

Vincent MONTEIL

Chargé de Recherche CNRS

Laboratoire de Chimie, Catalyse, Polymères et
Procédés (C2P2)
Equipe Chimie et Procédés de Polymérisation (LCPP)
UMR 5265 (CNRS-CPE Lyon-UCBL)
Bât. F308 - 43, Bd du 11 Nov.1918
BP 2077
F-69616 Villeurbanne CEDEX
Tel: 00 33 4 72 43 - 1781 (and -1767)
Fax: 00 33 4 72 43 - 1768
E-mail : monteil@lcpp.cpe.fr
<http://www.lcpp-cpe.com/>



Date of birth : November 20th 1975
Nationality : French

EDUCATION

- 1999-2002** **Ph.D. Thesis** of the Claude Bernard University of Lyon, summa cum laude
- 1998-1999** **D.E.A. (equivalent to MRes) in Catalysis and Physical Chemistry of Interfaces** of the Claude Bernard University of Lyon, summa cum laude
- 1995-1999** **French “Ingénieur” Diploma in Chemistry and Chemical Engineering**
Ecole Supérieure de Chimie, Physique et Electronique de Lyon (CPE Lyon -
School of Chemistry, Physics and Electronics) - Lyon - France
- 1993-1995** “Classes Préparatoires aux Grandes Ecoles” - Grenoble – France
- June 1993** “Baccalauréat” option Sciences, passed with distinctions

LANGUAGES SKILLS : - **French** : Mother tongue
- **English** : Fluent
- **German** : Fluent

WORK EXPERIENCE

From Oct. 2005

CNRS position (CR2, “junior researcher”)
Laboratoire de Chimie et Procédés de Polymérisation
LCPP - UMR 140 (CNRS-CPE Lyon)

Development of polymerization catalysts (organometallic chemistry)

Conventional Ziegler-Natta polymerization of olefins
Catalytic homo- and copolymerizations of olefins

Synthesis of new polymers (functional polyolefins)
Innovative polymerization chemistries

Catalysis for polycondensations (silicones)

Teaching experience :

- master M2 “Catalysis for polymerization” University Lyon (since 2006)
- IFP School (AT3P Programm) “Chemistries of Polymerization” (since 2006)

2003- Sept. 2005

Postdoc position (industrial sponsor : BASF AG)

Universität Freiburg - Institut für Makromolekulare Chemie
then **Universität Konstanz** - Lehrstuhl für Chemische
Materialwissenschaft - Laboratory Prof. Dr. Stefan MECKING

Catalytic polymerization of olefins in water

Development of catalysts (late transition metals) for the polymerization of olefins or diolefins in aqueous emulsion
Synthesis of polyolefins or polydienes latices by different methods (**emulsion, mini-emulsion, micro-emulsion**).
Silica/PE Nanocomposite synthesis.

Teaching experience : practice course accompanying the lecture on “Polymer synthesis and material properties” (including radical, ionic and catalytic polymerizations) – University Konstanz

1999 - 2002

Ph.D. (industrial sponsor : Michelin)
Laboratory for the Chemistry and Processes of Polymerization :
L.C.P.P. (Laboratoire de Chimie et Procédés de Polymérisation) –
CNRS/CPE Lyon – Villeurbanne – France.
Laboratory Dr. R. SPITZ.

Synthesis of olefins-butadiene copolymers with rare earth catalysts.

Synthesis and characterization (EA, NMR) of lanthanocene based catalysts. *Olefins-Butadiene Copolymerization*. Analysis (NMR, SEC, DSC) of copolymers with elastomeric properties.

1998 - 1999

Internship of D.E.A. (MRes)

Laboratory of Surface Organometallic Chemistry : L.C.O.M.S.
(Laboratoire de Chimie Organométallique de Surface) – CNRS/CPE
Lyon – Villeurbanne – France.

Synthesis and reactivity of new heterogeneous tantalum- or niobium based catalysts for the asymmetric epoxidation of allylic alcohols and sulfides.

1997- 1998

12 months

“Engineer” Internship

BASF AG in Ludwigshafen (Germany)

Synthesis of palladium based catalysts for the carbonylation of olefins and dienes.

