# Showcasing Research at YOUR University – An International Trend

Cather Simpson

The Photon Factory, Departments of Chemistry and Physics, University of Auckland
(e-mail: *c.simpson@auckland.ac.nz*)

The Chemistry Department at Auckland University (UoA) hosted the ***Inaugural Chemistry Research Showcase*** last June, with great fanfare. In so doing, the Department joins a new international trend to highlight the breadth and depth of research at a single institution, often within a single discipline. Google *research showcase* or *research spotlight* or similar phrases and you will get a dizzying number of hits from institutions of all sizes and prestige levels. It seems like everyone's got some sort of ***look at us!*** research celebration.

The origin of these events can be traced to the recent evolution of universities away from the aloof ivory tower, a bastion of scholarly endeavour that *[advances] society-at-large through knowledge distribution*,[1] towards the fully engaged, approachable leader of socioeconomic transformation. Universities still focus upon generating new knowledge and educating future graduates. However, in the 21st century they lead in other spheres as well, from government and the economy to energy and the environment.[2] Corporate attitudes that have infused higher education, motivated to meet these goals,[3] endorse self-promoting events that laud excellence from within. It should come as no surprise that *look at us!* research events are often driven by research offices, public affairs divisions, alumni outreach organizations, and other branches of the upper administration, to encourage scientists to network with potential funding agencies and/or research partners, actively raise research funds, and participate in collaborative initiatives.

Fortunately, these added motives do not detract one little bit from the time-honoured benefits of such research meetings. As with the more traditional cross-institutional conferences, like the local meetings the ACS has sponsored for decades,[4] and like the recent MacDiarmid Institute Student and Postdoctoral Symposium,[5] young scientists are the focus. *It is a great opportunity for students at all levels to practice their presentation skills and compete for prizes*, said Prof Mary Barkley, Chair of Chemistry (Case Western Reserve) where a very successful, university-wide *Research ShowCASE* is held annually.[6] Ancillary events include workshops on research topics, entrepreneurship, and other areas that provide critical training for modern academic scientists on the verge of their professional careers.

In addition to celebrating – and advertising – young scientists and their research, bringing together industry representatives, students, research staff, and university administrators at *look at us!* occasions may catalyze innovative solutions to critical problems. Prof Dan Nocera, (Energy Professor, MIT, Cambridge, USA) put it this way: *One of the greatest challenges facing our societal future is energy. This problem cannot be solved by simply engineering 'off-the-shelf' science. If it could be solved this way, we would have already done it. To penetrate the market, new materials, new reactions and new processes will have to be discovered. Our existence on this planet's future rests in the hands of the research scientist.* Success in this endeavour is likely to require that research scientists communicate with engineers, industrial partners, and government and private funding officials. Research days like the one held at the UoA foster just these sorts of interactions.


Winners of the 2009 Chemistry Research Showcase abstract competition (left to right) K. Rathwell (honourable mention), T. Kjällman, D. Larsen, R. Peltier, S. Guéret, A. Dalebrook, S. Tong, Grant McIntosh (honourable mention), J. Paauwe, and C. Lam.


Enjoyment at the Poster Session

The Department established Chemistry Research Showcase to shine the spotlight on our postgraduate students and to actively strengthen our research activities with industry. The one-day event featured oral presentations by eight PhD students selected from a fiercely competitive entry of abstracts. Over fifty posters were presented and prizes were awarded by Prof Alan Lee, Dean of Science. An exciting key-note talk was delivered by Prof Bill Denny (co-Director, Auckland Cancer Society Research Centre), both a Rutherford and Adrian Albert Medalist and a co-

founding scientist at Proacta Therapeutics. His presentation highlighted his experiences in taking science from the laboratory to the clinic. Generous sponsorship was provided by Fonterra, Fisher & Paykel Healthcare, Sigma-Aldrich, New Zealand Scientific Ltd, New Zealand King Salmon, Coherent Scientific, UoA Wine Science, ECP, and the Auckland Branch of the NZIC. The day finished with a mixer particularly designed so that students and industry representatives could network. Over 200 people attended and it was pronounced a success widely – from the viewpoint of the ivory tower and all of the other perspectives of the 21st century university.

