This is the unedited version of a profile which appeared in *Australian Doctor* in 2000. The published version may have had minor changes.

The Profile: John Mattick

2000	Visiting Senior Research Fellow, University of Oxford
2000-	Director, ARC Special Research Centre for Functional and Applied Genomics
1996-	Director, Australian Genome Research Facility
2000-	Co-Director, The Institute for Molecular Bioscience
1988-	Foundation Professor of Molecular Biology, University of Queensland
1993-4	Visiting Scientist, University of Cambridge
1982-8	CSIRO Division of Molecular Biology, Sydney
1977-81	Department of Biochemistry, Baylor College of Medicine Houston, Texas
1972-7	Ph.D. Department of Biochemistry, Monash University
1968-71	B.Sc. (First Class Honours in Biochemistry), University of Sydney

A MAN ON THE MOVE

The setting is pleasantly tranquil - the grounds are liberally sprinkled with palms and other lush tropical greens, and the buildings are filled with the sheen of healthy potplants.

But there is an unmistakable buzz about the offices of John Mattick, 49, the University of Queensland's professor of molecular biology. He is a man in demand - from the media, committees, governments, his colleagues - and is running late for this appointment, and then for the next.

He's in a bit of a rush today, even more so than usual because several days after our interview, he's heading off for a well-deserved, six-month sabbatical at Oxford. And flying to Sydney tomorrow, to help celebrate an old school friend's 50th.

Oh, and his third son, Angus, was born just a few weeks ago.

Meanwhile, demolition work has just begun a few blocks away to enable construction of a project he has worked towards for several years -

Australia's largest biological research centre, which will occupy about 35,000 square metres.

"That's about three times the size of WEHI (the Walter and Eliza Hall Institute in Melbourne)," he adds.

It is a deceptively casual comparison. Mattick is one of the driving forces behind Queensland's challenge to Melbourne's reign as the country's medical research capital, which has seen the State's Premier nicknamed "biotech Beattie" by the media.

Even that supremo of Melbourne's scientific establishment, Sir Gus Nossal, concedes this is no idle threat. "They are putting the chess pieces on the ground to mount a very credible challenge," Sir Gus says, adding that he is a great admirer of Mattick.

That is not surprising really. They lobbied together to persuade the Federal Government to fork out $10 million to establish the Australian Genome Research Facility, which was officially opened last year. The AGRF, directed by Mattick and based jointly at the University of Queensland and WEHI, carries out large scale sequencing, gene mapping and mutation detection for Australian research groups and industry, and has over 700 clients.

Yes, there's definitely a buzz about John Mattick, widely seen as one of the genomic revolution's movers and shakers. No wonder his poor secretary is pulling her hair out. Quite frankly, she's looking forward to him being on the other side of the world, just so she can catch up on the backlog - not that she really expects too much of a breather in these times of instant electronic access.

Mattick, speaking quickly and quietly, often uses terms like "exploration" and "discovery" when describing what he calls the "third great revolution", biotechnology. It seems to fit that he might see himself as a modern-day explorer - he is known as a bit of an adventurer and a "lad", as well as being seriously bright.

So much has happened in the 12 years since Mattick moved from CSIRO in Sydney to UQ as founding director of the Centre for Molecular Biology and Biotechnology, later renamed the Centre for Molecular and

Cellular Biology. Back then, the University was not exactly well known in this field.

Indeed, Mattick's first impressions of the place were of "a lot of people in long socks", as well as a great energy in some.

Brian Shanley, a former professor of medical biochemistry at UQ who helped employ Mattick, recalls that the newcomer was "crafty" about how he spent his centre's funds. He attracted a core group of top scientists and encouraged them to bring their own funding in scholarships and grants, so the centre could grow rapidly.

Shanley remembers that Mattick once pointed to the Queensland Institute for Medical Research and said he wanted a place like that. "I just smiled at him and said we'd be quite happy if you just get together a decent molecular biology centre," says Shanley. "But he's gone ahead and it's come true."

Part of the reason for this success is Mattick's skill at bringing people together, says Shanley. He must also be pretty good at bending the ear of politicians, judging by his success in raising $55 million - from the State and Federal Governments, University and an anonymous private benefactor - to establish a new Institute of Molecular Biosciences at the UQ.

