



# The Elixir

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See also: [www.tcd.ie/pharmacy/](http://www.tcd.ie/pharmacy/)

## Welcome Statement by the Chair

Dear Friends,

Welcome to the fall edition of our Newsletter from the School of Pharmacy and Pharmaceutical Sciences, Trinity College Dublin. I am writing this welcome in very eventful times with the flooding affecting many Irish households, "the hand of Henry" upsetting crowds of soccer fans and the day before strike action of thousands of public sector workers.

What about events on the Pharmacy arena? The pre-registration internship crisis has been averted by the introduction of the National Pharmacy Internship programme leading to professional M.Pharm. As we eagerly await the publication of the long-overdue findings and recommendations of Prof. Wilson's Committee on the status quo and future of the Irish pharmacy sector, it is obvious that the changes in Irish pharmacy education and postgraduate professional development are expected to be in line with the Bologna regulations, European and international experience. In this context, I feel that the newly-launched MPharm. scheme cannot substitute for a fully-integrated, five-year-long MPharm. Although the current economical climate is not favourable for such a major revamping of ...

(cont. overleaf)



## FACULTY

**Head of School & Chair in Pharmacology**  
Prof. Marek Radomski

Dr. Catriona Bradley, Lecturer  
Dr. Deirdre D'Arcy, Lecturer  
Dr. Carsten Ehrhardt, Senior Lecturer  
Dr. Neil Frankish, Lecturer  
Dr. John Gilmer, Lecturer  
Dr. Andrew Harkin, Lecturer  
Dr. Anne Marie Healy, Senior Lecturer  
Dr. Martin Henman, Senior Lecturer  
Mrs. Ingrid Hook, Senior Lecturer  
Dr. Mariusz Kamionka, Research Lecturer  
(Merrion Pharmaceuticals, Ltd.)  
Dr. Carlos Medina, Lecturer  
Prof. Mary Meegan, Assoc. Professor  
Dr. Lorraine O'Driscoll, Lecturer  
Dr. John Quigley, Lecturer  
Ms. Cicely Roche, Senior Lecturer  
Ms. Sheila Ryder, Lecturer  
Dr. Astrid Sasse, Lecturer  
Dr. Helen Sheridan, Lecturer  
Ms. Karen Sheridan, Boots Teacher Practitioner  
Dr. Fabio de Sousa Menezes, Lecturer  
Dr. Lidia Tajber, Lecturer  
Dr. John Walsh, Lecturer

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**Welcome Statement by the Chair (cont. from p1)**

pharmacy education, any further delays may be counter to future interests of academic pharmacy and our students, as well as the entire pharmacy sector.

The news from our "small school courtyard" is encouraging. With a very substantial sponsorship from Boots and Helix Health, we have started work on the development of a Boots Practice of Pharmacy Teaching and Development Unit, which will be located here in our school. This state-of-the-art facility will enable us to provide the best possible environment for our undergraduates, postgraduates and postdoctoral researchers.

Last, but not least, our Practice of Pharmacy team has been strengthened by the recruitment of a new Senior Lecturer, Ms. Cícely Roche. I would like to wish Cícely every success in her new role in our school!

Best wishes,  
Marek

Prof. Marek W. Radomski, MD, FTCD, DHC  
Chair of Pharmacology (1979) and Head of School  
School of Pharmacy and Pharmaceutical Sciences  
Trinity College Dublin

**Additional Faculty Information (cont. from p1)**

<b><u>Directors</u></b>	<b><u>Undergraduate Year Coordinators</u></b>	<b><u>Postgraduate Course Coordinators</u></b>
<b>Director of Teaching &amp; Learning (Undergraduate)</b>	<b>Junior Freshman</b>	<b>M.Sc. in Hospital Pharmacy</b>
Dr. Anne Marie Healy	Dr. John Walsh	Ms. Niamh McMahon
<b>Director of Teaching &amp; Learning (Postgraduate)</b>	<b>Senior Freshman</b>	<b>Diploma/M.Sc. Pharmaceutical Analysis</b>
Dr. Andrew Harkin	Dr. John Quigley	Dr. John Gilmer
<b>Director of Research</b>	<b>Junior Sophister</b>	<b>Diploma/M.Sc. Pharmaceutical Technology</b>
Dr. Carsten Ehrhardt	Dr. John Quigley	Dr. Deirdre D'Arcy & Dr. Lidia Tajber
<b>Disability Liaison Officer</b>	<b>Senior Sophister</b>	<b>Diploma/M.Sc. Community Pharmacy</b>
Dr. Helen Sheridan	Dr. Deirdre D'Arcy	Ms. Sheila Ryder
<b>Trinity Access Programmes Contact</b>	<b>Undergraduate Research Liaison Officer</b>	<b>Diploma/M.Sc. in Pharmaceutical Manufacturing Technology</b>
Dr. John Walsh	Dr. Carlos Medina	Ms. Lorna Loughrey

## Congratulations & Fondest Farewell to Mr. Pat Quinlan

At the end of November, Mr. Pat Quinlan, Senior Technical Officer based in the Pharmaceutics teaching laboratory, will retire after 41 years as member of staff in the School of Pharmacy & Pharmaceutical Sciences.

