
EDDC
Experimental
Drug Development
Centre
ANNUAL
REPORT
2025
Great Science for Great Medicines

Contents

About Us

EDDC is Singapore's national platform for drug discovery and development, hosted by the Agency for Science, Technology and Research (A*STAR). We champion the translation of great science into great medicines to galvanise the growth of Singapore's biopharma ecosystem.

A National Centre with Dual Missions

1 Bridge the drug development gap in Singapore

Engage local entities to translate biomedical research projects into drugs for commercialisation.

Bridge the drug development gap with expert know-how and innovative drug platforms.

2 Attract research investments and catalyse the biopharma ecosystem

Encourage the spin-off of innovative biotech companies to enhance Singapore's biotech ecosystem.

Develop a pipeline of high-quality therapeutic assets that attract and sustain private investments into Singapore.

A Message From Our CEO

"In 2025, we achieved significant progress, highlighted by EBC-129 receiving U.S. FDA Fast Track designation. Strategic international collaborations further strengthened our expertise in autoimmune and inflammatory diseases. These accomplishments underscore our ongoing commitment to advancing scientific innovation and delivering transformative therapies to patients in Singapore and globally."

Prof. Damian O'Connell
Chief Executive Officer

GOVERNANCE & ORGANISATION

Messages From Our Governing Board

Prof. William Chin
Co-Chair

Bertarelli Professor of Translational Medical Science & Medicine Emeritus, Harvard Medical School, Former SVP Discovery Research Eli Lilly

"I continue to be deeply inspired by how far EDDC has come since its inception. This year's achievements, from the FDA fast track designation of EBC-129, to the team's drive to advance new innovations, reflect a steadfast determination to create meaningful impact in drug discovery. EDDC has grown into a true national engine for translational innovation, and I am confident it will continue bringing therapies closer to patients in Singapore and beyond."

Prof. Benjamin Seet
Co-Chair

Group Chairman Medical Board (Research) NHG Health

"If we compare making a successful drug to running a marathon, we are at the half-marathon mark. Many people stop here because they don't think they have what it takes to run the full stretch, but once someone has completed his first marathon, it's unlikely he'll stop at one. I have been part of ETC's and EDDC's journey over the past decade and half – I have seen its role evolve, watched its people grow, and shared its successes and failures. There's still some way to go – but I believe we now have sight of the finish line and have what it takes to get there."

Our Governing Board & Leadership Team *(As of 31 December 2025)*

(from left to right)

