MOVERS

James Ryan, founding dean, Joint School of Nanoscience and Nanoengineering, North Carolina A&T State University and the University of North Carolina at Greensboro

2005–08: Associate vice-president of technology and professor of nanoscience, University at Albany, Albany, New York
2002–05 Distinguished engineer and director of advanced materials and process technology, IBM–Albany NanoTech Center, Albany, New York

When James Ryan received his PhD in chemistry in 1988, nanotechnology wasn't yet a fashionable field nor, for that matter, a pervasive buzzword. Now, building a nanoscience school is his primary career mission. As founding dean of the new Joint School of Nanoscience and Nanoengineering of the University of North Carolina at Greensboro and North Carolina A&T State University, Ryan hopes to use his industry background to make it a world-class institution.

Although Ryan spent much of his career in industry, he knew he would return to academia. He earned his PhD in chemistry at Rensselaer Polytechnic Institute in Troy, New York, as well as a master's in biomedical engineering. Ryan soon accepted a position at IBM, and decided to find a dissertation topic while working at the world's largest computer company. His focus would become the chemistry and materials science of thin films used to make integrated circuits.

When Ryan began his career, he etched features in silicon nitride films that were 6 micrometres (or 6,000 nanometres) wide. The last programme he worked on etched features 90 nanometres wide. "I got a chance to contribute to improvements in semiconductor-chip cost and performance that have enabled the technology advances we have today in computers, communications, defence, health care and entertainment," he says. Ryan contributed to 47 patents in materials science and devices, and received the coveted title of distinguished engineer at IBM, the pinnacle of engineering recognition there.

Colleague Ronald Goldblatt says Ryan assembled the political will to develop IBM's partnership with academia — the IBM–Albany NanoTech Center for Semiconductor Research. "The Albany Center would not exist without Jim Ryan," says Goldblatt. Ryan then moved to academia, as associate vice-president for technology and nanoscience professor at the University at Albany in New York.

After three years, he jumped at the opportunity to build the Joint School of Nanoscience and Nanoengineering. He says corporate partnerships will not only encourage regional economic growth, but also help the school quickly establish novel research and educational opportunities.

In that regard, Ryan sees his industry background as a bonus for the nascent field. "My résumé looks different from my academic peers'," he says. "I have more patents than I do publications. But I know how to effectively combine strengths and needs between organizations." ■

Virginia Gewin

BRICKS & MORTAR

Top states vie to fund more science

Two US states are earmarking substantial funds in a bid to cement their position as leaders in research, infrastructure and talent. On 16 June, Massachusetts signed a $1-billion science package into law. The same day, Maryland governor Martin O'Malley put forward a similar proposal worth $1.1 billion.

The money will mean new research institutes, biotech companies and jobs for Massachusetts — and for Maryland, if the legislature approves O'Malley's proposal. Massachusetts' programme includes $500 million for infrastructure projects; $250 million for loans, grants and biotech investment; and $250 million for life-science project funding. Dan O'Connell, Massachusetts secretary of housing and economic affairs, says the initiative will generate about 250,000 jobs over 10 years.

In Maryland, O'Malley's proposed investment would potentially double the number of jobs over the next 10 to 20 years, says David Edgerley, the state's secretary of business and economic development. The plan includes $60 million to build biotech incubators, $100 million for other life-sciences facilities and $200 million for stem-cell research.

The two states already rank top in the United States for overall science and technology funding, according to the Milken Institute's State Technology and Science Index, released last month. Massachusetts is first, and Maryland jumped from the number four spot in 2004 to the runner-up position in 2007.

US states are increasingly tapping into their own tax bases, as federal funding for R&D has been flat for several years. But legislation for long-term state funding has not always ensured a stream of research dollars; other initiatives, such as Michigan's use of a tobacco settlement (see *Nature* **423,** 203; 2003) have been sidetracked as states work to balance their budgets.

Maryland's investments would drive job creation and contribute to the state's tax base, Edgerley says. He points to Maryland's 4.2 hectares of incubators, which already contribute more than 14,000 jobs. Increasing incubator space by 50% should boost that number considerably, he says. The rankings and proposals have kindled a friendly rivalry between the two states. "They're proposing it," says O'Connell of Maryland's billion-dollar plan. "We've done it." O'Connell notes that it took Massachusetts a year to go from proposal to law. Maryland's legislature will vote on the bill this autumn. ■

Paul Smaglik

POSTDOC JOURNAL

I'll take one 'eureka' please

I haven't exclaimed "eureka!" in a long time. In fact, now that I think about it, I never have. Yet I know those moments exist, because I've read about them in books such as James Watson's *The Double Helix*, the story of how the structure of DNA was discovered. And I've been privy to conversations with a few seasoned colleagues in which they recounted their biggest discoveries.

So why haven't I had a eureka moment, I wonder? Is it possible that my projects hold little promise for major discoveries? Or maybe it's because I'm too young, and eureka moments only arrive when researchers are more scientifically mature. I know I have a eureka moment in me. I know it because I'm capable of equally emotional revelations — like recently, when I used a few preferred expletives on hearing that my manuscript had been rejected in less than four hours.

I could use a eureka moment, but I know that science isn't necessarily about expecting or striving for one. I look at my research as a marathon, with experimental ups and downs, unexpected right and left turns, and a continuous process of learning. That may sound trite, but it's a mindset that helped me survive the rigours of being a graduate student, a postdoc and, I hope soon, a professor. Still, some day it would be nice to say eureka, even in a low whisper. ■

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