

Mr Ricardo Roque

Research Fellow

[School of Chemical Engineering \(/schools/chemical-engineering/index.aspx\)](/schools/chemical-engineering/index.aspx)

Contact details

Telephone **+44 (0) 121 414 6965** (tel:+44 121 414 6965)

Email r.m.n.roque@bham.ac.uk (mailto:r.m.n.roque@bham.ac.uk)

School of Chemical Engineering
University of Birmingham
Edgbaston
Birmingham
B15 2TT
UK



About

Ricardo Roque is currently a Research Fellow at the School of Chemical Engineering in the field of supercritical fluids.

Since his first class degree graduation in Chemistry he has been working mostly with critical fluids, either supercritical or subcritical.

His research interests lie in the use and development of environmental benign methods with focus on biomass valorisation. The use of subcritical water as part of an organosolv method to hydrolyse lignocellulosic biomass (*Miscanthus x giganteus*) in a biorefinery point of view was the basis of his PhD research project. Currently, as part of the research fellowship project Ricardo is optimising the extraction of natural products from lignocellulosic biomass using supercritical CO₂ as a green solvent.

Publications

- Roseiro, L.B., Duarte, L.C., Oliveira, D.L., Roque, R., Bernardo-Gil, M.G., Martins, A.I., Sepúlveda, C., Almeida, J., Meireles, M., Gírio, F.M., Rauter, A.P. (2013) Supercritical, ultrasound and conventional extracts from carob (*Ceratonia siliqua* L.) biomass: Effect on the phenolic profile and antiproliferative activity, *Industrial Crops and Products*, 47:132-8
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- Bernardo-Gil, M.G., Roque, R., Roseiro, L.B., Duarte, L.C., Gírio, F., Esteves, P. (2011) Supercritical extraction of carob kibbles (*Ceratonia siliqua* L.), *The Journal of Supercritical Fluids*, 59:36-42
- Roque, R.M.N., Baig, M.N., Leeke, G.A., Piccolo, A., Bowra, S., Santos, R. C. D. (2010) Sub-critical water mediate hydrolysis and fractionation of lignocellulosic biomass (*Miscanthus x giganteus*). In: Bridgwater AV, editor. *Bioten Conference on Biomass Bioenergy and Biofuels 2010*. Birmingham, UK: CPL Press