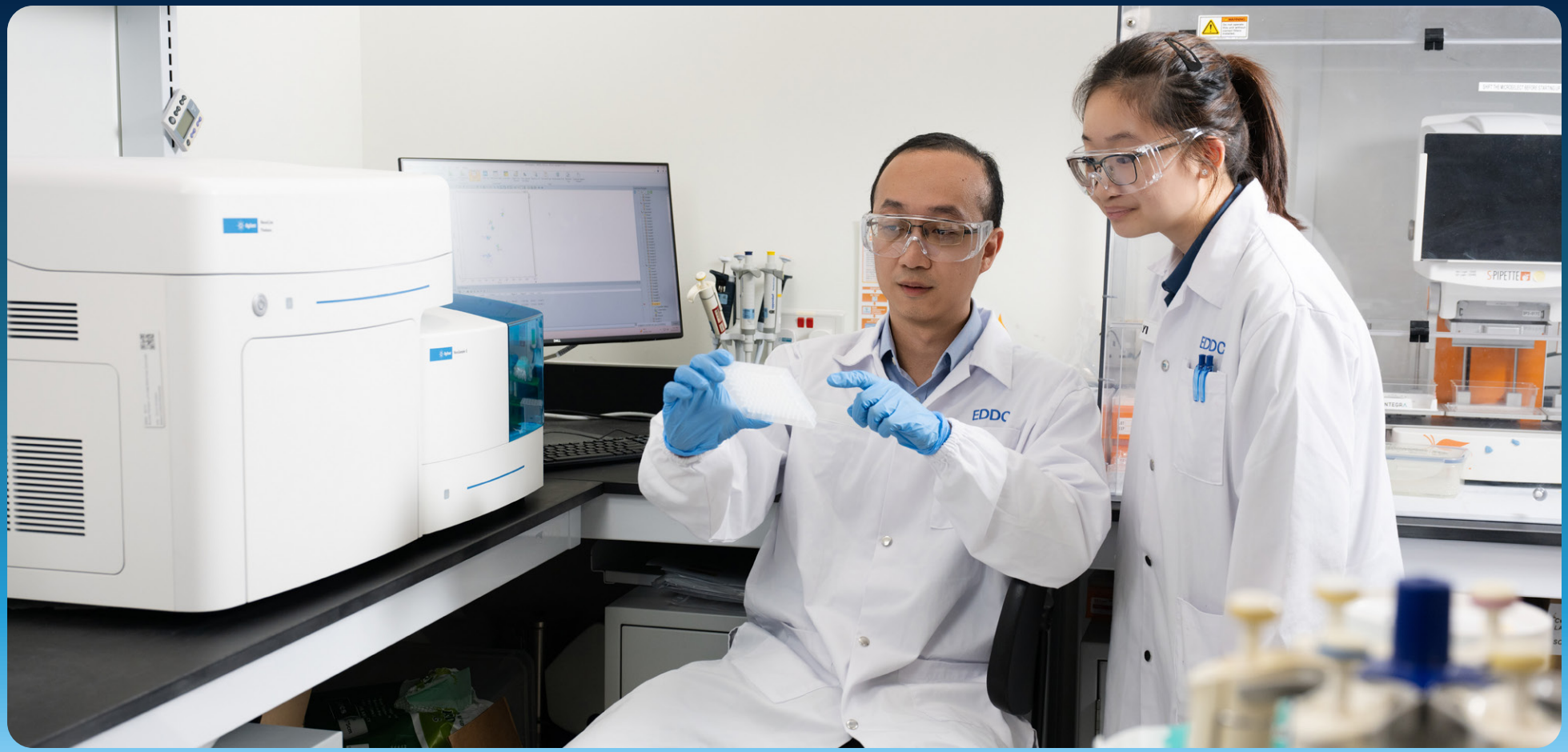
(Governing Board (GB) members are indicated in bold)

Front Row: Ang Hwee Ching (Deputy CEO, EDDC), **Goh Wan Yee (Senior Vice President and Head Healthcare, Economic Development Board)**, **John Lim (CEO, National Research Foundation)**, **Lisa Ooi (Assistant Chief Executive, A*STAR Biomedical Research Council)**, **Benjamin Seet (Group Chairman Medical Board (Research), NHG Health)**, **William Chin (Bertarelli Professor of Translational Medical Science Harvard Medical School)**, **Damian O'Connell (CEO, EDDC | GB Ex-Officio)**, **Tan Say Beng (Executive Director, National Medical Research Council)**, Ho Soo Yei (Chief of Staff, EDDC), **Danny Soon (CEO, Consortium for Clinical Research and Innovation, Singapore | Executive Director, Singapore Clinical Research Institute)**

Back Row: Teo Hsiang Ling (Associate Director, EARO, EDDC), Venkateshan Srirangam Prativadibhayankaram (Medical Director, EDDC), Chia Hsin-Ee (Associate Director, Business Development & Alliance Management, TTC, EDDC), Wan Kah Fei (Head, Antibody Technology, EDDC), Klement Foo (Head, Discovery Chemistry, EDDC), Veronica Diermayr (Asset Development Leader, EDDC), Christophe Bodenreider (Director, External Innovation, EDDC), Kantharaj Ethirajulu (Asset Development Leader, EDDC), Kunal Shah (Head, Project Management, EDDC), Snow Lee (Associate Director, Discovery Biology, EDDC)

Absent: Andreas Wallnöfer (Partner Investor, Jeito Capital), Clarice Chen (Director, Enterprise Singapore)

EDDC IN 2025



Key Achievements In 2025

(As of 31 December 2025) *Click on the icons to find out more*

Bridged the Drug Development Gap...

