

Florian Chemarin

Graduate Student

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DOB: November, 13th 1991 (Roanne, France)

Research Topics

- **Biomass valorization** using **white biotechnologies** and **Chemical/process engineering**: in-situ product recovery of 3-hydroxypropionic acid from fermentation broth and model media, understanding of the mechanisms of reactive liquid-liquid extraction, biocompatibility, back-extraction optimization
- 3-hydroxypropionic acid (3-HP): bio-based synthon that could lead to acrylic acid and new polymers

Present & previous positions

- Oct. 2014 - Present **Graduate student**, *Integrated process of extractive bioconversion*, AgroParistech Grignon and Chaire Agro-Biotechnologies Industrielles (ABI), Reims, France.
- March 2014 - Aug. 2014 **Research Internship**, *Thermochemical transformation of biomass*, CEA – Grenoble, France.
- May 2013 - Aug. 2013 **Industrial placement**, *Optimization of biogas production*, Bioprocess Control, Lund, Sweden.
- July 2012 - Aug. 2012 **Industrial placement**, *Pilot scale optimization of an ultrafiltration process*, Veolia Water, Vitré, France.

Education

- 2014 - Present **phD student in Process engineering, Chemistry and Biotechnologies**, *AgroParisTech ABIES Doctoral School*, Paris, France.
- 2011 - 2014 **Engineer's degree in Chemistry and Process engineering (equivalent to a M.Eng.)**, *Ecole Nationale Supérieure de Chimie de Rennes*, Rennes, France.
- 2009 - 2011 **Chemistry International Studies (intensive undergraduate program in general science)**, *Ecole Nationale Supérieure de Chimie de Rennes*, Rennes, France.

Professional and scholarly associations

- From 2014 **EMS**, *European Membrane Society*.
- From 2015 **SFGP**, *Société Française de Génie des Procédés*.
- From 2015 **CFM**, *Club Français des Membranes*.

Scientific production

Summary:

- 4 publications in peer-reviewed journals or to be submitted
- 3 oral communications
- 5 posters

Publications

1. M. Moussa, G. Burgé, F. Chemarin, R. Bounader, C. Saulou-Bérion, H.E. Spinnler, F. Allais, V. Athès, *Reactive extraction of 3-hydroxypropionic acid from model aqueous solutions and real bioconversion media. Comparison with its isomer 2-hydroxypropionic (lactic) acid*, Journal of Chemical Technology and Biotechnology. (DOI: 10.1002/jctb.4813), 2015.
2. G. Burgé, F. Chemarin, M. Moussa, C. Saulou-Bérion, F. Allais, HE. Spinnler, V. Athès, *Reactive extraction of bio-based 3-hydroxypropionic acid assisted by hollow fiber membrane contactor using toa and aliquat 336 in n-decanol.*, Journal of Chemical Technology and Biotechnology. (DOI: 10.1002/jctb.4878), 2016.
3. G. Burgé, M. Moussa, C. Saulou-Bérion, F. Chemarin, M. Kniest, F. Allais, V. Athès, H.E. Spinnler, *3-hydroxypropionic acid extractive bioconversion: study of inhibition phenomena during glycerol bioconversion, membrane assisted reactive extraction and their integrated process*, To be submitted.
4. F. Chemarin, M. Moussa, M. Chadni, F. Allais, V. Athès, C. Trelea, *Mechanistic prediction of yields for reactive liquid-liquid extraction: application to the system of 3-hydroxypropionic acid with an amine extractant*, To be submitted.

Posters

- 2015 **Bio-based 3-hydroxypropionic acid production and extraction starting from glycerol: towards a sustainable integrated process**, Grégoire Burgé, Florian Chemarin, Marwen Moussa, Claire Saulou, Florent Allais, Henry-Eric Spinnler, Violaine Athès, 3rd International Symposium on Green Chemistry, 3th-7th May.
La Rochelle (France)
- 2015 **Reactive liquid-liquid extraction and back-extraction of bio-based 3-hydroxypropionic acid: towards the implementation of an integrated process of extractive bioconversion**, Florian Chemarin, Marwen Moussa, Grégoire Burgé, Florent Allais, Violaine Athès, Ecole thématique "Les outils du génie chimique pour la conception des procédés durables", 20th -25th September.
Biarritz (France)
- 2015 **Reactive liquid-liquid extraction and back-extraction of bio-based 3-hydroxypropionic acid: towards the implementation of an integrated process of extractive bioconversion**, Florian Chemarin, Marwen Moussa, Grégoire Burgé, Florent Allais, Violaine Athès, 10th European Congress of Chemical Engineering, 3rd European Congress of Biotechnology, 5th European Process Intensification Conference, 27th September-1st October.
Nice (France)
- 2016 **Reactive liquid-liquid extraction and back-extraction of bio-based 3-hydroxypropionic acid: towards the implementation of an integrated process of extractive bioconversion**, Florian Chemarin, Marwen Moussa, Grégoire Burgé, Florent Allais, Violaine Athès, Workshop Eco-design of Agro-Bio-Industry Processes, 4th-5th February.
Paris (France)

2016 **Extractive bioconversion of 3-hydroxypropionic acid: insights in extraction and mass transfer mechanisms**, Florian Chemarin, Marwen Moussa, Grégoire Burgé, Florent Allais, Violaine Athès, Cristian Trelea, 24th European Biomass Conference and Exhibitions, 6th-9th June.
Amsterdam (The Netherlands)

Languages

French **Native Language**
English **Fluent**
Spanish **Intermediate**
Swedish **Beginner**

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