

MacDiarmid Young Scientists of the Year Awards

OCTOBER 2009

newsletter



Murray Bain (far left) and Hon Dr Wayne Mapp, Minister of Research, Science and Technology (far right) with overall winner John Watt and overall runner-up Amy Whitehead.

It was a privilege to be able to bring together more than 400 representatives from the science, research and business communities to celebrate some of New Zealand's top emerging talent at the 2009 MacDiarmid Young Scientists of the Year Awards ceremony and dinner in August. The event was a great success and showcased the innovative work of this impressive and articulate group of finalists.

This year's winner, John Watt, is already proving to be a worthy recipient of the title. He has shown great potential and we look forward to following his career.

Last week the Prime Minister launched the Prime Minister's Prizes for Science. They recognise achievements in science at different levels and are worth a total of \$1 million per year. The prizes will help raise the profile of science in New Zealand and we welcome the Prime Minister's commitment to the sector.

Included in the categories is the Prime Minister's MacDiarmid Young Scientist of the Year Prize. Going forward, the Prime Minister's prize will supersede the Foundation's MacDiarmid Young Scientists of the Year Awards. We believe having this high level of support is a positive development and will build on the awards' prestige. The significant cash prize will also make a big difference to our emerging researchers and will help keep talent in New Zealand.

We are delighted that the inaugural Prime Minister's MacDiarmid Young Scientist of the Year Prize is being awarded to John. He will be an excellent ambassador for science and we are proud of his achievements.

I would like to take this opportunity to thank all the researchers who have entered the competition over the past six years, to all the judges who have willingly donated their time and expertise, and to our sponsors for their valuable contribution. This support has been fundamental to the success of the MacDiarmid Young Scientists of the Year Awards.

The Foundation will continue its commitment to supporting New Zealand's emerging science talent with initiatives that complement the Prime Minister's prizes. We look forward to celebrating the achievements of all the inaugural winners of the Prime Minister's Prizes for Science in February 2010.

Murray Bain
Chief Executive
Foundation for Research, Science and Technology



Interview with John Watt 2009 MacDiarmid Young Scientist of the Year

John won the MacDiarmid Young Scientist of the Year Award for his world-leading research that involves the growth of nanoparticles. His focus is on improving air quality by using nano-sized palladium to significantly reduce toxic pollutants, such as carbon monoxide, from vehicle emissions. John has developed processes for making palladium nanocrystals grow into unique, highly branched shapes that increase the catalytic performance of this precious metal. John is in his final year of PhD study at Victoria University of Wellington.

What has been keeping you busy since the awards?

I have just spent a few weeks in Japan visiting collaborators and to attend the HOPE meeting and another conference to present my research. There has also been media to talk to which has been interesting. Coming up, I'm presenting at a few symposiums in November and doing more media work in the new year. I've been very busy indeed since the awards but it has all been enjoyable.

Can you tell us more about the HOPE meeting?

I was selected along with four other New Zealanders to attend the HOPE meeting in Hakone, Japan. The meeting is run by the Japan Society for the Promotion of Sciences and brings together PhD students from around Asia-Pacific. There were seven Nobel Prize winners in attendance and the meeting created an open forum where we could interact with them informally. It was great to talk to them one on one and get an insight into what it takes to win the Nobel Prize. It was also good to see the awesome work being done by emerging scientists in the region and to see how other countries do, and support, science.

What has changed for you personally and professionally since you were named the MacDiarmid Young Scientist of the Year?

Professionally the award has given me a lot of motivation to continue pursuing the research. It's shown that the work we are doing is not only of fundamental importance but is also beneficial to society. I'm looking forward to exploring the commercial possibilities of this palladium work as well as other nanotechnology projects we have going in the research group. It's also been a great way to make the transition from PhD student to outside academia.

Do you believe the award has opened doors that will help you progress your career?