21 **institutions & companies supported by EARO for the research ecosystem**

8 **graduates from I&E Fellowship Programme**

6 **new collaborations on grant-funded projects**
with research institutions and centres, healthcare institutions, and MNCs

8 **new STDR Pilot and Pre-Pilot Projects**
supported by EDDC's mentors and drug discovery specialists

2 **of the World's Top 2% Scientists 2025 by Stanford University**

18 **ongoing pipeline projects**

... Translated for Impact

EBC-129

1. **Updated positive clinical data from phase 1 study presented** at ASCO 2025 as an oral presentation
2. Received **U.S. FDA fast track designation** for EBC-129 as a treatment for pancreatic cancer
3. **Completed recruitment** for phase 1B dose expansion

2 **leads declared**
one small molecule and one large molecule

4 **industry collaborations**
Engine Biosciences, ChemLex, Sprint Bioscience, RDP Pharma

4 **priority patent applications**
for novel therapeutic molecules

5 **technology disclosures**

PROJECT UPDATES & COLLABORATIONS

EBC-129: FDA Fast Track Designation & 2025 ASCO Data Presentation

Representatives from the multi-institutional teams involved in the development of EBC-129 and its patient selection test

*(from left to right) Daniel Tan (NCCS), Veronica Diermayr (EDDC), Neo Zhen Wei (A*STAR IMCB), Jeffrey Lim (A*STAR IMCB), Gopal Iyer (NCCS), Leung Hau Wan (A*STAR BTI), Goh Ting Hwee (A*STAR BTI), Matthew Ng (NCSS), Simone Dorfmueller (EDDC), Joe Yeong (A*STAR IMCB), Andre Choo (A*STAR BTI), Lee Yock Ann (EDDC), Yong Wei Peng (NCIS), Venkateshan Srirangam (EDDC)*

EBC-129 is Singapore's first antibody-drug conjugate (ADC) to enter clinical development and has received Fast Track Designation from the U.S. FDA for treating pancreatic ductal adenocarcinoma (PDAC). This designation accelerates its development and regulatory review. At the 2025 American Society of Clinical Oncology (ASCO) Annual Meeting, updated phase 1 trial data showed promising results: 82% of enrolled PDAC patients had treatable antigen levels, and the drug demonstrated positive response rates and extended progression-free survival, even in heavily pre-treated patients.

The ADC was developed collaboratively with the National Cancer Centre Singapore (NCCS), A*STAR Bioprocessing Technology Institute (A*STAR BTI), with the trials being held at NCCS, National University Cancer Institute, Singapore (NCIS), as well as the MD Anderson Cancer Center and the University of Colorado Cancer Center in the United States. The immunohistochemistry (IHC)-based test used for patient selection was developed in collaboration with A*STAR Institute of Molecular and Cell Biology (A*STAR IMCB).

Click here to read the full press release on the fast track designation and here for the full press release on the 2025 ASCO data presentation.

Please refer to the clinical trials page for more information.

Other Projects

Pan-coronavirus Inhibitors

EDDC has developed next generation, macrocyclic 3CLpro inhibitors with pan-coronavirus activity to prepare for future pandemics. Supported by the Ministry of Health (MOH)'s Programme for Research in Epidemic Preparedness and REsponse (PREPARE), EDDC has demonstrated the broad spectrum activity of its lead compounds, with efficacy against resistant strains *in vitro* as well as SARS-CoV-2 and MERS in *in vivo* models. The team will continue work to enable preclinical development and accelerate future Investigational New Drug submissions in rapid response to any new coronavirus-based epidemic.