PUBLICATIONS

1. “Detitanation of MgCl₂-supported Ziegler-Natta catalysts for the study of active sites organization”
D. Ribour, V. Monteil, R. Spitz *J Polym Sci Part A: Polym Chem* **2008**, *46*, 5461.
2. “Exploring Pathways to Reduce the Distribution of Active Sites in the Ziegler-Natta Polymerization of Propylene”
D. Ribour, V. Monteil, V. Bollack-Benoit, R. Spitz *J Polym Sci Part A: Polym Chem* **2007**, *45*, 3941.
3. “Synthesis of Very Small Polymer Particles by Catalytic Polymerization”
S. Mecking, V. Monteil, J. Huber, L. Kolb, P. Wehrmann *Macromol. Symp.* **2006**, *236*, 117.
4. “Silica/Polyethylene Nanocomposite Particles from Catalytic Emulsion Polymerization”
V. Monteil, J. Stumbaum, R. Thomann, S. Mecking *Macromolecules* **2006**, *39*, 2056.
5. “A General Route to Very Small Polymer Particles with Controlled Microstructures”
V. Monteil, P. Wehrmann, S. Mecking *J. Am. Chem. Soc.* **2005**, *127*, 14568.
6. “1,2-Polybutadiene Latices by Catalytic Polymerization in Aqueous Emulsion”
V. Monteil, A. Bastero, S. Mecking *Macromolecules* **2005**, *38*, 5393.
7. “Alternating copolymerization of ethylene with butadiene using a Neodymium Metallocene catalyst”
Thuillez, J., Monteil, V., Spitz, R.; Boisson, C. *Angew. Chem. Ind. Ed.* **2005**, *44*, 2593.
8. “Aqueous Dispersions of Extraordinarily Small Polyethylene Nanoparticles”
L. Kolb, V. Monteil, R. Thomann, S. Mecking *Angew. Chem. Ind. Ed.* **2005**, *44*, 429.
9. “Advances and limits in copolymerization of olefins with conjugated dienes”
C. Boisson, V. Monteil, J. Thuillez, R. Spitz, C. Monnet, M.F. Llauro, F. Barbotin, P. Robert *Macromol. Symp.* **2005**, *226*, 17.
10. “Polymerization of butadiene and copolymerization of butadiene and styrene using neodymium amide catalysts”
Monteil, V.; Spitz, R.; Boisson, C. *Polym. Int.* **2004**, *53*, 576.
11. “Catalytic ethylene polymerization in aqueous emulsion: catalyst tailoring and synthesis of very small latex particles”
A. Bastero, L. Kolb, P. Wehrmann, F. M. Bauers, I. Göttker gen. Schnetmann, V. Monteil, R. Thomann, M. M. Chowdhry, S. Mecking *Polym. Mat. Sci. Eng.* **2004**, *90*, 740.
12. “Evidence of intramolecular cyclization in copolymerization of ethylene with 1,3-butadiene: thermal properties of the resulting copolymers”

- Monteil, V. ; Spitz, R. ; Barbotin, F.; Boisson, C. *Macromol. Chem. Phys.* **2004**, *205*, 737.
13. “Lanthanidocene catalysts for the homo- and copolymerization of ethylene with butadiene”
Boisson, C.; Monteil, V.; Ribour, D.; Spitz, R.; Barbotin, F. *Macromol. Chem. Phys.* **2003**, *204*, 1747.
14. “Investigation of Ethylene/Butadiene Copolymers Microstructure by ¹H and ¹³C NMR”
Llauro, M. F.; Monnet, C.; Barbotin, F.; Monteil, V.; Spitz, R.; Boisson, C. *Macromolecules* **2001**, *34*, 6304.
15. “First Synthesis of Poly(ethylene-co-1,3-butadiene) with Neodymocene Catalysts”
Barbotin, F.; Monteil, V.; Llauro, M. F.; Boisson, C.; Spitz, R. *Macromolecules* **2000**, *33*, 8521.

PATENTS

1. “Système catalytique pour l’obtention de copolymères pour l’obtention de copolymères diène(s) conjugué(s) / mono-oléfine(s) et ces copolymères”

FR 0309930 (**2003**), Société de Technologie Michelin / Michelin Recherche et Technique S.A. / ATOFINA Research : Monteil, V.; Spitz, R.; Boisson, C. *Chem. Abstr.* **2003**, 142:219710.

WO 2005028526 (**2005**), Société de Technologie Michelin / Michelin Recherche et Technique S.A. / ATOFINA Research : Monteil, V.; Spitz, R.; Boisson, C.

2. “Copolymères éthylène-butadiène, système catalytique pour les produire et production desdits polymères”

FR 0212893 (**2002**), Société de Technologie Michelin / Michelin Recherche et Technique S.A. / ATOFINA Research : Monteil, V.; Spitz, R.; Boisson, C.

