering, University of Massachusetts at Amherst (USA) under the supervision of Todd Emrick
Synthesis of polymers for targeted applications (aliphatic polyesters used as coatings for drug-eluting cardiovascular stents, poly(cyclooctene-g-oligopeptide) used as non-viral vector for gene therapy, zwitterionic and charged polymers used in the field of oil recovery)
- 2003-2007 Doctoral research assistant, Department of Chemistry, University of Toronto (Canada) under the supervision of Michael K. Georges
Controlled radical polymerization (atom transfer radical polymerization under seeded emulsion conditions, investigations of nitroxide-mediated polymerization of acrylates, verdazyl radicals as controlling agents for the polymerization of styrene and acrylates)
- 2002 Research assistant (DEA), Laboratoire de Chimie des Polymères Organiques (UMR 5629), Bordeaux (France) under the supervision of Henri Cramail and Eric Cloutet
Synthesis of size-controlled polyurethane particles in dispersed medium
- 2001 Research assistant (Maîtrise), Makromolekulare Chemie II, University of Bayreuth, Bayreuth (Germany) under the supervision of Axel H. E. Müller and Hideharu Mori
Synthesis of hyperbranched polymers from the surface of silica particles by self-condensing atom transfer radical polymerization

PUBLICATIONS AND COMMUNICATIONS

- 12 oral communications (1 invited), 9 poster communications at national and international conferences
- 33 publications in peer-reviewed journals, 2 book chapters

Most recent publications in peer-reviewed journal.

J. Louwsma, A. Carvalho, J.-F. Lutz, S. Joly, D. Chan-Seng. "Adsorption of phenylalanine-rich sequence-defined oligomers onto aramid fibers for fiber-reinforced composite materials", *Polymer* 2021, accepted, doi: 10.1016/j.polymer.2021.123465

A. Kavand, N. Anton, T. Vandamme, C. A. Serra, D. Chan-Seng. "Tuning polymers grafted on upconversion nanoparticles for the delivery of 5-fluorouracil", *European Polymer Journal* 2020, 137, 109935, doi: 10.1016/j.eurpolymj.2020.109935

A. Kavand, C. Blanck, F. Przybilla, Y. Mély, N. Anton, T. Vandamme, C. A. Serra, D. Chan-Seng. "Investigating the growth of hyperbranched polymers by self-condensing vinyl RAFT copolymerization from the surface of upconversion nanoparticles", *Polymer Chemistry* 2020, 11, 4313-4325, doi: 10.1039/D0PY00452A

S. Ding, B. Mustafa, N. Anton, C. A. Serra, D. Chan-Seng, T. F. Vandamme. "Production of lipophilic nanogels by spontaneous emulsification", *International Journal of Pharmaceutics* 2020, 585, 119481 doi: 10.1016/j.ijpharm.2020.119481

M. L. Figueiredo, M. Figueiredo Neto, J. W. Salameh, R. E. Decker, R. Letteri, D. Chan-Seng, T. Emrick. "Ligand-mediated targeting of cytokine Interleukin-27 enhances its bioactivity *in vivo*", *Molecular Therapy: Methods & Clinical Development*, 2020, 17, 739-751, doi: 10.1016/j.omtm.2020.03.022

A. Kavand, N. Anton, T. Vandamme, C. A. Serra, D. Chan-Seng. "Synthesis and functionalization of hyperbranched polymers for targeted drug delivery", *Journal of Controlled Release* 2020, 321, 285-311, doi: 10.1016/j.jconrel.2020.02.019

N. Zydzia, M. H. Iqbal, A. Chaumont, A. Combes, E. Wasielewski, M. Legros, L. Jierry, P. Lavalle, F. Boulmedais, D. Chan-Seng. "Unexpected aqueous UCST behavior of a cationic comb polymer with pentaarginine side chains", *European Polymer Journal*, 2020, 125, 109528, doi: 10.1016/j.eurpolymj.2020.109528

MENTORING

Postdocs (3), PhD students (4; 2 as (co)advisors), MSc and undergraduate students (12)

CURRENT TEACHING DUTIES

Since 2014 Chemistry of macromolecular materials, International Master on Polymer Science (IM-PolyS), University of Strasbourg (France)

SERVICES

Institut Charles Sadron. Member of the laboratory council (2018-present), of the communication committee (2018-present), of the follow-up committee for non-permanent staff (2018-present), of the health and safety committee (2013-2019)

University of Strasbourg. Member of the thesis committee at the doctoral school in chemical sciences (2017-present)

French polymer group (GFP). Member of the administrative council and secretary general (2020-present)

PROFESSIONAL MEMBERSHIPS

American Chemical Society (ACS, POLY & PMSE divisions, 2009-present), Société Chimique de France (SCF, 2012-present), Groupe Français des Polymères (GFP, 2012-present)