Many will know and remember Pat as the Technician in Pharmaceutics; in fact, it is estimated that more than 2000 Pharmacists would have passed through laboratories that Pat managed!

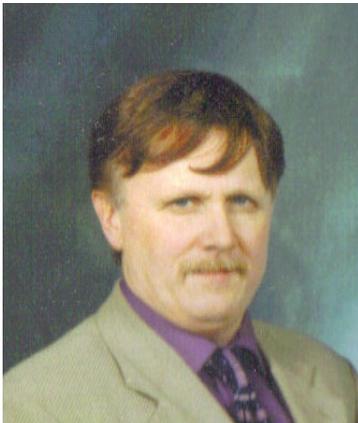
Pat really is part of the history of our School; he was here during the School's independent days when it was the College of Pharmacy; the School's brief spell with UCD; and then the move from Shrewsbury Road to the existing location on the Trinity College campus.

As an indication of Pat's commitment to his work and to his colleagues, in addition to this, Pat made his own history by reaching 30 years of service without missing a single day due to illness!

Pat has amassed a vast knowledge of Pharmaceutical formulation, and he has always been ready and willing with help and advice. Most of his "secrets and spells" are stored in a little green book..... which we hope he will leave behind to serve as a legacy to a very long career in the School.

By Ray Keavney & colleagues

*Pat, we'd like to take this opportunity to say thank you very much & to wish you the very best of health & happiness for the 41 years to come !*



*(left): Mr. Pat Quinlan, in recent times*

*(right): Pat surrounded by colleagues, including -the now Director, Pharmaceutical Services, St. James's Hospital/TCD- Prof Kamal Sabra (who was a Pharmacy student in the School at the time)*



*(right):*

*.....and congratulations to you! if you can identify everyone – alongside Pat- in the 1997 Shrewsbury Road School of Pharmacy.....*



## Dr. Martin Henman appointed Senior Scientific Collaborator to the Council of Europe

The School of Pharmacy & Pharmaceutical Sciences is proud to announce that **Dr. Martin Henman** has been selected, by the Department of Health and Children, to act as a Scientific Collaborator to the Council of Europe – European Directorate for the Quality of Medicines Working Party on Pharmaceutical Care.

Furthermore, **Dr. Henman** has been co-opted onto the Pharmacy Expert Advisory Task Force on Pandemic Influenza that comprises the PSI, IPU, HSE, hospital, community and academic pharmacists. He prepared and delivered a lecture, 'Pharmacy's role in preparing for an Influenza Pandemic' at joint ICCPE-PSI sessions in Waterford, Cork, Limerick and Dublin in the early part of the summer and will be lecturing in other parts of the country throughout autumn.

To add further to this success, **Ms. Cicely Roche**, (then Adjunct Lecturer in the Practice of Pharmacy) and **Dr. Henman** won the prize for the best poster at the Pharmacy Education Symposium, hosted by The School of Pharmacy of Monash University and The School of Pharmacy in London. The poster reported on their initial work in developing and delivering revised course material in ethics in the BSc(Pharm) degree syllabus.

*Congratulations all around !*



## The International Consortium on Traditional Chinese Medicine

**Dr. Helen Sheridan** has become the Irish representative on a Sino-European Consortium convened to study the molecular basis of action of Traditional Chinese Medicines.



This Consortium has representatives from Academia and Industry from sixteen countries and is funded under EU FP7.

Dr. Sheridan attended the inaugural meeting of this Consortium, which took place in Kew Gardens, in October.

It is Dr. Sheridan's hopes that this initiative will be of great benefit to the natural product drug discovery group in our School.

*Again, congratulations !*

## Welcome to our new Senior Lecturer in Practice of Pharmacy

We would like to extend a warm welcome to **Ms. Cicely Roche** who is our new Senior Lecturer (Part-time) in Practice of Pharmacy.

Cicely has contributed greatly to this discipline and to the School over the past number of year. Undoubtedly, in her new role, she will bring great academic & practical experience to teaching within Pharmacy Practice.