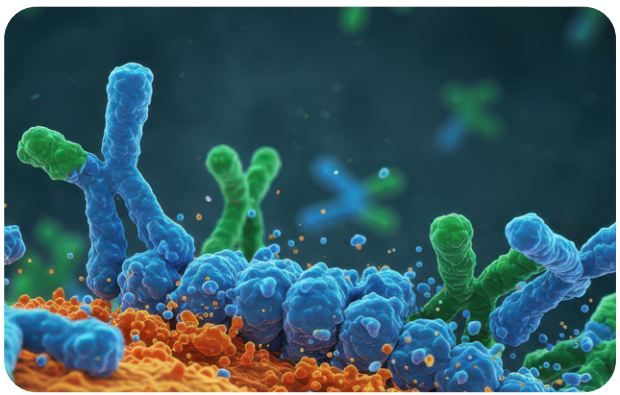
NGAP

Next Generation Antibody Drug Conjugate Payload

Antibody-drug conjugates (ADCs) are a rapidly expanding therapeutic class, but current payloads face limitations such as systemic toxicity, dosing constraints, narrow therapeutic windows and emerging resistance. To address these, EDDC has accelerated development of a next generation ADC payload (NGAP) - a novel tubulin binder which is cytotoxic only intracellularly but remains inactive extracellularly. In the past year, EDDC has demonstrated both enhanced safety and efficacy of NGAP-armed ADCs in *in vitro* and *in vivo* liquid and solid tumour models, including treatment-resistant models. Separate workstreams are underway to confirm its broader utility across oncology and immunology.

TRIDENT

Tumour Surface Antigen Reveal towards Identification and Evaluation of Novel Targets



EDDC's TRIDENT platform combines patient-derived data with AI-augmented bioinformatics and wet-dry discovery cycles to identify new tumour surface antigens (TSAs). Using our high throughout antibody discovery (HiTAD) platform, novel antibodies have been generated for the first 3 validated TSAs. EDDC is further exemplifying the potential for developing differentiated, targeted cancer therapeutics like T-cell Engagers and ADCs from a panel of antibodies developed against a particularly challenging but highly promising TSA, and also engaging with industry to gauge interest in partnering around these assets.

Partnerships

Click on the images to view the full press release

Engine Biosciences

Engine Biosciences and EDDC formed a partnership combining Engine's AI-driven NetMAPPR platform and proprietary oncology intellectual property with EDDC's drug discovery and development expertise, with the goal of creating first-in-class precision cancer therapies. NetMAPPR integrates AI, computation, biology, and chemistry to identify and prioritise high-potential therapeutic targets. In this partnership, Engine will propose novel drug target–biomarker pairs for the initiation of joint drug discovery programmes with EDDC.

EDDC and Engine Biosciences scientists at work

ChemLex

EDDC and ChemLex signing the MoU at ChemLex's Global HQ & AI Lab Grand Opening

EDDC signed a Memorandum of Understanding (MoU) with ChemLex, a Singapore-headquartered innovation company pioneering the integration of artificial intelligence, automation, and chemical synthesis to accelerate global R&D. These capabilities can help speed up the discovery of new small molecule drugs and development of effective therapies. The signing was held at the launch of ChemLex's new global headquarters and AI laboratory in Singapore, graced by Minister of State, Ministry of Foreign Affairs & Ministry of Trade and Industry, Ms Gan Siow Huang.

Partnerships

Click on the images to view the full press release

Sprint Bioscience

EDDC has partnered with Swedish biotech firm Sprint Bioscience to explore expanding one of Sprint Bioscience's MASH (metabolic dysfunction-associated steatohepatitis) programme into inflammatory diseases. This collaboration leverages Sprint Bioscience's capabilities in fragment-based drug discovery and small molecule development, alongside EDDC's growing capabilities in inflammation and immunology, and aims to address unmet medical needs in these therapeutic areas.

Sprint delegates with EDDC colleagues during the company's visit to Singapore for Asia Bio Partnering Forum 2025

RDP Pharma AG

Michael Ahrweiler, co-Founder, RDP Pharma AG, signing the research collaboration agreement with Damian O'Connell, CEO, EDDC

