

## 'Hydrogen is tomorrow's biofuel' say scientists

Posted on Monday 14th May 2012

Researchers from the University of Birmingham are creating clean hydrogen from food waste paving the way for a bioenergy alternative for the future.

Currently, Brazil is the world's most intensive user of bioethanol as an alternative to gasoline for powering transport. There are questions about whether the mass production of bioethanol using sugarcane is sustainable in the long-term. Bioethanol generates carbon dioxide and agricultural waste. However, creating clean hydrogen from waste not only uses that waste but provides a fuel that is emission free and can also be generated sustainably.

Presenting this research at a collaborative bioenergy workshop in São Paulo today, Professor Lynne Macaskie, Professor of Applied Microbiology at the University of Birmingham, said "Fuel cells need clean energy to run them. If you provide bacteria with a supply of sugary waste from, for example, chocolate production, the bacteria can produce hydrogen. At the moment manufacturers pay to dispose of waste but with our technique they could convert it to clean electricity instead."

"Bioethanol is the current biofuel of choice in Brazil but our research shows the huge potential for biohydrogen to be the fuel for the future. Biohydrogen could even be made from the wastes from bioethanol production - two biofuels for the price of one. More work from focused teams, however, is needed, as agricultural wastes are tougher for bacteria to digest."

Organised by O Conselho de Reitores das Universidades Estaduais de São Paulo (CRUESP) and the FAPESP bioenergy programme (FAPESP-BIOEN), the workshop is taking place in the State of São Paulo. Participants come from the University of Birmingham, the University of Nottingham, the State University of Campinas (UNICAMP), the University of São Paulo and São Paulo State University (UNESP).

### Notes to Editors

- The joint University of Birmingham / University of Nottingham bioenergy workshop takes place on Monday 14<sup>th</sup> May 2012 from 9am to 5pm, for more information about the workshop, please visit: <http://bioenfapesp.org/index.php/en/events/workshops-2012/apr-joint-workshop/program> (<http://bioenfapesp.org/index.php/en/events/workshops-2012/apr-joint-workshop/program>)
- The University of Birmingham is a truly vibrant, global community and an internationally-renowned institution. Its work brings people from across the world to Birmingham, including researchers and teachers and more than 4,000 international students from nearly 150 different countries. Home to approximately 28,000 students, with more than 7,500 postgraduate students from across the world, Birmingham is one of the most popular universities for postgraduate study in the UK. For further information, visit: [www.birmingham.ac.uk](http://www.birmingham.ac.uk) (<http://www.birmingham.ac.uk/>)
- A Portuguese version of this news release is available on request.
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