*Welcome!*

## Postgraduate Teaching and Learning News: Reports on Recent Events...

### The Postgraduate Research Committee

The Postgraduate Research Committee (PGRC) was set up in 2008 to voice the opinions of all research students within the School. It serves to actively promote the important contribution which postgraduates make to the School, and to encourage collaboration and a sense of collegiality amongst the more than sixty postgraduates who are carrying out a diverse range of research within the School. Together with the Postgraduate Representative, who serves on various School and Executive Committees, this ensures postgraduate researchers have an input into all aspects of the running of the School.

Currently, the committee consists of four students; **Stephen Buckley** (Postgraduate Representative), **Yvonne McNamara**, **Jennifer Rouine** and **Gary Stack**. Throughout the course of the academic year a number of important events will be held, with the assistance of the PGRC and the Director of Postgraduate Teaching and Learning, **Dr. Andrew Harkin**. Most recently, the *Annual Postgraduate Research Student Reception* was hosted by the PGRC in the School Atrium, giving both

postgraduates and staff an opportunity to meet new colleagues.

In December, the *Postgraduate Research Symposium* will be held, in which those who have recently progressed to the PhD register will give short presentations on their research projects to date and discuss their future plans. It promises to be a lively and informative afternoon. Following on from this in the New Year, the Annual Joint Schools of Pharmacy Meeting will be held in Queen's University. It provides postgraduates with an excellent opportunity to disseminate their research amongst our fellow Schools throughout the country. A talk focussing on Intellectual Property (IP), a relevant issue for all postgraduate researchers, is also being planned.

Without doubt, an exciting academic year lies ahead and we hope that with the help of the PGRC, all postgraduates enjoy it to its fullest.

*By* Stephen Buckley



(left to right): Stephen Buckley, Jennifer Rouine, Yvonne McNamara and Gary Stack

## Postgraduate Student Reception

The Postgraduate Reception was held in the School's Atrium on October 22<sup>nd</sup>. This was an opportunity for students and staff to welcome and meet with the incoming new entrant researchers at the beginning of the academic year.

The reception was organised by the PG Research Committee. A large number of postgraduate students and postdoctoral and academic staff attended this first social event of the year.

*A thoroughly enjoyable evening was had by all !*

By Jen Rouine

Prof. Marek Radomski welcomes the new Postgraduate Researchers.....



(Left to right): Johanna Salomon, Christine Grossjohann, Maria Dul, Vincent Curtin, Marika Doucet, Siddig Albaga, Claire Corcoran, Elena Schwagerus, Cathal Cadogan, Joanne Crean, Tadhg Cotter

Absent from this photo are Ika Abdul Wahab, Alan Gaffney, Dagmar Hilmer and Caitriona O'Neill

...and many more joined in the welcome.....!



(far left): Prof. Marek Radomski (Head of School), Dr Anne Marie Healy (Director of Undergraduate Teaching & Learning) Dr Vincent Caron (Postdoctoral Researcher) Dr Lidia Tajber (Lecturer in Pharmaceutical Technology);

(left): Orla Woods and Aine Daly (PhD students)

(right): Dr John Walsh (Lecturer in Pharmacognosy), Joanne Crean (PhD student) Dr Martin Henman (Senior Lecturer in Pharmacy Practice)

(far right): Dr Fabio Menezes (Lecturer in Pharmacognosy), Dr Lorraine O'Driscoll (Lecturer in Pharmacology) Elena Schwagerus (PhD student) Dr. (Postdoctoral Researcher)



## XVIII<sup>th</sup> European Conference of GP2A

The 18<sup>th</sup> European Conference of GP2A "Groupement des Pharmacochimistes de l'Arc Atlantique" (GP2A) Group of Medicinal Chemists of the Atlantic Arc was held at the School of Pharmacy and Pharmaceutical Sciences in Trinity College Dublin on the 3<sup>rd</sup> and 4<sup>th</sup> of September 2009.

The European Conference of GP2A, which was set up in 1992, aims to provide an opportunity for scientific meeting of medicinal and pharmaceutical chemists in Universities in France, Belgium, Spain, Portugal, UK and Ireland. Lectures were presented on a wide range of topics including drug discovery and design, structure-activity relationships, drug delivery, molecular modelling and drug discovery from natural products. This meeting also included short oral presentations and poster sessions and provided young postgraduate and postdoctoral researchers an opportunity to present the results of their work. 117 participants from Ireland, France, UK and Germany enjoyed the wide variety of research presented over the two days of the conference in Trinity College. Over 40 posters were displayed in the three poster sessions. The conference dinner was held in the Dining hall in TCD on the evening of 3<sup>rd</sup> September.



