

# NEWSLETTER

June | 2013

[www.phytocat.com](http://www.phytocat.com)

Welcome to the first Phytocat newsletter.

The Phytocat project is funded by G8 Research Councils Initiative on Multilateral Research Funding: Materials Efficiency. Phytocat started on 1<sup>st</sup> October 2012 and runs for 3 years. It is a collaborative project between the Green Chemistry Centre of Excellence and Centre for Novel Agricultural Products (CNAP) both at the University of York, UK, Centre for Environmental Research in Minerals, Metals and Materials, University of British Columbia, Canada and Yale University, USA. (For more information visit [www.phytocat.com](http://www.phytocat.com))

## Phytocat Kick-Off Meeting


The first meeting of the Phytocat consortium was held at the University of York on 3<sup>rd</sup> December 2012.

These meetings will take place annually with a 6 monthly teleconference taking place in between.

The meeting was a great success with all project members presenting plans for the work they will undertake during the course of the project.

A couple of York's well known eateries were also employed to help facilitate discussions.

The next meeting will be hosted by John Meech and take place in Vancouver at the University of British Columbia in September 2013.

The consortium members (left to right from back) Neil Bruce, Thomas Graedel, Mark Hodson, James Clark, Andrew Hunt, Elizabeth Rylott, Christopher Anderson, Nedal Nassar, Helen Parker, John Meech. 



## Publicity & Publications

Christopher Anderson (Adjunct Professor at University of British Columbia), has successfully published an article about the synthesis of gold nanoparticles inside plant species *Brassica juncea* and how this can be effected by the presence of other metals. Further articles from the University of York group are also in preparation. Citation of Chris's article:

Christopher W. N. Anderson, Saleem M. Bhatti, Jorge Gardea-Torresdey and Jason Parsons (2013) **In vivo effect of copper and silver on synthesis of gold nanoparticles inside living plants**, ACS Sustainable Chemistry and Engineering, 1, 640-648.

So far the Phytocat project has received much attention from the scientific journalism community. Articles featuring the project have appeared in: New Scientist, Chemistry & Industry, Physics Today and Minerals Planning.

## New Members of the Phytocat team:



◀ **Prof. Mark Hodson**  
Environment Department,  
University of York.

Mark is a low temperature mineralogist and geochemist. He was appointed Anniversary chair in York in 2012. Before this Mark was at the University of Reading where he founded the Soil Research Centre. He will be assisting the project as soil science advisor.

### Dr Helen Parker



Green Chemistry Centre of Excellence, University of York, Helen gained a PhD in green chemist at the University of York. She is working as the postdoctoral research assistant on the Phytocat project carrying out characterisation and applications for the materials produced during the project.



◀ **Nedal Nassar**  
Yale School of Forestry &  
Environmental Studies,  
Yale University,

Nedal is a PhD student at Yale University working with Thomas Graedel. Prior to Yale he worked as an environmental consultant and process engineer. His contributions to the project include investigating global stocks and flows of PGM's and developing LCA of the PHYTOCAT process.

### Zakuan Azizi Shamsul Harumain



CNAP, University of York, Zakuan gained a MSc. In Environmental Biotechnology at the University of Putra Malaysia. He is now studying for a PhD with Prof. Neil Bruce's group at University of York on a project entitled "The genetics behind platinum group uptake by plants.



### Andrea Muñoz Garcíá, Konstantina Sotiriou & Qing Zhang

Green Chemistry Centre of Excellence,  
University of York,

Andrea, Konstantina and Qing are postgraduate students assisting with the Phytocat project as part of their MSc. in Green Chemistry. ✓



## Congratulations to Thomas Graedel!

In March, Thomas Graedel was invited to be the distinguished guest lecturer at The Environmental Chemistry Group 2013 Distinguished Guest Lecture & Symposium that took place at the Royal Society of Chemistry in London.

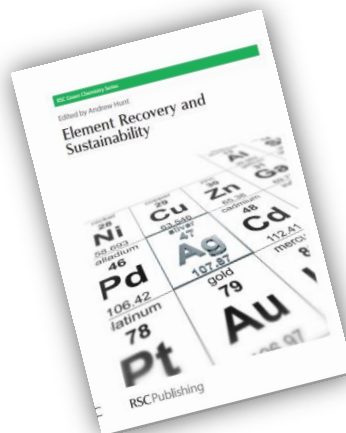
Prior to giving his lecture titled: *Rare earths and other scarce metals: technologically vital but usually thrown away*, Tom was presented with the distinguished guest lecturer medal.

The medal itself which is cast from Cornish tin and was designed by Patrick Lowry MA, displays the image of a water molecule superimposed with a tetrahedron (representing the carbon cycles through life). This medal is given annually, first awarded in 2006.

Many congratulations to Tom from the Phytocat project team.

## COMING SOON...

Andrew Hunt at the University of York is currently putting the finishing touches to a new book, being published by the Royal Society of Chemistry, titled: *Elemental Recovery and Sustainability*.



The book features chapters written by Andrew Hunt, Chris Anderson, Nedal Nassar and Helen Parker from the Phytocat project.

It covers a wide variety of topics including: phytomining, rare earth metals, WEEE waste recovery, ionometallurgy and municipal waste mining.

The book will be out soon and available from:  
<http://www.rsc.org/Shop/books/>

## If you would like to get in touch please email or write to us:

Dr. Andrew Hunt  
PHYTOCAT Project Manager  
Green Chemistry Centre  
of Excellence  
Department of Chemistry  
University of York  
Heslington  
York, YO10 5HZ

Tel: +44 (0)1904 322546  
Email: [andrew.hunt@york.ac.uk](mailto:andrew.hunt@york.ac.uk)  
Web: [www.phytocat.com](http://www.phytocat.com)

