



### Elias Feghali

Assistant Professor

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## Biography

Elias Feghali is an assistant professor of chemical engineering in the mechanical engineering department. Dr. Feghali holds a masters in chemical engineering (French diplôme d'ingénieur) as well as a masters in molecular and supramolecular chemistry from the Université de Strasbourg. In 2012 he joined the French Atomic Energy and Alternative Energy Commission (CEA) for his PhD. Afterwards, he worked as a postdoctoral fellow between SCION (New Zealand) and VITO (Belgium) and CSIRO (Australia). Dr. Feghali has been involved in several R&D projects in the fields of chemistry and chemical engineering such as: biomass valorisation, plastic waste recycling, homogenous and heterogeneous catalysis, bio-polymer formulation and membrane separation technology.

## Peer-reviewed Journals

### International

- E Feghali, L Tauk, P Ortiz, K Vanbroekhoven, W Eevers, *Polymer Degradation and Stability*, 2020, 179, 109241. Catalytic chemical recycling of biodegradable polyesters.
- Elias Feghali, Daniel J. van de Pas, Andrew J. Parrott, and Kirk M. Torr, *ACS Macro Letters*, 2020, 9 (8), 1155-1160. Bio-based Epoxy Thermoset Polymers from Depolymerized Native Hardwood Lignin.
- Elias Feghali, Daniel van de Pas and Kirk Torr, *Biomacromolecules*, 2020, 21, 4, 1548-1559. Toward Bio-based Epoxy Thermoset Polymers from Depolymerized Native Lignins
- E. Feghali, K. M. Torr, D. J. van de Pas, P. Ortiz, K. Vanbroekhoven, W. Eevers, R. Vendamme, *Top. Curr. Chem.*, 2018, 376 (32). Thermosetting Polymers from Lignin Model Compounds and Depolymerized Lignins.
- L. Monsigny, E. Feghali, J.C. Berthet, T. Cantat, *Green Chem.*, 2018, 20 (9), 1981-1986. Efficient reductive depolymerization of hardwood and softwood lignins with Brookhart's iridium (III) catalyst and hydrosilanes.
- E. Feghali, G. Carrot, P. Thuéry, C. Genre, T. Cantat, *Energy Environ. Sci.*, 2015, 8, 2734-2743. Convergent Reductive Depolymerisation of Wood Lignin to Isolated Phenol Derivatives by Metal-Free Catalytic Hydrosilylation.
- E. Feghali, T. Cantat, *ChemSusChem*, 2015, 8, 980-984. Room Temperature Organocatalysed Reductive Depolymerisation of Waste Polyethers, Polyesters and Polycarbonates.
- E. Feghali, O. Jacquet, P. Thuéry and T. Cantat, *Catal. Sci. Technol.*, 2014, 4, 2230-2234. Catalytic hydrosilylation of oxalic acid: chemoselective formation of functionalized C2-products.
- E. Feghali, T. Cantat, *Chem. Commun*, 2014, 50, 862-865. Unprecedented organocatalytic reduction of lignin model compounds to phenols and primary alcohols using hydrosilanes.
- L. Barloy, E. Feghali, M. Henry, L. Karmazin-Brelot, C. Bailly, and M. Pfeffer, *Organometallics*, 2013, 32, 6195-6200. Serendipitous Self-Assembly of Cyclometalated Complexes through Hydrogen Bonds: Dimers or Chains within Compact or Porous Networks.

- E. Feghali, L. Barloy, J-T. Issenhuth, L. Karmazin-Brelot, C. Bailly, and Michel Pfeffer, *Organometallics*, 2013, 32, 6186–6194. Cyclometalation of (2R,5R)-2,5-Diphenylpyrrolidine and 2-Phenyl-2-imidazoline Ligands with Half-Sandwich Iridium(III) and Rhodium(III) Complexes

## Conference Proceedings

- F. Keyrouz, L. Tauk, E. Feghali, IEEE - CIBCB, 2018. DOI:10.1109/CIBCB.2018.8404964. Chemical structure recognition and prediction: A machine learning technique.
- F. Keyrouz, L. Tauk, E. Feghali, IEEE - CCWC, 2019, DOI: 10.1109/CCWC.2019.8666586. Enhanced Chemical Structure Recognition and Prediction Using Bayesian Fusion.

## Patents

- E. Feghali, T. Cantat, US20170152199A1, granted on 06-08-2019. Method of depolymerizing lignin.
- E. Feghali, T. Cantat, US20170349613A1, granted on 29-01-2019. Method for Depolymerising Oxygenated Polymer Materials.
- E. Feghali, T. Cantat, US20170137446A1, granted on 25-09-2018. Method of preparing aromatic compounds from lignin.