The conference was opened by **Professor Marek Radomski, Head of our School**, who extended a cordial welcome to the conference participants to Trinity College Dublin.

The plenary speakers included **Prof. Michael Threadgill, University of Bath** who presented current research from his group on the synthesis and evaluation of PARP-1 inhibitors with interesting chemistry and biology. **Prof. Holger Gohlke** from **Heinrich-Heine-Universitaet, Düsseldorf**, delivered a lecture on "Knowledge-driven design of protein-protein interaction modulators". **Prof. Kevin Nolan, RCSI, Dublin** presented an overview of his research on Hydroxamate Inhibitors of Prostaglandin-H-synthase, while **Dr. Andrew Westwell (Welsh School of Pharmacy, Cardiff University)**, described his progress in the discovery of BCA2-inhibitory and pro-apoptotic antitumour agents". Also among the plenary presenters from Irish Schools of Pharmacy were **Dr. Astrid Sasse (TCD)**,

**Dr. Decker (QUB), Dr. Florence McCarthy (UCC) and Dr. Celine Marmion (RCSI). Dr. Miriam Carr (UCG), Dr. Gemma Kinsella (NUI Maynooth), Dr. Anne Beauchard (University of Bath) and Dr. Thierry Lomberget (University of Lyons)**



were also among the contributing speakers on topics relating to the design of novel chemotherapeutic agents, *in silico* design of drugs and chemistry of prodrugs.

12 young researchers from Ireland, UK, France and Germany presented short talks on their current research at the conference. **Niamh O'Boyle from TCD's School of Pharmacy and Pharmaceutical Sciences** was the winner of the overall award for the best presentation by a young researcher at the conference for her talk on the topic of "HSP90: inhibiting the molecular guardian". The winner of the poster prize was **Delphine Le Floc'h from Rennes** for her poster describing a gold-catalyzed approach to the synthesis of substituted pyrrolidines from amino acids in mild conditions. The "highly commended" posters were **Gregory Burzicki-Caen** (Regioselective synthesis and first biological evaluations of new polypyridines as potential protein-protein interaction disruptors), **Yvonne McNamara - TCD** (Synthesis and biochemical evaluation of novel anti-proliferative agents), **Eoin Moriarty - NUI Galway** (Synthesis of aryl-fused benzimidazole-quinones using 6-*exo-trig* radical cyclization) and **Amit Nathubhai** from Ian Eggleston's group in Bath (Synthesis and structure-based dissection of cyclic peptide chitinase inhibitors: new leads for antifungal and anti-inflammatory drugs). The president of the GP2A group, **Professor Olivier Duval, University of Angers**, delivered the concluding address at the conference.

Thank you to the **Bernadette McLoughlin** whose superb organisation and planning ensured that all aspects of the conference ran smoothly including registration of the participants, catering and accommodation arrangements, and the production of the superb conference abstract booklet.

## XVIII<sup>th</sup> European Conference of GP2A (*cont.*)

Thank you to **Cormac O'Donohoe** for the outstanding AV management for also for his contribution as a conference session Chair. I also thank all who helped to the success of the conference including the postgraduate students **Billy, Patrick, Wei** and **Shu** for all your assistance, **Liesa Eckhardt** who managed the conference website and **Anne Hannan** for the wonderful photographs.

l'Arc Atlantique" (GP2A) Group of Medicinal Chemists of the Atlantic Arc will be held in France in September 2010. GP2A website link for the "Groupement des Pharmacochimistes de l'Arc Atlantique" (GP2A) or Group of Medicinal Chemists of the Atlantic Arc <http://bertrandsamuel.free.fr/gp2a/index.php?langue=ang>

The next meeting of the European Conference of GP2A "Groupement des Pharmacochimistes de

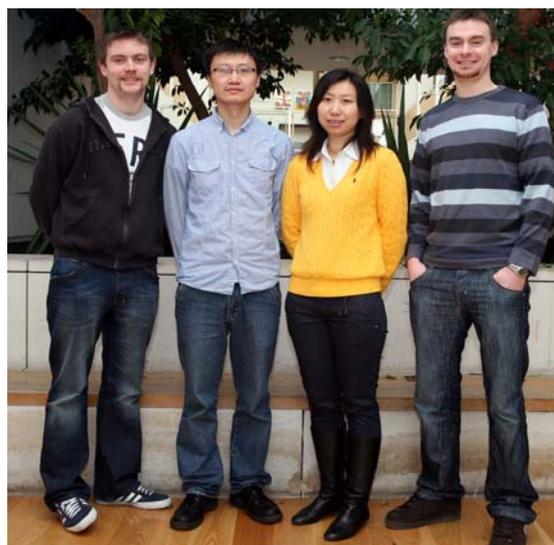
By Prof. Mary Meegan

School of Pharmacy & Pharmaceutical Sciences staff and students who took part in this Conference.....



