

PRESS RELEASE

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A*STAR scientists elected into prestigious US National Academy of Sciences

1. Renowned cancer geneticists, Professor Neal Copeland, Executive Director of A*STAR's Institute of Cell and Molecular Biology (IMCB), and Professor Nancy Jenkins, Deputy Director of the Genetics and Genomics Division at IMCB, have accepted their election into the prestigious National Academy of Sciences in the United States this year for their outstanding contributions to genetic research¹.

2. This is a huge honour given that the National Academy of Sciences is an honorific society of scientists, doctors and engineers which has advised the United States government on scientific, medical and technological issues since 1863. An exclusive group of only 2,150 active members, the National Academy of Sciences boasts some 200 Nobel Prize laureates to date.

3. Profs Copeland and Jenkins have worked together for 30 years since they met as postdoctoral fellows in Harvard Medical School. They jointly published over 700 papers before joining IMCB in 2006, where they set up and now jointly run the Cancer Genetics laboratory. Prior to IMCB, Profs Copeland and Jenkins worked at the National Cancer Institute-Frederick², where Neal was the head of the Molecular Genetics of Oncogenesis Section and the Director of the Mouse Cancer Genetics Program, while Nancy served as the head of the Molecular Genetics of Development Section.

4. Since they joined A*STAR, the pair have been working on new ways of analysing the cancer genome, or characterising the genetic changes required to promote or sustain tumour formation. Their group at IMCB has recently discovered ways of manipulating the genetic structure of the mutagenic transposon³, Sleeping Beauty, to induce different types of human cancer in mice. In addition, the group is looking to use another whimsically named transposon, PiggyBac, to model cancer in mice and potentially, zebrafish. With these cancer models, as well as recent advancements in cloning and sequencing technologies, they hope to garner a better

¹ Prof Jenkins was elected to the Academy in 2008, and Prof Copeland in 2009. Their membership takes effect this year upon their acceptance.

² The National Cancer Institute at Frederick (NCI-Frederick) is part of the National Institutes of Health (NIH) and one of two NCI campuses (the other is located on the NIH campus in Bethesda, Maryland). NCI-Frederick focuses on direct research aimed at identifying the causes of cancer, AIDS, and related diseases.

³ A transposon is a sequence of DNA that can move around to different positions within the genome (entire DNA sequence) of a single cell. In doing so, it can cause mutations and change the amount of DNA in the genome.

understanding of, and devise, more effective treatment strategies for the various existing forms of cancer.

5. Said Chairman of A*STAR, Mr Lim Chuan Poh, “Neal and Nancy are two of the most outstanding cancer geneticists in the world and their election to the Academy of Sciences is a fitting recognition of their excellent and impactful work. I would like to congratulate them on this well-deserved recognition. A*STAR is happy that both Neal and Nancy are committed to inspire and mentor our own crop of young scientists seeking to make their own mark in the world of science and to make a difference to society.”

6. Said Prof Copeland, “This is a true honour for us both. Nancy and I function very much as a team, and we owe our success in the laboratory to each other. We are extremely happy to have been elected, and excited to be helping IMCB build up its capabilities and train its future generation of scientists to be at the forefront of science research.”

7. Added Prof Jenkins, “Through the years Neal and I have had a rich and very fulfilling journey in science and in life, and we are especially glad to be sharing one of the highest honours that can be accorded a scientist or engineer in the USA. We look forward to making more exciting and impactful discoveries together.”

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About the Institute of Molecular and Cell Biology (IMCB):

The Institute of Molecular and Cell Biology (IMCB) is a member of Singapore’s Agency for Science, Technology and Research (A*STAR) and is funded through A*STAR’s Biomedical Research Council (BMRC). It is a world-class research institute that focuses its activities on six major fields: Cell Biology, Developmental Biology, Structural Biology, Infectious Diseases, Cancer Biology and Translational Research, with core strengths in cell cycling, cell signalling, cell death, cell motility and protein trafficking. Its recent achievements include leading an international consortium that successfully sequenced the entire pufferfish (Fugu) genome. The IMCB was awarded the Nikkei Prize 2000 for Technological Innovation in recognition of its growth into a leading international research centre and its collaboration with industry and research institutes worldwide. Established in 1987, the Institute currently has 35 independent research groups with more than 400 staff members.

For more information about IMCB, please visit www.imcb.a-star.edu.sg.