The Institute, which combines Mattick's centre, the AGRF, the Centre for Drug Design and Development and the Centre for Microscopy and Microanalysis, is co-directed by Mattick and Professor Peter Andrews. Flattering reports, in such illustrious journals as *Nature* and *Science*, say it aims to integrate basic research with commercial applications.

When it moves into its new $105 million headquarters (CSIRO is contributing $50 million towards the building it will share) in about two years' time, there will be space reserved for collaborators such as pharmaceutical, biotechnology, agricultural and environmental interests.The Queensland Government has also pledged $77.5 million to support its operations over the next decade.

It will be, promises Mattick, "the largest and most innovative research complex in the country". The Institute will eventually have about 450

staff, and the complex will house about 700 in total. Mattick says he regularly receives inquiries from scientists overseas about jobs.

“There’s a great sense of excitement about its scope and ambitions,” he says.

Mattick, it has to be said, has worked hard to generate such excitement. But he is also a natural enthusiast, and it is infectious when he describes the future he sees on the horizon for science and medicine.

“We are in a new age of biology,” he proclaims. “Biology has been largely reductive for most of this century. Now all of the bits are on the table. We have to rebuild our understanding of how those bits fit together to make a human. This is going to involve massive computing power. We’re in the fortunate position with the Institute that we can plan for this future, not the old one.

He continues: “To me, this is probably the greatest exploration in history because we’re exploring the most complicated and complex and sophisticated and wonderful aspect of the natural world. Its implications go all the way from human medicine and understanding our own biology to understanding the genetic basis of, say, abstract thought and intelligence, to exploring biodiversity and all the way back to understanding our evolutionary history.

“In the commercial or the applied sense, this information is going to impact radically and transform all of the biologically-based industries. There’ll be a whole new sophisticated range of pharmaceuticals and antimicrobials that will come out of this and improve quality of life and survival rates for things like cancers and transplantations.

“Medicine will be transformed from the art of crisis management to progressively a science for maintaining good health with genetic diagnostics - we will be able in the future to give a much more accurate view of genetic strengths and weaknesses. Physicians will be able to work with patients to optimise their individual health status.”

Despite the glowing vision, Mattick is conscious of criticisms that genetic advances will be expensive, that commercial imperatives may outweigh public health goals, and that unrealistic public expectations are

sometimes drummed up when scientists try to sell their work to the public through the media.

“There are two different sorts of people,” he responds, “those who look at the horizon and those who sometimes quite cynically say, well yes what about this, that it’s going to be too expensive etc. They are very important, practical questions but in the end you do have to try to keep your eye on the horizon as well as the step in front of you.

“I don’t think I have any doubt that we will have an improved knowledge of our own biology and of disease and we will use that information productively and that it will have health and economic benefits.”

He adds: “Our community doesn’t appreciate, not only the hard work that people in science do, but really how important it is to the long term prosperity of society. The US has proven that over and over again this century - every time they invest more in science, they come out the other side with an economic boom.”

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Back in the 60s, Peter Mattick was still at high-school when his big brother, injured on one of his many holiday jobs, asked him to collect his exam results from the University of Sydney. The only catch, John said, was that he hadn’t been to lectures after first term.

Peter began to prepare his brother’s excuses when told at the university “there’s a few people who want to talk to you.”

“But they said, ‘he hasn’t done anything wrong, we just don’t know who he is’. The maths tutor said he got every question right. He said, ‘I have kids who study all year who cannot understand these concepts. He got a credit, we should have given him a high distinction but he’s never been to lectures’.”

Peter, now a successful businessman in Sydney, wasn’t really shocked. He knew that his brother had topped his classes at St Patrick’s College, Strathfield, without too much effort.

Apart from an incredible memory, Peter says his brother has always been able to think outside the square: “Mum was a great one for spirited

discussions over the dinner table. John was always coming at it from a different view."

Lively debate continues at family get togethers, especially when Mattick's youngest brother, Richard, research director of the National Drug and Alcohol Research Centre at the University of NSW, brings up issues such as the cost benefits of genetic research. He argues that provision of basic health care is a greater need internationally than developing expensive cures which only rich countries will be able to afford.

Philosophical differences aside, the four Mattick siblings are close. Peter says his brother is "a knockabout bloke who happens to be very intelligent", perhaps even a bit of a larriken.