(left to right): Dr. Astrid Sasse, Yvonne McNamara, Niamh O'Boyle, Ms. Bernadette McLoughlin, Prof. Mary Meegan, Dr. Cormac O'Donohoe

(left to right): Patrick Kelly, Wei Shi, Shu Wang, Billy Egan



## 9th Annual Conference of the National Council for the Professional Development of Nursing and Midwifery

At the 9<sup>th</sup> Annual Conference of the National Council for the Professional Development of Nursing and Midwifery (11<sup>th</sup> November 2009), **Eileen Relihan** won first prize in the Research Poster competition for her work on reducing interruptions during medication rounds. Eileen's Supervisor are **Sheila Ryder** (with **Prof. Owen Corrigan** and **B. Silke**).

*Congratulations to Eileen & to all associated with this achievement !*



Eileen Relihan (*right*) receiving her prize from Ms Sheila O'Malley, Chief Nursing Officer, Nursing Policy Division, Department of Health and Children.

# State of the Pharmaceutical Industry

## A Review

**By Thomas Broe, Senior Sophister**

2009 hasn't been a good year for pharmaceutical companies. Shrinking pipelines, regulatory woes and generic competition all contributed to diminished profits and confidence in the industry, leading to job cuts and mergers.

Based on sales, Pfizer is the global leader in pharmaceuticals and yet it spent a staggering \$7.5 billion on Research & Development (R&D) last year with little to no return. Far from developing innovator drugs its pipeline in recent years has been characterised by high-profile failures like the insulin spray Exubra; which it abandoned after a spend of \$2.8 billion. To put Pfizer's R&D spend into perspective, it spent over 15% of revenues on R&D compared to software giant Microsoft's 14% spend last year.

Pfizer claims that by 2012 no single drug will represent more than 10% of its sales. This is hard to imagine when Pfizer's blockbuster drug Lipitor had global sales of \$13.655 billion dollars last year and was responsible for a quarter of the company's revenues. Lipitor is the calcium salt of atorvastatin and is set to go off patent in Europe in July 2010, while in the States this patent expires in June 2011.

If in doubt as to the effect of patent expiration just consider the osteoporosis drug Fosamax; having lost patent protection in the States in February 2008 its fourth quarter sales for the same year nose-dived by 60%. When faced with a dearth of new products, many companies seek acquisitions to bolster their market and drugs portfolio. Not surprisingly, Pfizer finalised the takeover of Wyeth last month. This move will give Pfizer a footing in biologics and animal health. Acquisitions allow market consolidation and cost cutting measures such as plant closures and lay-offs and this "mega-merger" is no exception. The two companies combined workforces of 128,000 is expected to be trimmed by 15% by 2012. Maybe their 10% target is attainable!

*"Regardless of whether one is more concerned about pharmaceutical companies' obligations to society or to its shareholders, we are indebted to them for making medicines available ....."*

Wyeth hasn't been the only company to be subsumed this year. In March, Roche took over the oncology company Genentech in a deal worth \$46.8 billion. Investor interest, before the take-over, was heavily focused on a trial to test whether Genentech's Avastin could prevent colon cancer from recurring. It was estimated by Analysts that positive result from the trial could effectively double sales of Avastin (already at \$4.4 billion). Unfortunately, for colon cancer suffers, the results released in April showed the drug was ineffective at preventing recurrence. On the back of these results Roche's shares fell by 10.4%. The merger between Merck and Schering Plough was also completed this month with the expected loss of up to 15,000 jobs.

Pressure to develop new drugs has led companies to alter their approach to collaboration. Dr. David Stout, Director of External Services at Merck & Co. Says "The Company now listens to representatives of small biotech firms that have projects that are still at the very early stages of development. In the past when a biotech came to big pharmaceutical, it had to be well down the pipeline in Phase II [clinical trials] before we would look at it".

Around 20% of R&D work is outsourced to contract research organisations (CROs). CROs offer a range of services from product development, formulation and manufacturing; to clinical trials management to medical writing services. This minimises the drug company's exposure when drug development is unsuccessful. Xiaochuan Wang (CEO of Shanghai-based contract research firm, Sundia MediTech), while extolling the advantages of contracting out R&D noted that "Working with a CRO, all the money goes to the problem, not the build-up of internal capabilities". The access to global markets- which CROs provide- makes it easier for them to recruit target patients, often for trials involving drugs targeting very specific problems; for which, under many circumstances, it can be difficult to recruit suitable patients.