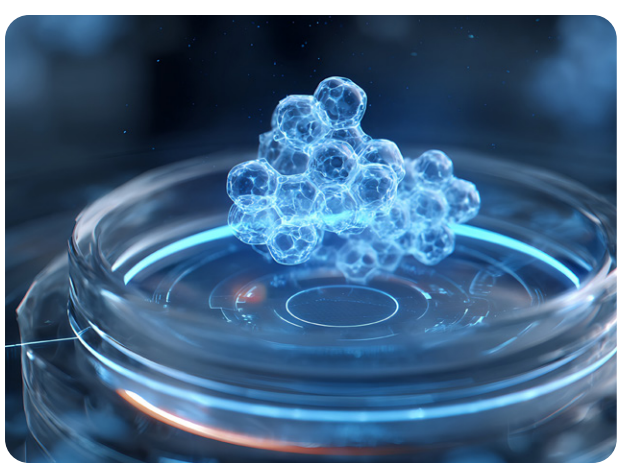
Swiss biotech RDP Pharma AG and EDDC formed a strategic collaboration to develop monovalent targeted protein degraders as potential treatments for autoimmune diseases. This partnership combines RDP Pharma's PromptDegrader™ platform with EDDC's expertise in drug discovery and translational research. The initiative addresses the growing global burden of autoimmune diseases, which continue to rise in incidence and prevalence, by aiming to create an oral therapeutic that selectively degrades key drivers of immune dysfunction, offering improved efficacy and fewer side effects for patients unresponsive to current treatments.

Academic Collaborations & Public Grants

3rd-Generation H5N1 Neuraminidase Inhibitors

Through Computer-aided and AI-empowered Small Molecule Discovery

To address rising drug resistance in H5N1 influenza strains, EDDC proposed an initiative under Singapore's (MOH) Programme for Research in Epidemic Preparedness and REsponse (PREPARE) to develop next-generation neuraminidase inhibitors. By applying advanced computational chemistry, including virtual screening, generative AI, and free energy perturbations, EDDC seeks to identify broad-spectrum candidates with improved oral bioavailability. If successful, this effort can strengthen Singapore's readiness for any future influenza-based epidemics.



DEBUT

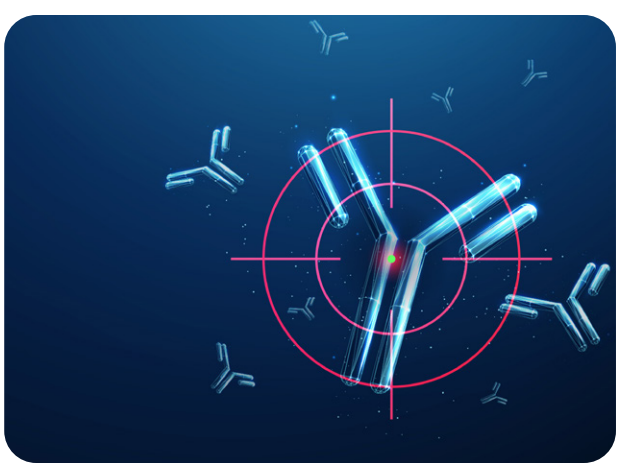
Discovering Novel Biomarkers and Unveiling Therapeutic Vulnerabilities in Drug-Tolerant Persister Cells

Led by Dr. Tee Wee Wei from A*STAR Institute of Molecular and Cell Biology (A*STAR IMCB), in collaboration with NCCS, this National Research Foundation (NRF) Competitive Research Programme (CRP) funded project aims to identify predictive biomarkers and therapeutic vulnerabilities across distinct resistance states—including persister populations—to better understand the underlying biology of resistance in cancer. By uncovering these mechanisms, the team aims to directly inform clinical decision-making and support the development of more durable, personalised cancer therapies that can improve long-term patient outcomes. As a collaborator, EDDC will provide small molecule or large molecule capabilities for the discovery of novel therapeutics against any validated drug targets that arise.

BioStream

An AI-Enabled Innovative Platform to Streamline the Development of Next Generation Biologics

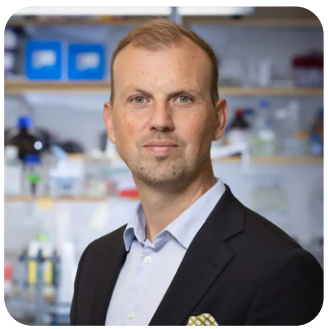
BioStream is an Industry Alignment Fund - Pre-Positioning grant-funded programme grant application co-led by Associate Prof. Ho Ying Swan (BTI) and Prof. Zhang Yang (NUS), bringing together expertise from 8 co-Investigators. The project aims to address the complex challenges of bispecific antibody (bsAb) manufacturing, with the BioStream platform designed specifically to enable next-generation biologics, using bsAb as a model system. As proof of concept, the team will focus on developing lead candidates against targets critical for tumour inhibition and immune modulation. EDDC participates as a collaborator to provide guidance in functional assessment and platform evaluation to support translational readiness.