"He's always been a bit of a party boy," says Peter. "He's got incredible stamina for that sort of thing. He can just booze on and the next days he's up and working. He's the only person I know who can speak logically when he's drunk."

Asked for his brother's flaws, Peter responds immediately: running late. It used to drive the family mad. And it didn't improve after Peter tipped a bucket of water over him one morning, to speed his rising.

Mattick himself jokes that he would prefer to say that he is always busy, rather than always late. He adds: "My weaknesses are many - I get overtired, and am a somewhat addictive character."

Wal Bucci, a science teacher - whose 50th birthday Mattick recently helped celebrate into the wee hours - also describes his old school friend as a keen socialiser. And generous. "I remember one time, several years ago, we had Christmas together down here and John rocked up with a dozen bottles of French champagne."

Bucci adds: "Someone who would meet him for the first time, I don't think would have any idea of what he did..he's not the type of guy who talks about himself."

He remembers that Mattick seemed accident-prone as a youth. He was forever crashing his small motorbike, and was once seen riding it with a leg in plaster from a previous accident.

Perhaps that's why Mattick recalls that his mother, to whom he was very close, telling him, "we all know you're smart John, but you've got no common sense".

Or perhaps it was due to his habit of disappearing on hitchhiking expeditions, ending up in some country pub, talking cricket with the locals. And then ringing for the trainfare home.

"I was just a bit dreamy and dopey," Mattick recalls. Not a description which fitted once he found his feet in science - a phD at Monash, followed by a five-year stint at Baylor College of Medicine in Texas before returning to CSIRO, where he developed a recombinant vaccine against ovine footrot.

Dr Louise O'Gorman, a microbiologist, met Mattick at a conference years ago. She was surprised that someone so well known in scientific circles didn't think twice about sharing a beer with more junior scientists, but now sees this as typical of his disinterest in hierarchies.

She and Mattick married four years ago, and have two young sons. He also has a son from a previous marriage.

O'Gorman describes him as someone who works hard, plays hard and is always the last to bed at conferences. Apart from a huge workload, he does quite a bit for the local Neighbourhood Watch scheme, she says. "He does everything to the limit."

She also describes him as "very, very complex". "Complicated people are hard work, they are apart. He thinks deeply about things. Sometimes he get's exhausted from just thinking about things. He's driven, a bit frenetic. When he's tired, he gets a bit short and sometimes people at work say that. He's wonderful company when he's not tired."

On the day of our interview, Mattick acknowledges that he's done it tough in recent years. So much of his time has been spent on "administration, representation and organisation" that his science has been squeezed in at nights and weekends.

"The number of nights where I've crawled into bed just before dawn, I can't remember," he says.

Mattick doesn't dwell on the difficulties he's faced within the University, but others do.

Cliff Hawkins, the university's retired pro-vice chancellor of biological sciences, who appointed Mattick, says he had the resilience, determination and self-confidence to survive University politics which were, at times, "catty".

"The strength of John was that he was able to take all that nonsense and just let it go over his head...it was a hassle for him but he let it bounce off."

Shanley was also impressed by how Mattick handled the opposition from those who saw him as a competitor taking resources away from them.

"It can be very vicious in universities," he says. "He had a lot of that to cope with, particularly in the early days."

O'Gorman has become used to a husband who rises at 3am after a few hours' sleep, to go to work. "He probably doesn't need much sleep, but he's also become used to not having much sleep," she says.

But, with the fruits of his hard labour about to emerge from the demolition rubble, Mattick is rewarding himself with time out at Oxford. Time to think, plan for the future, and, most preciously, to develop his controversial theory that the large amounts of DNA which have traditionally been written off as "junk DNA" actually have a critical role.

Mattick believes they are a parallel processing system which allows genes to talk to each other in real time, and are the critical difference between simple and multicellular organisms.

When O'Gorman first heard Mattick give a 90-minute presentation of this theory seven years ago, he spoke effortlessly and without notes. "It was seamless..it was the most beautiful thing I had ever heard," she says.

Despite his enthusiasm for his work abroad, it seems pretty certain that there are now enough attractions in Queensland to entice Mattick back. As he says, he has created the sort of place, finally, where he wants to work.