## State of the Pharmaceutical Industry (*cont.*)

One of the most contentious issues in the pharmaceutical industry is that of intellectual property. As Robert G Evans, Professor of Economics, University of British Columbia, pointed out “Patents have been transformed from instruments of social policy to private property rights”.

Patents for drugs are granted for twenty years. Once granted, the drug undergoes clinical trials before market authorisation is sought. Clinical trials can last from 8-12 years. The EU's pharmaceutical legislative framework allows generic manufacturers to introduce an authorisation request 8 years after an innovative medicine is first put on the market, but will only be allowed to start the marketing of the generic copy after 10 years. If new therapeutic indications are authorised, the protection of data can be extended to 11 years. So why grant monopolies for such lengthy periods? Unfortunately, R&D isn't a cheap process and, often -as highlighted earlier- drug development is stopped during clinical trials, due to safety concerns or inefficacy. According to the Tufts Center for the Study of Drug Development, based on 2008 figures it would cost \$982 million to develop a drug from discovery to approval. Additional spending post-approval would be required to market the drug and to employ litigation to hamper competitors launching generics.

Blockbuster drugs often encourage drug companies to pursue “me-too” drugs – drugs with slight modifications to the innovator drug, but which have their own patent protection and -if launched before generics of the innovator are available- can often capture a sizeable share of the market as they are cheaper than the innovator. No less than 19 beta blockers that have been approved by the Food and Drug Administration (FDA). While, admittedly, patient benefits have accrued from these discoveries as some of these drugs come with fewer side-effects; have longer half-lives; and are more suited to specific types of the disease; one wonders could this money have been better spent on looking for new drug targets?

An interesting proposal to remedy the “Innovator's block” being experienced by the pharmaceutical industry was put forward by US Senator Bernie Sanders.

Under Senator Sanders Medical Innovation Prize Fund Act of 2007 its proposed that patent owners would be entitled to collect cash rewards from a fund but on receipt of this reward the patent would no longer give the owner monopoly rights to the drug's manufacturing and sale. Taxpayers' money would fund these innovation rewards.

An investigation of the anti-trust behaviour of large multinational drug companies undertaken by the European Commission (and published in July of this year) shone light on the less than transparent practices employed by these companies to maintain their monopoly rights on drugs and insulate their bottom line. Attempts at regulation of these practices in order to make drugs more affordable will hurt the flow of money into R&D as blockbuster drugs would no longer be as profitable.

*Some of the practices are outlined below;*

—Buy a manufacturer that has received a market authorisation for a generic

—Make a deal with a generic manufacturer to supply them with authorised generics

—File for patent infringement and buy time in the courts before a generic can be launched

—Release a slightly different form of the drug such as a prolonged release formulation—in order to get a new patent on the drug

—Pay a manufacturer who has received market authorisation money to keep the generic off the market; in effect ,sharing the spoils of the monopoly

On a more benign note, further clinical trials might identify a new indication for the drug giving the MA holder access to a new market. An article published in August in *The Lancet* -in response to the above actions- highlighted the need for a Code of Ethics for the pharmaceutical industry, that would allow the acknowledgement of their social responsibility.

Regardless of whether one is more concerned about pharmaceutical companies' obligations to society or to its shareholders, we are indebted to them for making medicines available for the treatment of minor ailments to chronic conditions. Let's hope big Pharma can enter another Golden Age of discovery and that the best years for patients and investors, alike, are yet to come.

*[Reference material used by Thomas are available on request]*

## EU Framework 7 Programme Funding Success: MOODINFLAME

The School of Pharmacy & Pharmaceutical Sciences in TCD was recently successful in securing funding under EU FP7 as part of a collaborative, large-scale research project entitled *“Early diagnosis, treatment and prevention of mood disorders targeting the activated inflammatory response system. [Acronym: MOODINFLAME].* A consortium of 14 European Universities/Research Institutes and 4 SMEs have come together for this 4 year project with the overall objective of developing biomarker tests for mood disorder patients based on an activated inflammatory response system (IRS) and inflammation-mediated disturbances in tryptophan metabolism. As part of this programme patients will be treated with drugs to counteract the consequences of an activated IRS/disturbed metabolism of tryptophan. The project will lead to an enhanced understanding of the pathogenesis of inflammation-related mood disorders, and of the mechanism of anti-inflammatory drugs and drugs targeting tryptophan metabolism in treating depressive behaviour.

