JOINT MEETING OF IMECHE, ICHEME AND IET HAMMERSMITH BRANCH

# Today's Waste – Tomorrow's Resource

Reaching Household Waste recycling targets is proving a massive challenge across the world, with the resultant build-up of rubbish in all corners of the planet.

A panel of four experts will present and debate the merits of two of the latest complementary technologies/innovations in recycling household waste into fuels and feedstocks for industrial use.

The speakers are active in the field of waste recycling particularly looking at residual plastic waste and biomass feedstocks.

**J Seville and M Besong** will present the status and challenges of plastics recycling, and Recycling Technology's (Ltd) innovative continuous thermal cracking process to transform mixed plastic waste including plastic film, bags, and even crisp packets into Plaxx®, a valuable hydrocarbon product with multiple uses in the wax and petrochemical sectors.
**M Materazzi and R Ray** will provide an overview of gasification research and the technologies focussed on solid household waste as a feedstock and bioenergy in the UK and across the globe. They will cover the different syngas utilization approaches, including BioSNG and liquid fuels and describe the importance of impurity removal in the Syngas to Liquid product process.

The Thermal Cracking speakers will:

- Describe RT's technology development journey, RT's Swindon based modular demonstration plant currently in its 3rd iteration, which processes 700 tonnes of residual plastic waste per year and the development of RT's full-scale commercial plant, the RT7000, to be installed at Binn Farm, Perthshire, Scotland in 2020 and operational in 2021. The RT7000 shall process 7000 tonnes of waste plastic per year.

The Gasification process speakers will discuss:

- Their Swindon pilot plant operation, and describe the approach of the catalytic system, catalysts characterisation and product upgrading, in relation to Syngas quality.
- The demo Compressed Bio Methane (CBM) plant in Swindon and the VESTA process developed by Wood (previously FW).
- Present cost data and associated technical details to understand the commercialisation and value of these innovative technologies.

**Tuesday 3rd December 2019**
Lecture Theatre, IMechE HQ,
1 Birdcage Walk, Westminster, London SW1H 9JJ

**Itinerary.**
18:00 Registration
18:30 Presentations
20:00 Q&A & Panel Discussion
20:30 Networking with Refreshments & Buffet snacks.
21:30 Close

**Speakers**
**Prof Jonathan Seville** (Dept of Chemical Engineering, University of Birmingham).
**Marvine Besong**, (Technical Director Recycling Technologies).
**Dr Massimiliano Materazzi** (Lecturer Dept of Chemical Engineering, University College London)
**Dr Ruby Ray** (Principal Process Engineer within Wood PLC)

**OPEN THE LINK BELOW TO BOOK YOUR PLACE:**

Book tickets at:
nearyou.imeche.org/near-you/UK/Greater-London

There will be £5 registration Fee.

For more information please contact:
Thanos Moros or Phil Gould
thanosmoros@gmail.com
londonsesec@imechenearyou.org

IChemE: Keith Hanson, londonsemgchair@ichememember.org

IET: Malcolm Ireland or Marsha Maraj, malcolmjireland@gmail.com, m.maraj@imperial.ac.uk

Follow Us on Facebook and Twitter

facebook.com/IMechEGLR

@IMechE_GLR

## The Presenters, Brief Bio:

**Professor Jonathan Seville**
Professor in Chemical Engineering at the University of Birmingham and previously Dean of Engineering and Physical Sciences at the University of Surrey, Jonathan helped to start Recycling Technologies while working at Warwick. Jonathan is an experienced researcher in chemical engineering, particularly in processes involving fluidisation and gas-cleaning. He is a Fellow of the Royal Academy of Engineering and was President of the Institution of Chemical Engineers (IChemE) in 2016-17.

**Marvine Besong, Technical Director Recycling Technologies.**
Marvine brings seven years of engineering design and technology development experience and has spent five years leading the development of RT's core technology. Marvine has an MSc degree in Chemical Engineering from the University of Nottingham.

**Dr Massimiliano Materazzi Lecturer Dept of Chemical Engineering, University College London.**
Massimiliano is a Research Fellow of the Royal Academy of Engineering (RAEng) and Lecturer in the at UCL. He has 10 years of combined industrial and academic experience in Thermal processes and Particle technologies spanning applications across the chemical, nuclear and renewable energy sectors. His research is oriented to several aspects of chemical recycling technologies, with particular attention given to thermal treatments of problematic feedstocks (e.g. household and industrial wastes), design of fluidized bed reactors for industrial application, and catalytic processes for biofuels synthesis and chemical storage. He is Author of the books "Substitute Natural Gas from Waste" Elsevier (2019), 'Clean Energy from Waste' (2017) Springer publishing, 4 book chapters and more than 20 refereed articles in chemical engineering and renewable energy sectors.

**Dr Ruby Ray Principal Process Engineer within Wood Formerly Foster Wheeler**.
Ruby has more than 14 years of process design experience. She has specialist expertise in gasification technology, syngas processing, waste to different product route and carbon capture and storage. She has published several papers in esteemed journals on Carbon Capture, gasification and waste to product technology. She has also presented papers in several conferences and delivers lectures on Carbon Capture and Storage in Oxford University. She acts as an external examiner of EngD project in University of Surrey.