Voices From The Community

"We have been impressed by EDDC's commitment to innovation, scientific excellence, and breadth of capabilities, including compound libraries, High Throughput Screening (HTS), and new mechanistic understanding tools such as Cell Painting. We are grateful for EDDC's spirit of partnership in sharing their knowledge and expertise, and we look forward to strengthening our collaboration in the future!"

Vivian Poon
Open Innovation Director



"We have had a positive experience so far working with EDDC. The team has been a strong and reliable partner as we explore the potential of one of our inflammation and immunology programmes, contributing valuable scientific insight and working in a highly collaborative and efficient manner throughout the engagement."

Johan Emilsson
Chief Executive Officer

"We are pleased to collaborate with EDDC as the partnership leverages the unique strengths of both organisations to address a compelling but hard-to-drug target for inflammatory and autoimmune diseases. The EDDC team has been collaborative and engaged throughout, helping to facilitate clear discussions and steady progress on the project."

Markus Müllner
Chief Technology Officer

"The collaboration between EDDC and ChemLex spans more than two years, and we sincerely appreciate the trust EDDC has placed in us and in our AI-driven automated platform. As our very first partner in Singapore, this partnership has been especially meaningful to us. It is encouraging to see our collaborations deepening to a strategic partnership. We are excited to further expand the scope of our collaboration with EDDC and to continue supporting Singapore's drug discovery and innovation ecosystem with even greater efficiency and commitment."

Sean Lin
Chief Executive Officer

Voices From The Community

STDR Pre-Pilot Stream 1 Grant Awardees

"An exceptionally responsive, competent, and encouraging team. Thanks to this grant, we were able to obtain truly exciting and promising results. I am deeply grateful for the trust placed in my team, and I hope we can continue this great collaboration with a future Pilot grant."

Sophie Bellanger

Senior Principal Investigator,
*A*STAR Skin Research Labs (A*STAR SRL)*

"The STDR programme is really more than just a grant. The guidance from drug development specialists and the pitch workshop with investors were truly eye-opening. For basic scientists like us, the programme makes you realise that translating your findings is actually possible."

Dennis Kappei

Principal Investigator,
Cancer Science Institute of Singapore (CSI Singapore),
National University of Singapore (NUS)

"The support we received helped us focus on the essential points to improve the data package. The drug discovery specialist from EDDC guided us first on clarifying our target's mode of action, then on preparing the data we needed before moving on to the Pilot grant submission."

Torsten Wuestefeld

Associate Professor, Molecular Medicine
Lee Kong Chian School of Medicine (LKC Medicine),
Nanyang Technological University (NTU)

"The Pre-Pilot and grant scheme has really benefited our team. The guidance we received—especially from our EDDC point of contact—was invaluable. They were always there to update us, offer comments and advice, and help us refine our proposal. Having that third-party perspective was essential in strengthening the project."

Claire Neo Wen Ying

Research Fellow, Lab of Prof Adrian Teo (PI)
*A*STAR Institute of Molecular and Cell Biology*
*(A*STAR IMCB)*

EARO

EARO has been very helpful during the account setup, even with very short notice. They conducted the on-job training and have been extremely supportive, including helping us by pre-setting the temperature and CO_2 levels before we arrive to use the imaging system. We are truly grateful for their assistance.