In TCD the MOODINFLAME research team comprises, 2 lead academic researchers (Dr. Thomas Connor & Dr. Andrew Harkin), a post-doctoral researcher (Dr. Sinead Gibney) and two PhD students (Aine Daly and Eimear Fagan). Dr. Gibney is a TCD graduate (Zoology, 2002), and joined us in June 2009 from UCC where she conducted her PhD and a post-doctoral fellowship. Sinead brings extensive experience in glial cell biology, and in animal models of depression and visceral hypersensitivity to the MOODINFLAME project. Aine Daly holds a degree in Pharmacology from UCD and an MSc in Neuroscience from Trinity, and Eimear Fagan holds a Neuroscience degree from Trinity.

*(left to right):* Dr. Thomas Connor (School of Medicine), Aine Daly (PhD student – School of Pharmacy & Pharmaceutical Sciences), Dr. Sinead Gibney (Post-Doctoral Fellow), Eimear Fagan (PhD student – School of Medicine), Dr. Andrew Harkin (School of Pharmacy & Pharmaceutical Sciences).



## LUNGMARK: Towards Diagnostic and Theranostic Blood-Based Biomarkers for Lung Cancer

Adenocarcinoma of the lung kills more people in Ireland than any other form of cancer. Through their Proof-of-Concept awards, Enterprise Ireland has recently awarded **Dr. Lorraine O’Driscoll** funding to investigate the potential to identify and validate diagnostic and predictive RNA biomarkers for this form of non-small cell lung cancer. **Dr. Ken O’Byrne**, Consultant Medical Oncologist, St. James’s Hospital, TCD, is collaborator on this project. The lab.-based research is being performed by **Dr. Sweta Rani** (former PhD student with Lorraine) who joined our School in October.

## Funding of Masters Degree in Development Practice

TCD and UCD, in partnership with the University of Rwanda, Trócaire, the Ethical Globalisation Initiative, and Kimmage Development Centre, have been awarded \$900,000 by the MacArthur Foundation, to create a joint UCD-TCD Masters Degree in Development Practice which will train the next generation of development experts and provide them with the knowledge and skills required to tackle the challenges of global poverty and environmental sustainability. The joint UCD-TCD Masters Degree will draw on academic strengths of the two universities across global health, agriculture and sustainable development, climate change, human rights, human ecology and economic policy. **Drs. Helen Sheridan, Lorraine O Driscoll, Neil Frankish and Mrs. Ingrid Hook** are very happy to be involved in the co-ordination (HS) and delivery of one of the modules in Global health to this interuniversity, interdisciplinary degree programme.

By Dr. Helen Sheridan

## PUBLICATIONS FROM OUR SCHOOL (June-Oct. 2009)

**Chearúil FN, Corrigan OI.** Thermosensitivity and release from poly N-isopropylacrylamide-poly lactide copolymers. *Int J Pharm* 366(1-2):21-30, 2009

**Corrigan OI, Li X.** Quantifying drug release from PLGA nanoparticulates. *Eur J Pharm Sci* 37:477-85, 2009

**Nolan LM, Tajber L, McDonald BF, Barham AS, Corrigan OI, Healy AM.** Excipient-free nanoporous microparticles of budesonide for pulmonary delivery. *Eur J Pharm Sci* 37(5):593-602, 2009

**Amado NG, Cerqueira DM, Menezes FS, da Silva JF, Neto VM, Abreu JG.** Isoquercitrin isolated from *Hyptis fasciculata* reduces glioblastoma cell proliferation and changes beta-catenin cellular localization. *Anti-cancer Drugs* 20(7):543-52, 2009

**Walsh JJ, Bell A.** Hybrid drugs for malaria. *Curr Pharm Des* 15(25):2970-85, 2009

**Doolan P, Clynes M, Kennedy S, Mehta JP, Germano S, Ehrhardt C, Crown J, O'Driscoll L.** TMEM25, REPS2 and Meis 1: Favourable Prognostic and Predictive Biomarkers for Breast Cancer. *Tumour Biol* 30(4):200-209, 2009

**Sitterberg J, Ozcetin A, Ehrhardt C, Bakowsky U.** Utilising atomic force microscopy for the characterisation of nanoscale drug delivery systems. *Eur J Pharm Biopharm* DOI:10.1016/j.ejpb.2009.09.005 [Epub ]

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## Congratulations ...on Sports Scholarships

Congratulations to **Niamh O'Boyle**, Postgraduate student (Supervisor: Prof. Mary Meegan), **Sarah Corcoran** (Senior Freshman student) and **Fionnuala Nevin** (Senior Freshman student) who have all been awarded Trinity College Dublin Sport's Scholarships this year.

