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Present & previous positions

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

Education

- 2016 – 2017 **Specialized Master** in Management of Innovation (Free Auditor), Neoma BS - AgroParisTech
- 2013 – 2016 **Ph.D. in Microbiology and Process Engineering** (with Honors), AgroParisTech, Paris, FRANCE
- 2010 – 2012 **M.Sc. in Biotechnologies** (with Honors), University of Technology of Compiègne (UTC), FRANCE
- 2010 – 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

Research topics

Lignocellulosic biomass valorization using **white biotechnologies**, **green chemistry** and **Chemical/process engineering**: bio-based monomers/oligomers/polymers, synthons, ingredients, surfactants, flavor and fragrances, bioactive (macro)molecules (e.g., antioxidant, antimicrobial) ...

Awards and Honors

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*” 10th European Symposium on Biochemical Engineering Sciences and 6th International Forum on Industrial Bioprocesses (ESBES10 and IFIBIOP6). September 7-10, 2014, Lille, France.

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 », 19th congress of the French Cytometry Association (AFC19). November 18-20, 2015, Antibes, France.

Doctoral Thesis Award 2016 from the University of Reims in the category “Connecting local actors”, 11th Research & Enterprise Forum, March 22th, 2016, Reims, France.

Languages

French: Native language

English: Professional

German: Scholar

Summary :

- 6 publications in peer-reviewed journals
- 4 oral communications and 11 posters

Publications in peer-reviewed journals :

[1] **G. Burgé**, C. Saulou-Bérion, M. Moussa, F. Allais, V. Athès, H.E. Spinnler (2015) Relationships between the use of Embden Meyerhof pathway (EMP) or Phospho-Ketolase pathway (PKP) and lactic acid production capabilities of diverse *Lactobacillus reuteri* strains. *Journal of Microbiology* 53:702–710 (DOI 10.1007/s12275-015-5056-x)

[2] **G. Burgé**, C. Saulou-Bérion, M. Moussa, B. Pollet, A. Flourat, F. Allais, V. Athès, H.E. Spinnler (2015) Diversity of *Lactobacillus reuteri* strains in converting glycerol into 3-hydroxypropionic acid. *Applied Biochemistry and Biotechnology* 177:923–939 (DOI 10.1007/s12010-015-1787-8)

[3] **G. Burgé**, A. Flourat, B. Pollet, H.E. Spinnler, F. Allais (2015) Straightforward chemical synthesis of acrolein-free 3-hydroxypropionaldehyde system and development of a reliable HPLC method for the monitoring of 3-hydroxypropionaldehyde in fermentation media. *RSC Advances* 5:92619–92627 (DOI 10.1039/C5RA18274C)

[4] M. Moussa, **G. Burgé**, F. Chemarin, R. Bounader, C. Saulou-Bérion, H.E. Spinnler, F. Allais, V. Athès (2016) 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* 91:2276–2285 (DOI 10.1002/jctb.4813)

[5] **G. Burgé**, F. Chemarin, M. Moussa, C. Saulou-Bérion, F. Allais, H.E. Spinnler, V. Athès (2016) Optimization of biobased 3-HP reactive extraction using hollow-fiber membrane contactor. *Journal of Chemical Technology & Biotechnology*. 91:2705–2712 (DOI 10.1002/jctb.4878)

[6] **G. Burgé**, M. Moussa, C. Saulou-Bérion, F. Chemarin, M. Kniest, F. Allais, H.E. Spinnler, V. Athès (2017) Towards an extractive bioconversion of 3-hydroxypropionic acid: Study of inhibition phenomena. *Journal of Chemical Technology & Biotechnology*. (DOI 10.1002/jctb.5253)

Oral communications :

[1] **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. Athès, H.E. Spinnler. 11ème Congrès de la Société Française de Microbiologie (SFM11). March 23-25, 2015, Paris, France.

[2] **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. September 6–10, 2015, Aachen, Germany.

[3] **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-Dutour. 3rd European Congress of Applied Biotechnology (ECAB3). September 27th – October 1, 2015, Nice, France.

[4] **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). November 18-20, 2015, Antibes, France.

Posters :

[1] **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. 2nd International Symposium on Green Chemistry, renewable carbon and Eco-Efficient Processes (ISGC2). May 21-24, 2013, La Rochelle, France.

[2] **In Situ extraction of 3-hydroxypropionic acid assisted by membrane contactor.**

G. Burgé, M. Moussa, V. Athes, C. Saulou-Bérion, H.E. Spinnler. 4th International Congress on Green Process Engineering (GPE4). April 7-10, 2014, Séville, Espagne.

[3] **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). April 9-11, 2014, Toulouse, France.

[4] **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. 10th European Symposium on Biochemical Engineering Sciences and 6th International Forum on Industrial Bioprocesses (ESBES10 and IFIBIOP6). September 7-10, 2014, Lille, France.

[5] **Reactive extraction of 3-HP acid using tertiary and quaternary amines in decanol and comparison with its isomer 2-HP acid.**

M. Moussa, **G. Burgé**, C. Saulou-Bérion, V. Athes, H.E. Spinnler. 10th European Symposium on Biochemical Engineering Sciences and 6th International Forum on Industrial Bioprocesses (ESBES10 and IFIBIOP6). September 7-10, 2014, Lille, France.

[6] **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, C. Saulou-Bérion, H.E. Spinnler, V. Athes. 11ème Congrès de la Société Française de Microbiologie (SFM11). March 23-25, 2015, Paris, France.

[7] **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. 3rd International Symposium on Green Chemistry (ISGC3). May 3-7, 2015, La Rochelle, France.

[8] **Production par voie microbienne et extraction in situ d'acide 3-hydroxypropionique : Vers un procédé intégré couplant procédés upstream et downstream.**

G. Burgé, C. Saulou-Bérion, M. Moussa, F. Allais, V. Athès, H.E. Spinnler. 20ème Club des Bactéries Lactiques (CBL 20). June 17-19, 2015, Lille, France.

[9] **Production par voie microbienne de l'acide 3-hydroxypropionique couplée à son extraction réactive in situ par contacteur membranaire : Impact sur l'état physiologique de *Lactobacillus reuteri*.**

G. Burgé, C. Saulou-Bérion, M. Moussa, F. Allais, V. Athès, H.E. Spinnler. 20ème Club des Bactéries Lactiques (CBL 20). June 17-19, 2015, Lille, France.

[10] **Reactive liquid-liquid extraction and back-extraction of bio-based 3-hydroxypropionic acid: towards the implementation of an integrated process of extractive bioconversion.**

F. Chemarin, M. Moussa, **G. Burgé**, Florent Allais, Violaine Athès. 10th European Congress of Chemical Engineering (ECCE10). September 27 – october 1, 2015, Nice, France.

[11] **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). November 18-20, 2015, Antibes, France.