WO 2004035639 (**2004**), Société de Technologie Michelin / Michelin Recherche et Technique S.A. / ATOFINA Research, Monteil, V.; Spitz, R.; Boisson, C., *Chem. Abstr.* **2004**, 140:340585.

PRESENTATIONS

2001

- “New catalytic ethylene polymerization system based on lanthanocene complexes. Unique synthesis of an ethylene/butadiene copolymer by a lanthanide catalyst”

V. Monteil ; F. Barbotin ; Roger Spitz ; C. Boisson.

Poster - Leuven Summer School on Catalysis – 11-14 Novembre 2001 (Ostend – Belgique)

2002

- “Copolymerization of ethylene and butadiene with lanthanocene catalysts”

C. Boisson, F. Barbotin, V. Monteil, M.-F. Llauro, R. Spitz

Poster - 1ST Blue Sky Conference on Catalytic Olefin Polymerization - Juin 2002 (Sorrente-Italie)

2003

- “Lanthanidocene catalysts for copolymerization of ethylene with butadiene »

C. Boisson, F. Barbotin, V. Monteil, R. Spitz, M.F. Llauro

Poster - European Polymer Conference on Stereospecific Polymerization and Stereoregular Polymers - Juin 2003 (Milan - Italie)

2004

- “Aqueous Dispersions of Extraordinarily Small Polyethylene Nanoparticles”

V. Monteil ; L. Kolb ; R. Thomann ; S. Mecking

Poster - 14th International Symposium on Homogeneous Catalysis – 04-09 Juillet 2004 (Munich- Allemagne)

- “Alternating copolymerization of ethylene with butadiene using rare-earth-based catalyst”

J. Thuillez, V. Monteil, F. Barbotin, C. Boisson, R. Spitz.

Poster - 40th IUPAC International Symposium on Macromolecules – 04-09 Juillet 2004 (Paris-France)

- “Advances and limits in copolymerization of olefins with conjugated dienes”

C. Boisson, V. Monteil, J. Thuillez, R. Spitz, C. Monnet, M.F. Llauro, F. Barbotin, P. Robert

Conférence invitée - 40th IUPAC International Symposium on Macromolecules – 04-09 Juillet 2004 (Paris-France)

2005

- “Unique behavior in copolymerization of olefins and conjugated dienes: preparation”

C. Boisson, F. Barbotin, V. Monteil, J. Thuillez, R. Spitz

Poster – 2ND Blue Sky Conference on Catalytic Olefin Polymerization – 26-29 Juin 2005 (Sorrente- Italie)

- “Lanthanide for Copolymerization of Ethylene and Butadiene”

C. Boisson, V. Monteil, J. Thuilliez, R. Spitz, C. Monnet, M.-F. Llauro, F. Barbotin, P. Robert

Conférence invitée - 3rd European Conference on the Reaction and Engineering of Polyolefins
– 20-24 Juin 2005 (Lyon-France)

- “1,2-Polybutadiene Latices by Catalytic Polymerization in Aqueous Emulsion”

V. Monteil, A. Bastero, S. Mecking

Poster – Heildeberg Forum of Molecular Catalysis – 8 Juillet 2005

- “Synthesis of Submicrometer Particles of a Stereoregular Polyolefin by Catalysis in Aqueous Dispersion”

A. Bastero, V. Monteil, S. Mecking

Poster – Heildeberg Forum of Molecular Catalysis – 8 Juillet 2005

2006

- “Synthèse de Latex de 1,2-Polybutadiène par Polymérisation Catalytique en Emulsion”

V. Monteil, S. Mecking

Poster – Journée 2006 de la Fédération des Polyméristes Lyonnais – 13 Avril 2006
(Villeurbanne, France)

- “Synthèse de Latex de 1,2-Polybutadiène par Polymérisation Catalytique en Emulsion”

V. Monteil, S. Mecking

Poster – Journée de Printemps de la SFC Section Rhône-Alpes – 22 Juin 2006 (Villeurbanne, France)

- “Catalytic Polymerization in Microemulsions : A General Route to Very Small Polymer Particles with Controlled Microstructures”

V. Monteil; P. Wehrmann; S. Mecking

Communication orale – 41st IUPAC International Symposium on Macromolecules – 16-21
Juillet 2006 (Rio de Janeiro - Brésil)

“New Trends in Copolymerization of Olefins with Conjugated Dienes”

C. Boisson, F. Barbotin, V. Monteil, J. Thuilliez, R. Spitz

Communication orale - Macro Group UK International Conference on Polymer Synthesis -
Août 2006 (Warwick, Angleterre)

2007

- “Neodymocene Complexes with Tailored Ligands for the Copolymerisation of Ethylene with Butadiene”