Niamh's achievement is for her skills at orienteering; Sarah, for squash; and Fionnuala, for volleyball.

*Very well done to Niamh, Fionnuala and Sarah on their great success !*

## ..... on Poster Prize

Congratulation is also due to **Stephen Buckley** (and his supervisors, Drs. Carsten Ehrhardt and Carlos Medina), who won 1<sup>st</sup> prize for his poster entitled "The role of the receptor for advanced glycation end products (RAGE) in epithelial-mesenchymal transition in the lung: a potential therapeutic target" at The Moving Targets 2009 Symposium. The Moving Targets Symposium, a satellite meeting of the American Association of Pharmaceutical Scientists (AAPS) was held at Los Angeles Convention Centre, CA, earlier this month.

*Congratulations !*

## ..... on Seminal Publication

**Dr. Oliviero Gobbo** (Post-Doctoral Fellow in our School) was a member of a group of TCD-lead researchers whose work, describing a novel experimental platform for systemic drug delivery to the retina, was accepted for publication in the high impact journal, Proceedings of the National Academy of Science USA.

*Congratulations Oli on your contribution to this important research*

## ...and Welcome to our new Post-Doctoral Fellows

In addition to the Postgraduate Researchers who have joined our School this Autumn, we would also like to welcome **Dr. Anne Friel** and **Dr. Sweta Rani**.

Anne, who recently returned to Ireland after completing a 4 year Postdoctoral post at Massachusetts General Hospital/Harvard is now researching biomarkers predictive of response to new and emerging targeted agents for breast cancer. Sweta, who graduated with a PhD in Biotechnology earlier this year, is focussing her efforts on diagnostic biomarkers for non-small cell lung carcinoma. The funding for these studies (to Dr. Lorraine O'Driscoll) has been awarded by Science Foundation Ireland and Enterprise Ireland, respectively.

*Welcome Anne & Sweta*

## There's lots happening socially too!

Sincerest congratulations to **Dr. John Gilmer** and Anna Seoghe who married in October. Anna is a graduate of our School (1999) and works as a hospital Pharmacist in Mount Carmel.

*Very best wishes to John and Anna  
for many, many years to come*

*(Right): the dashing Dr. Gilmer and his beautiful bride...*



....and speaking of beautiful brides!

Sincerest congratulations also to **Dr. Serena Germano** and Dr. Michele Mondini. Serena, who is a Post-Doctoral Fellow in our School (with Dr. O'Driscoll), married Dr. Michele Mondini on the 12th September in Nervi, a distance away from Serena's hometown of Turin.

*(Right: Serena and Michele outside the Villa Giannettino Luxoro where their wedding ceremony took place.*

*Far right: as a portrayal of the excellent Researcher that Serena is—even on one of the biggest days of her life, she's not far from an Eppendorf tube; .....granted this was the guests "alternative" confetti !)*

*Every good wish to  
Serena and Michele for a long, happy  
& healthy life together*



The female staff in the School of Pharmacy & Pharmaceutical Sciences are happy to announce the formation of LIPPS – Ladies in Pharmacy and Pharmaceutical Sciences. The idea behind this group is to encourage informal 'get-togethers' of female staff to discuss such important items as family, holiday plans, hobbies, recipes, *etc.* We hope all the ladies on the staff will feel welcome and we hope the men don't feel excluded; but sometimes women just need to chat!

Our recent lunch was well attended. Alison really enjoyed her trip to China for the eclipse and subsequent visit to Vancouver. Mary M has convinced us that it is worth cooking goose at Christmas. Bernadette has agreed to share her jam-making skills. Deirdre has convinced us all to visit Argentina – even if it can't be on honeymoon. Next outing will be before Christmas. **Enquiries to [hsheridn@tcd.ie](mailto:hsheridn@tcd.ie)**

We hope you have enjoyed reading the final 2009 issue of The Elixir.

A special word of thanks is due to the *many contributors* of articles for inclusion in this issue and also to those who contributed suggestions along the way, incl. Prof. Marek Radomski, Dr. Andrew Harkin, Dr. Carsten Ehrhardt, Dr. Anne Marie Healy. Thanks also to Dr. Mariusz Kamionka for contributing some photographs.

Our next Newsletter is planned for Spring 2010, so if you have any suggestions of what you would like to see included, Class photographs taken over the years, *etc.*, please do let us know by sending your comments/articles/photographs by post or e-mail to **Lorraine O'Driscoll ([lodrisc@tcd.ie](mailto:lodrisc@tcd.ie))**.

*Thank you !*