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A*STAR IMCB marks four decades of scientific excellence and biomedical innovation

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Celebrates IMCB's commitment to driving innovation in cancer, cell therapy and precision medicine



*Leaders past and present commemorate a scientific milestone at the A*STAR IMCB 40th Anniversary Gala Dinner*
*(From left to right): Prof Hong Wanjin, Chief Business Development Officer, A*STAR's Biomedical Research Council; Research Director, A*STAR IMCB; and President, A*STAR IMCB Alumni Chapter; A/Prof Su Xinyi, Executive Director, A*STAR IMCB; Mr Beh Kian Teik, Chief Executive Officer, ASTAR; Dr Tan See Leng, Second Minister for Trade and Industry, Ministry of Trade and Industry; Prof Tan Chorh Chuan, Chairman, A*STAR; Prof Sir David Lane, Former Executive Director, A*STAR IMCB; and Prof Chris Tan, Founding Director, A*STAR IMCB.*

The A*STAR Institute of Molecular and Cell Biology (A*STAR IMCB), a pioneering biomedical research institute under the Agency for Science, Technology and Research (A*STAR), marked its 40th anniversary on 10 April. The occasion was graced by Guest-of-Honour Dr Tan See Leng, Minister for Manpower and Second Minister for Trade and Industry. The celebration underscored the institute's four decades of scientific breakthroughs and its continuing role in shaping Singapore's biomedical innovation landscape.

The A*STAR Institute of Molecular and Cell Biology (A*STAR IMCB) is a premier research institute whose mission is to harness biology for transformational bio-therapeutics and diagnostics. With a strong emphasis on collaboration with stakeholders across the ecosystem in Singapore, the institute aims to achieve scientific excellence and continues to Page 3 of 6 nurture the next generation of scientists in order to create growth and enhance lives.

Established in 1985 as Singapore's first biomedical research institute, IMCB marked the nation's strategic shift from a "nation of technicians" to a knowledge-intensive economy. Over four decades, the institute has achieved international recognition for research excellence while developing local scientific leaders and contributing to economic growth through biotech innovation.

Dr Tan highlighted IMCB's significant contribution to the nation's progress, noting, "IMCB's achievements go hand-in-glove with Singapore's rise as the region's biomedical hub. We started off as a nation of technicians, and worked our way up the biomedical value chain. Today, Singapore is a key node across the entire biomedical value chain, and home to more than 60 pharmaceutical and medtech manufacturing plants, with over 500 biomedical startups."

Assoc Prof Su Xinyi, Executive Director of A*STAR IMCB said “By pushing the boundaries in critical research areas like ageing, precision medicine, and advanced cellular therapies, we ensure our work remains impactful and responsive to the evolving needs of Singaporeans.”

A central pillar of IMCB’s legacy is its sustained investment in scientific talent. More than 400 PhD students and 1,000 postdoctoral fellows have been trained at the institute, many of whom are now making significant contributions across hospitals, academic medical centres, universities, and biomedical enterprises in Singapore and globally.

Among the institute’s most significant contributions are the discovery of protein kinases and phosphatases crucial to cell signalling—an achievement commemorated on Singapore's $10,000 note—and the mapping of the fugu fish genome. Sequenced ahead of the human genome, the compact Fugu genome was pivotal in identifying critical genes associated with human diseases. This work accelerated global efforts in precision medicine, enabling the discovery of genes linked to cancers and other genetic disorders, and laying the groundwork for developing new diagnostic tests and targeted therapies.

The institute’s research has given rise to biotech spin-offs such as Albatroz Therapeutics, Sunbird Bio, BioCheetah and Intra-ImmuSG. These ventures reflect IMCB’s commitment to translating deep science into promising therapeutic approaches and supporting the growth of Singapore’s biotech ecosystem.

Looking ahead, the institute will build on its four decades of excellence by advancing research in key areas including translational neuroscience, advanced cancer immunotherapies, and AI-driven disease modeling. Through strategic industry partnerships, the institute will continue strengthening Singapore's biomedical ecosystem—securing the nation's position at the forefront of global biomedical innovation.

An Overview of Milestones:

A*STAR IMCB Research: For 40 years, A*STAR IMCB has been at the forefront of fundamental biological research, consistently pushing the boundaries of knowledge in molecular and cell biology. Its journey began with pioneering work that laid the foundation for Singapore's biomedical landscape, evolving into a powerhouse with deep expertise across critical domains. Today, the institute tackles complex challenges in areas such as cancer biology (unravelling signalling, plasticity, and resistance mechanisms), cell and molecular therapy (harnessing stem cells and immunotherapy), and neurometabolism (exploring brain-body interactions in health and disease). This relentless pursuit of scientific excellence continues to generate groundbreaking insights into the mechanisms of life and disease.

A*STAR IMCB Spin-Off: A*STAR IMCB has successfully nurtured numerous ventures translating scientific discoveries into tangible impact, starting from early successes like MerLion Pharmaceuticals, which achieved Singapore's first FDA drug approval. Recent spin-offs continue to drive innovation in diverse areas, including BioCheetah developing cancer diagnostics, Intra-ImmuSG and Albatroz Therapeutics pioneering novel antibody therapies, BetaLife creating stem-cell solutions for diabetes, and others focused on drug discovery platforms, RNA therapeutics, and AI-driven protein engineering. This vibrant entrepreneurial ecosystem, built on a foundation of deep science, underscores the institute's role in driving Singapore's knowledge-based economy and bringing potentially life-changing innovations from the lab to the clinic.

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