Most definitely. I have made a lot of very good contacts both in science research and with people more involved in the commercialisation side of things. I've already been approached to discuss opportunities for after my PhD, which may not have happened without the profile the award has given me. I've also been asked to present at symposiums and meetings attended by both researchers and business people. This will be a great opportunity to push our research to a wider audience as well as make more contacts for the future.

As part of your prize you are attending a conference in the States next year. Can you tell us more about it and what you hope to gain?

I am heading to the Annual Meeting of the The Minerals, Metals & Materials Society (TMS). TMS is a professional organisation that encompasses the entire range of materials and engineering, from minerals processing and primary metals production to basic research and the advanced applications of materials. This conference will be the ideal place to present our fundamental research to scientists and engineers who are involved in every step of the materials science process. I'm hoping to get a good insight into the more commercial side of materials research and make contacts that could be of mutual benefit.

You are about to finish your PhD. What do you plan to do after that?

First off I'm having a holiday! Then I will return to Wellington and work with my supervisor to complete a few projects. Hopefully we will start looking towards the commercial application of various nanotechnology projects going on in our group.

MacDiarmid Awards in the media

The awards attracted widespread national and regional media coverage. Many of the finalists' innovative research was profiled, helping make science relevant to more New Zealanders.

OTAGO DAILY TIMES

Young scientist's duck research award winner

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From little things, big things grow

New Zealand needs to do more to keep its bright young scientists here, says Young Scientist of the Year John Watt

THURSDAY, OCTOBER 28 2009 || NEWS || BY MARK REEVINGTON

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John Watt was the Young Scientist of the Year for his research developing nanoparticles which remove toxic gas fumes. Watt grew up in his undergraduate degree at Victoria University, where he hopes to

What led you down the path of this

I guess palladium is a very important catalytic metal and it's used quite widely in a lot of various industrially important chemical reactions. It's used in the production of ammonia, which goes into fertiliser, so that's a very important role, and also in the toxic gas emissions that we stress. Really we're fundamentally looking at size and shape control of nanoparticles. So palladium was an obvious step to take to see what we could do with an important metal and increase its efficiency.

What about the field of nanotechnology?

I got into it looking at, materials at a scale, so that you don't

Is this so

Yeah it is

is nice. But

community that we're doing does have application. We're actually using the grants and funding

SUNDAY STAR TIMES

Young research talent honoured

party people

2009 MACDIARMID YOUNG SCIENTIST OF THE YEAR AWARDS

Next 11th, Auckland, last Thursday

WIT: So many brilliant minds in one room. MISS: Come on government! How about more R&D funding to keep these talents in the country?



Photo: Chris Miller

NZ HERALD

Tiny focus yields big rewards

PhD student's work with nano-particles makes him young scientist of the year

by Eloise Gibson
science reporter

Tiny particles of precious metal could make cars cheaper and less polluting, thanks to the work of a young Wellington



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NZPA NEWSWIRE

"YOUNG SCIENTISTS' WORK CRUCIAL TO NATION'S FUTURE"

INTRODUCING

NEW ZEALAND'S NEXT top scientists



on for Research, Science and Technology congratulates John Watt, this year's winner of the Young Scientists of the Year Awards. John is researching the use of nano-scale palladium metal to remove toxic gases from vehicle exhausts.

gratulations also to runner-up Amy Whitehead who is improving the effectiveness of conservation for the threatened whio or native blue duck.

MacDiarmid Young Scientists of the Year Awards highlight the brilliant and innovative work being undertaken by New Zealand's best emerging scientists and researchers.

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MACDIARMID YOUNG SCIENTISTS OF THE YEAR AWARDS



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“ I was particularly impressed with John Watt’s research because it involves the use of a new technology to address an environmental issue that we face today and will do for the foreseeable future. Not only does his palladium nanoparticle based method of removing toxic gases from car exhaust promise to be cheaper, it is also more effective than current technologies. This is a great example of how new technologies can solve several problems at once. ”

Shaun Coffey, Chief Executive, Industrial Research Limited