About the Agency for Science, Technology and Research (A*STAR):

A*STAR is Singapore's lead agency for fostering world-class scientific research and talent for a vibrant knowledge-based Singapore. A*STAR actively nurtures public sector research and development in Biomedical Sciences, Physical Sciences and Engineering, with a particular focus on fields essential to Singapore's manufacturing industry and new growth industries. It oversees 22 research institutes, consortia and centres, and supports extramural research with the universities, hospital research centres and other local and international partners. At the heart of this knowledge intensive work is human capital. Top local and international scientific talent drive knowledge creation at A*STAR research institutes. The Agency also sends scholars for undergraduate, graduate and post-doctoral training in the best universities, a reflection of the high priority A*STAR places on nurturing the next generation of scientific talent.

For more information about A*STAR, please visit www.a-star.edu.sg.

CURRICULUM VITAE OF NEAL COPELAND

Professor Neal Copeland received his PhD at the University of Utah. His post-doctoral training was done at the Dana Farber Cancer Centre at Harvard Medical School. He moved to the Jackson Laboratory, a renowned cancer research facility, as an Associate Staff Scientist in 1980. In 1985, he took up the position of Director of the Cancer Genetics Programme at the National Cancer Institute at Frederick (NCI-Frederick), part of the National Institutes of Health (NIH) and one of two NCI campuses that focuses on direct research aimed at identifying the causes of cancer, AIDS, and related diseases. He and his wife, Professor Nancy Jenkins, spent the next 20 years at NCI-Frederick, making their name using mouse genetics to better define the genes and signalling pathways responsible for cancer. They are among the top 50 most-cited biomedical scientists in the world today, having co-authored more than 750 papers and been cited more than 30,000 times.

Professor Copeland has served on numerous scientific advisory boards such as those of the Wellcome Trust Sanger Institute and the McLaughlin Research Institute in Montana, USA, and consulted for several biotechnology and pharmaceutical companies. In addition, he sits on several editorial boards and has been an Associate Editor of one of the top scientific journals in the world, *Cell*, since 1996. He has been invited to give many distinguished lectures, including the Harvey Lecture at Rockefeller University and the G. Burroughs Mider Lecture at the National Institutes of Health.

With a career spanning more than 30 years of research work in leading laboratories in the USA, Professor Copeland moved to A*STAR's Institute of Molecular and Cell Biology (IMCB) in 2006 along with Professor Jenkins, where they set up the Cancer Genetics laboratory together. He was appointed Executive Director of IMCB in November 2007, where he proceeded to build on its strong foundation of scientific research capabilities. Today IMCB has over 400 research staff in 40 laboratories in various areas of basic biomedical research, including cell and developmental biology, cancer genetics, cell signalling, cell death, cell motility and protein trafficking.

CURRICULUM VITAE OF NANCY JENKINS

Professor Nancy Jenkins received her PhD in molecular and cell biology from Indiana University in 1977. Her post-doctoral training was done at the Dana Farber Cancer Centre at Harvard Medical School, after which she moved to the Jackson Laboratory as an Associate Staff Scientist in 1980. In 1985, she took up the position of Head of the Section of Molecular Genetics of Development at the National Cancer Institute at Frederick (NCI-Frederick), part of the National Institutes of Health (NIH) and one of two NCI campuses that focuses on direct research aimed at identifying the causes of cancer, AIDS, and related diseases. She and her husband, Prof Neal Copeland, spent the next 20 years at NCI-Frederick, making their name using mouse genetics to better define the genes and signalling pathways responsible for cancer. They are among the top 50 most-cited biomedical scientists in the world today, having co-authored more than 750 papers and been cited more than 30,000 times.

Professor Jenkins has served on numerous scientific advisory boards, including those of the Institute of Molecular Bioscience of the University of Queensland and the McLaughlin Research Institute. She also sits on the editorial boards of scientific journals such as *Mammalian Genome* and *Microbial and Comparative Genomics*, and has been an Associate Editor for top journals *Genetics* and *Genomics*. In addition, she is a member of American Genetic Association and the Genetics Society of America, and lectures regularly at the International Mouse Genome Conference, as well as conferences held by the American Association for Cancer Research (AACR).

After more than 30 years of research work in the US, Professor Jenkins moved to A*STAR's Institute of Molecular and Cell Biology (IMCB) in 2006, along with Professor Copeland. The pair was instrumental in setting up IMCB's Cancer Genetics laboratory, and has seen promising results in their research on colon cancer. Since 2007, Professor Jenkins has been Deputy Director of the Cancer Genetics division at IMCB, and has been helping to chart the direction of basic cancer research there.