

# Grégoire Burgé

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*Research Engineer, Ph.D.  
Business Developer*

DOB: June, 30<sup>th</sup> 1988 (Issy les Moulineaux, 92 - France)

## Research Topics

Production and purification of biobased molecules using white biotechnologies coupled with separation techniques

## Present & previous positions

- Jan. 2016 - **Research Engineer – Business Developer**, Chaire ABI, Reims, France.  
Present
- Jan. 2013 - **Ph.D. student** (with Prof. Spinnler and Athès), Chaire ABI, Reims, France.  
Dec. 2015
- Feb. 2012 - **M.Sc. internship** (with Prof. Spinnler), INRA, Grignon, France.  
Aug. 2012
- Aug. 2010 - **M.Eng. internship**, Luissier Bordeau Chesnel (LBC), Champagné, France.  
Feb. 2011
- May 2008 - **B.Sc. internship**, French Antidoping Agency (AFLD), Châtenay-Malabry, France.  
July 2008

## Education

- 2013 - 2016 **Ph.D. in Microbiology and Bioprocess** (with Honors), AgroParisTech, Paris, France.
- 2010 - 2012 **M.Sc. in Biotechnologies** (with Honors), University of Technology of Compiègne (UTC), France.
- 2009 - 2012 **M.Eng. in Bioengineering**, University of Technology of Compiègne (UTC), France.
- 2006 - 2009 **B.Sc. in Biology** (with Honors), University of Versailles (UVSQ), France.

## Undergraduate students supervision

6 M.Sc. students in Microbiology and Process engineering

## Professional and scholarly associations

- From 2015 **AFC**, *Association Française de Cytométrie en flux*.
- From 2015 **SFM**, *Société Française de Microbiologie*.

## Awards and Honors

- 2014 **ESBES Poster Award 2014**, for the outstanding contribution: "Integrated approach coupling microbiological process and in situ product recovery for the production of 3-hydroxypropionic acid by *Lactobacillus reuteri*", 10<sup>th</sup> European Symposium on Biochemical Engineering Sciences and 6<sup>th</sup> International Forum on Industrial Bioprocesses (ESBES10 and IFIBIOP6), September 7-10.  
Lille, France
- 2015 **Third Award for Young Cytometrist 2015**, for the outstanding contribution: "Caractérisation de l'inhibition liée à l'intégration de la production biotechnologique d'acide 3-hydroxypropionique à son extraction in situ assistée par contacteur membranaire", 19<sup>th</sup> congress of the French Cytometry Association (AFC19), November 18-20.  
Antibes, France

## Scientific production

### Summary:

- 6 publications
- 5 oral communications
- 12 posters

### Publications in peer-reviewed journals

- [1] G. Burgé, C. Saulou-Bérion, M. Moussa, F. Allais, V. Athes, and H.E. Spinnler. Relationships between the use of embden meyerhof pathway (emp) or phosphoketolase pathway (pkp) and lactate production capabilities of diverse *Lactobacillus reuteri* strains. *Journal of Microbiology*, 53(10):702–710, 2015.
- [2] G. Burgé, C. Saulou-Bérion, M. Moussa, B. Pollet, A. Flourat, F. Allais, V. Athès, and H.E. Spinnler. Diversity of *Lactobacillus reuteri* strains in converting glycerol into 3-hydroxypropionic acid. *Applied Biochemistry and Biotechnology*, 177(4):923–939, 2015.
- [3] G. Burgé, A. L. Flourat, B. Pollet, H. E. Spinnler, and F. Allais. 3-hydroxypropionaldehyde (3-hpa) quantification by hplc using a synthetic acrolein-free 3-hydroxypropionaldehyde system as analytical standard. *RSC Adv.*, 5:92619–92627, 2015.
- [4] M. Moussa, G. Burgé, F. Chemarin, R. Bounader, C. Saulou-Bérion, F. Allais, H.E. Spinnler, and 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 Biotechnology*, page DOI:10.1002/jctb.4813, 2015.
- [5] G. Burgé, F. Chemarin, M. Moussa, C. Saulou-Bérion, F. Allais, H.E. Spinnler, and 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 Biotechnology*, page DOI:10.1002/jctb.4878, 2016.
- [6] 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*, Under preparation.

### Oral communications

- 2015 **Production par voie microbienne et extraction in situ d'acide 3-hydroxypropionique : Apport de la cytométrie en flux dans l'étude de la biocompatibilité du procédé**, G. Burgé, C. Saulou-Bérion, M. Moussa, V. Athes, H.E. Spinnler, 11ème Congrès de la Société Française de Microbiologie (SFM11), 23<sup>rd</sup>-25<sup>th</sup> March.  
Paris (France)
- 2015 **Membrane-assisted reactive extraction of biobased 3-hydroxypropionic acid through an integrated process of extractive bioconversion**, M. Moussa, G. Burgé, F. Chemarin, C. Saulou-Bérion, M. Chadni, H.E. Spinnler, F. Allais, V. Athès, Euromembrane 2015, 6<sup>th</sup>-10<sup>th</sup> September.  
Aachen (Germany)
- 2015 **Glycerol bioconversion for 3-hydroxypropionic acid production through an integrated process including in situ product recovery**, G. Burgé, C. Saulou-Bérion, M. Moussa, F. Allais, H.E Spinnler, V. Athès, 3rd European Congress of Applied Biotechnology (ECAB3), September 27<sup>th</sup>-October 1<sup>th</sup>.  
Nice (France)
- 2015 **Caractérisation de l'inhibition liée à l'intégration de la production biotechnologique d'acide 3-hydroxypropionique à son extraction in situ assistée par contacteur membranaire**, G. Burgé, M. Moussa, C. Saulou-Bérion, F. Chemarin, F. Allais, V. Athès, H.E Spinnler, 19ème congrès annuel de l'Association Française de Cytométrie en Flux (AFC19), 18<sup>th</sup>-20<sup>th</sup> November.  
Antibes (France)
- 2016 **Extractive bioconversion of 3-hydroxypropionic acid: insights in extraction and mass transfer mechanisms**, F. Chemarin, M. Moussa, G. Burgé, F. Allais, V. Athès, C. Trelea, 6th International Conference on Engineering for Waste and Biomass Valorisation (WasteEng6), 23<sup>rd</sup>-26<sup>th</sup> May.  
Albi (France)