A. Leblanc, F. Barbotin, J. Thuillez, V. Monteil, R. Spitz, C. Boisson

Poster – International Symposium on Fundamental and Applied Polymer Science : Toward Next Generation Materials – 29-31 Janvier 2007 (Strasbourg – France)

- “Silica/Polyethylene Nanocomposite Particles from Catalytic Emulsion Polymerization”

V. Monteil, J. Stumbaum, R. Thomann, S. Mecking

Communication orale – International Symposium on Fundamental and Applied Polymer Science : Toward Next Generation Materials – 29-31 Janvier 2007 (Strasbourg – France)

- “Neodymium metallocene catalysts for the synthesis for the synthesis of new polyolefin materials”

C. Boisson, F. Barbotin, V. Monteil, J. Thuilliez, R. Spitz

Communication orale - 3rd Young European Scientists Workshop - Juillet 2007 (Cracovie – Pologne)

- “Exploring Pathways to Modify the Distribution of Active Sites in the Ziegler-Natta Polymerization of Propylene”

D. Ribour, V. Monteil, R. Spitz

Poster – 1st Aquitaine Conference on Polymers – 16-19 Octobre 2007 (Arcachon – France)

- “Neodymium metallocene catalysts for the copolymerization of olefins with butadiene”

C. Boisson, F. Barbotin, V. Monteil, J. Thuillez, R. Spitz

Poster - 1st Aquitaine Conference on Polymers – 16-19 Octobre 2007 (Arcachon – France)

- “Etudes autour du contrôle des populations de sites actifs en catalyse de polymérisation Ziegler-Natta des oléfines”

D. Ribour, R. Spitz, V. Monteil

Communication orale – Colloque National du GFP 2007 – 27-29 Novembre 2007 (Strasbourg – France)

2008

- “Exploring pathways to modify the distribution of Active Sites in the Ziegler-Natta Polymerization of Propylene”

D. Ribour, E. Martigny, R. Spitz, V. Monteil

Poster – Journée des Polyméristes Lyonnais 2008 – 01 Février 2008 (Villeurbanne, France)

- “Modifications of Ziegler-Natta catalysts for the polymerization of propylene”

D. Ribour, R. Spitz, V. Monteil

Conférence invitée – International Conference on the Reaction Engineering of Polyolefins – 22-27 Juin 2008 (Montréal, Canada)

- “Heat transfer and nascent polymerisation of olefins on supported catalysts”

E. Tioni, V. Monteil, R. Spitz, B. Olalla, J.P. Broyer, T.F.L. McKenna

Poster – International Conference on the Reaction Engineering of Polyolefins – 22-27 Juin 2008 (Montréal, Canada)

- “Neodymium metallocenes for olefin/butadiene polymerization”

C. Boisson, F. Barbotin, V. Monteil, J. Thuillez, M. Bousquié, R. Spitz

Communication orale – International Conference on Organometallic Chemistry ICOMC 2008 – 13-18 Juillet 2008 (Rennes, France)

- “Exemples d’interactions entre des systèmes de polymérisation radicalaire et catalytique”

E. Grau, J.-P. Broyer, C. Boisson, R. Spitz, V. Monteil

Poster – Colloque National du GFP 2008 – 25-27 Novembre 2008 (Lyon – France)

- “Polymérisation radicalaire de l’éthylène à moyenne pression : exemples d’interactions avec des acides de Lewis”

E. Grau, C. Boisson, R. Spitz, V. Monteil

Poster – Colloque National du GFP 2008 – 25-27 Novembre 2008 (Lyon – France)

- “Etude des phénomènes de transfert de chaleur en polymérisation Ziegler-Natta des oléfines à l’aide d’un réacteur « stopped flow » à lit fixe”

E. Tioni, B. Olalla, J.-P. Broyer, R. Spitz, V. Monteil, T. McKenna

Poster – Colloque National du GFP 2008 – 25-27 Novembre 2008 (Lyon – France)

- “Caractérisation de copolymères éthylène/MMA par chromatographie d’exclusion stérique multi détection”

E. Grau, A. Silva, O. Boyron, R. Spitz, V. Monteil

Poster – Colloque National du GFP 2008 – 25-27 Novembre 2008 (Lyon – France)

- “Activation des catalyseurs Ziegler-Natta de polymérisation du propylène par BCl_3 : confirmation du modèle de sites actifs en cluster de titane“

D. Ribour, E. Martigny, R. Spitz, V. Monteil

Poster – Colloque National du GFP 2008 – 25-27 Novembre 2008 (Lyon – France)