### *References and Notes*


1. Denman, B. D. *Higher Ed. Manag. Pol*. **2005**, *17*(2), 9-26.
2. Mowery, D. C. in *AAAS Science and Technology Policy Yearbook*, Teich, A. H.; Nelson, S. D.; Lita, S. J. (Eds.), American Association for the Advancement of Science, Washington, DC: 2002, Ch. 25, 253-271; Duderstadt, J. J. *Chron. Higher Ed*. **2000**, *46*(22), B6; Pratt, R.; Hauser, S. *Chron. Higher Ed.* **2004**, *50*(43) B.17.
3. Perhaps this is most evident in the relatively recent explosion of university, faculty, and department strategic plans: see: Fain, P. *Chron. Higher Ed*. **2007**, *54*(6), A.26.
4. See: http://portal.acs.org/portal/acs/corg/content - the meetings pull-down shows recent ACS Regional and Local Meetings (accessed 30 August 2009).
5. See: http://macdiarmid.ac.nz/events/symposium2008/index.php (accessed 29 August 2009).
6. See: https://ora.ra.cwru.edu/showcase/ (accessed 30 August 2009).


# When is Medicinal Chemistry Patently Obvious?


Katherine Hebditch and Tim Stirrup

Baldwins Intellectual Property, PO Box 5999, Wellesley St, Auckland
(email: *katherine.hebditch@baldwins.com* or *tim.stirrup@baldwins.com*)


In order to be granted a valid patent, an invention must be both novel and non-obvious (*i.e.* inventive) in light of what was public knowledge at the time. In a recent decision from the United States District Court of New Jersey[1] and later the US Court of Appeals for the Federal Circuit [2] (CAFC), the issue of whether it is obvious to modify a pharmaceutical compound by substituting a methoxy group for a methyl group has been considered.

### *Background*

Altana Pharma holds, and exclusively licences to Wyeth, the patent for the compound pantoprazole, which is the active ingredient in Protonix®, a prodrug treatment for stomach ulcers. This compound is one of a family of compounds known as proton pump inhibitors (PPIs), one of the original and most famous of which is the blockbuster drug omeprazole (Fig. 1), the active ingredient in Losec® and Prilosec®.

In April 2004, Teva Pharmaceuticals and later in March 2005 Sun Pharmaceuticals (collectively "Teva") both filed applications to the FDA for approval to sell a generic version of Protonix®. Following these submissions, Altana Pharma and Wyeth (collectively "Altana") filed suit against Teva for patent infringement. In response, Teva conceded infringement of the Altana patent but argued that the patent was invalid because the invention was obvious in light of what was known at the time of filing. Altana then sought an interim injunction to prevent sales of the generic drugs while the case for patent invalidity makes its way through the courts.

This decision relates to the interim injunction, which means that at this stage it is not the validity of the patent *per se* which is at question. However, it can give an indication of strength of the case against the validity of a patent.

### *What was the basis of the argument that the invention was obvious?*

To establish that an invention concerning the modification of a chemical compound is obvious in the United States it must be shown that, based on the knowledge publicly available at the time, a chemist would:

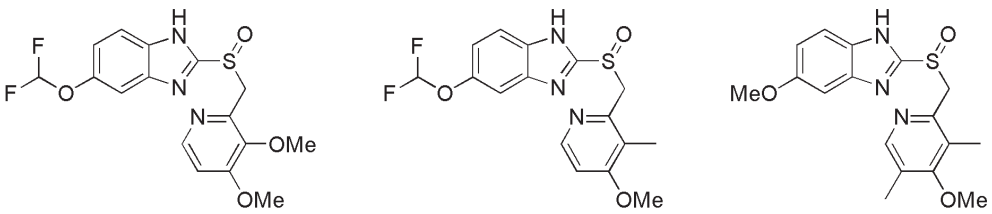
i. have some motivation for selecting a lead compound (the compound to be modified); and

ii. have some motivation for modifying the lead compound in the way that would produce the compound claimed as the invention.

With this in mind, Teva set out their argument for obviousness using four documents:

i. An earlier patent[3] owned by Altana that disclosed a number of compounds including a compound known as compound 12 as being potent PPIs (see Fig. 1).

ii. An article,[4] which Teva claimed taught that it would be desirable to lower the pKa of a PPI to 4, because it would




Pantoprazole "Compound 12" Omeprazole

***Fig. 1.*** The proton pump inhibitors (PPIs) at issue in the US Courts