### Posters

- 2013 **Biotechnological production of 3-hydroxypropionic acid: bioconversion of glycerol by three strains of *Lactobacillus reuteri***, G. Burgé, C. Saulou-Bérion, M. Moussa, V. Athes, H.E. Spinnler, 2<sup>nd</sup> International Symposium on Green Chemistry, renewable carbon and Eco-Efficient Processes (ISGC2), 21<sup>st</sup>-24<sup>th</sup> May.  
La Rochelle (France)
- 2013 **Biotechnological production of 3-hydroxypropionic acid: bioconversion of glycerol by three strains of *Lactobacillus reuteri***, G. Burgé, C. Saulou-Bérion, M. Moussa, V. Athes, H.E. Spinnler, Séminaire INRA Bloraffinerie des Lignocelluloses (BILI), 14<sup>th</sup>-15<sup>th</sup> May.  
Paris (France)
- 2014 **Integrated approach coupling microbiological process and in situ product recovery for the production of 3-hydroxypropionic acid by *Lactobacillus reuteri***, G. Burgé, C. Saulou-Bérion, M. Moussa, V. Athes, H.E. Spinnler, Journées des doctorants ABIES 2014, 25<sup>th</sup>-26<sup>th</sup> February.  
Paris (France)

- 2014 ***In Situ* extraction of 3-hydroxypropionic acid assisted by membrane contactor**, G. Burgé, M. Moussa, V. Athes, C. Saulou-Bérion, H.E. Spinnler, 4<sup>th</sup> International Congress on Green Process Engineering (GPE4), 7<sup>th</sup>-10<sup>th</sup> April. Seville (Spain)
- 2014 ***In Situ* extraction of 3-hydroxypropionic acid assisted by membrane contactor**, G. Burgé, M. Moussa, V. Athes, C. Saulou-Bérion, H.E. Spinnler, Intégration des membranes dans les bioprocédés (MEMPRO5), 9<sup>th</sup>-11<sup>th</sup> April. Toulouse (France)
- 2014 **Integrated approach coupling microbiological process and *in situ* product recovery for the production of 3-hydroxypropionic acid by *Lactobacillus reuteri***, G. Burgé, M. Moussa, V. Athes, C. Saulou-Bérion, H.E. Spinnler, 10<sup>th</sup> European Symposium on Biochemical Engineering Sciences and 6<sup>th</sup> International Forum on Industrial Bioprocesses (ESBES10 and IFIBIOP6), 7<sup>th</sup>-10<sup>th</sup> September. Lille (France)
- 2014 **Reactive extraction of 3-HP acid using tertiary and quaternary amines in decanol and comparison with its isomer 2-HP acid**, G. Burgé, M. Moussa, V. Athes, C. Saulou-Bérion, H.E. Spinnler, 10<sup>th</sup> European Symposium on Biochemical Engineering Sciences and 6<sup>th</sup> International Forum on Industrial Bioprocesses (ESBES10 and IFIBIOP6), 7<sup>th</sup>-10<sup>th</sup> September. Lille (France)
- 2015 **Production par voie microbienne et extraction *in situ* d'acide 3-hydroxypropionique : Vers un procédé intégré couplant procédés upstream et downstream**, G. Burgé, M. Moussa, V. Athes, C. Saulou-Bérion, H.E. Spinnler, 11<sup>ème</sup> Congrès de la Société Française de Microbiologie (SFM11), 23<sup>rd</sup>-25<sup>th</sup> March. Paris (France)
- 2015 **3-hydroxypropionic acid production and extraction starting from glycerol: contribution of process engineering in an ecodesign approach**, G. Burgé, F. Chemarin, M. Moussa, C. Saulou-Bérion, H.E. Spinnler, V. Athes, 3<sup>rd</sup> International Symposium on Green Chemistry (ISGC3), 3<sup>rd</sup>-7<sup>th</sup> May. La Rochelle (France)
- 2015 **Caractérisation de l'inhibition liée à l'intégration de la production biotechnologique d'acide 3-hydroxypropionique à son extraction *in situ* assistée par contacteur membranaire**, G. Burgé, M. Moussa, C. Saulou-Bérion, F. Chemarin, F. Allais, V. Athès, H.E. Spinnler, 19<sup>th</sup> congress of the French Cytometry Association (AFC19), 18<sup>th</sup>-20<sup>th</sup> November. Antibes (France)
- 2016 **Extractive bioconversion of 3-hydroxypropionic acid: insights in extraction and mass transfer mechanisms**, F. Chemarin, M. Moussa, G. Burgé, F. Allais, V. Athès, C. Trelea, 24<sup>th</sup> European Biomass Conference and Exhibition (EBCE24), 6<sup>th</sup>-9<sup>th</sup> June. Amsterdam (the Netherlands)

## Languages

French	<b>Native Language</b>
English	<b>Fluent</b>
German	<b>Intermediate</b>