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## *COST ACTION GREENERING – DATA COLLECTION*

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**First name, Family Name: Christelle, Crampon**

**Type (Academic or Industrial): Academic**

**Country: France**

**Leadership position in the COST: Co-leader of WG 4 “Impact”**

**Working Groups in which you are involved: WG 4**

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**Laboratory/Company:**

Aix-Marseille University; Laboratory of Mechanics, Modelling and Green Processes;  
Group Processes and Supercritical Fluids

**Laboratory/Company info (limited to 400 characters):**

The laboratory of Mechanics, Modelling and Green Processes covers the fields of numerical fluid mechanics and chemical engineering. One part of the laboratory is devoted to the development of Processes for the Environment: Membrane Separation, Water and Waste Treatment and Processes involving supercritical CO<sub>2</sub>.

**Link to the home page of the Laboratory/Company:**

Laboratory website: [www.m2p2.fr](http://www.m2p2.fr)

**Fields of expertise (limited to 400 characters):**

- Development of Innovative and Sustainable Processes involving Supercritical CO<sub>2</sub> for Health, Food, and Energy applications
- Chemical Engineering
- Supercritical CO<sub>2</sub> Extraction, Fractionation, Particle generation, Encapsulation, Impregnation, Fluidization, sterilization...
- Experimental

**5 Main publications or patents:**

- Patent n° 16 305 982.7, E. Badens and C. Crampon, «CONTINUOUS PROCESS FOR FRACTIONATING A SUSPENSION»; N. /REF. 731 – MICROALGUE deposited on 2016 - accepted in Europe in 2018 – open to International US in 2019.
- A. Di Capua, R. Adami, E. Cosenza, V. Jalaber, C. Crampon, E. Badens, E. Reverchon,  $\beta$ -Carotene/PVP microspheres produced by Supercritical Assisted Atomization, Powder Technology, Volume 346, 2019, Pages 228-236.
- I. García-Casas, C. Crampon, A. Montes, C. Pereyra, E.J. Martínez de la Ossa, E. Badens, Supercritical CO<sub>2</sub> impregnation of silica microparticles with quercetin, The Journal of Supercritical Fluids, Volume 143, 2019, Pages 157-161.
- R. Djerafi, A. Swanpaul, P. Labuschagne, Y. Masmoudi, C. Crampon, E. Badens, Supercritical antisolvent co-precipitation of Rifampicin and Ethyl cellulose, European Journal of Pharmaceutical Sciences, Volume 102, 2017, Pages 161-171.
- C. Crampon, O. Boutin, E. Badens, Supercritical Carbon Dioxide Extraction of Molecules of Interest from Microalgae and Seaweeds, Industrial & Engineering Chemistry Research, Volume 50, issue 15, 2011, pages 8941-8953.



**Collaborations:**

Cellana, Solvay, Merck, Janssen, He Eye Care System, GreenChem Scientifics, Cousin Biotech, Formac Pharmaceuticals, EADS, PSA, DFD...

**Facilities: Quality label experimental platform**

- Supercritical CO<sub>2</sub> extractors (Autoclave size: 10 mL, 20 mL, 2 L, 4 L)
- Supercritical CO<sub>2</sub> column for fractionation (Height: 2 m, Internal Diameter: 19 mm)
- Particle generation apparatus (RESS, SAS, PGSS, fluidized bed)
- Impregnation set-up