Loo Hooi Linn

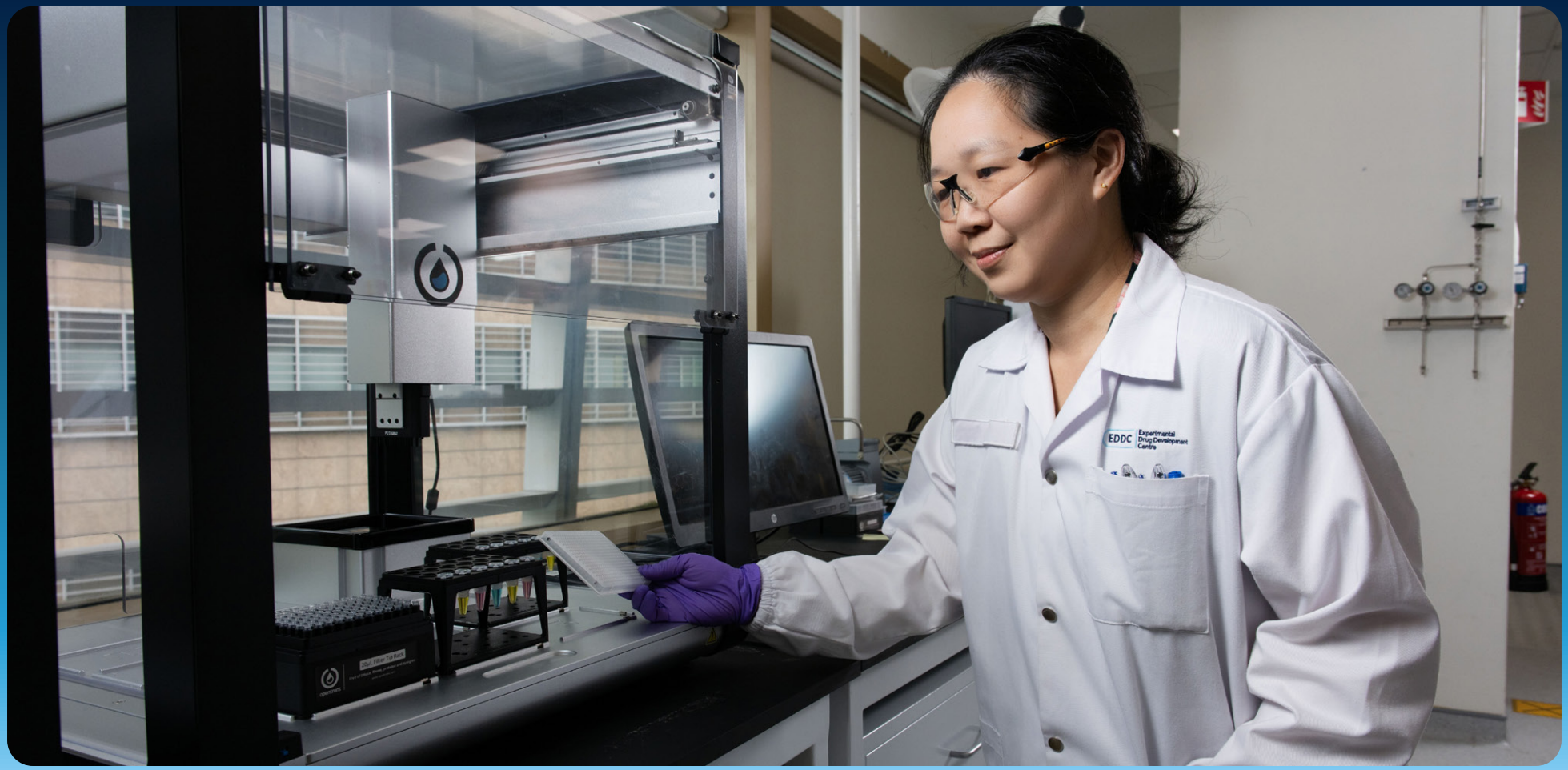
Laboratory Manager,
AIM Biotech

Collaborating with EARO's HTP lab has been a very enriching and educational experience. The expertise and top-notch services provided by EARO has aided me in optimising the degradation assay I have been working on for the upcoming high throughput screening campaign. They have also been very patient throughout this entire process and handled every assay related setback with professionalism and an eagerness to overcome challenges.

Ruth Minothini Ashokan

Research Assistant,
National University of Singapore (NUS)

ECOSYSTEM SUPPORT



EDDC Academic Research Organisation (EARO)

EARO is EDDC's fee-for-service arm that aims to support the innovation and advancement of translational drug discovery in Singapore and to enable our scientific community to do so cost-effectively by providing access to EDDC's specialised technologies, expertise, and connections. EARO continues to meet drug discovery and related research needs in Singapore through providing investigators, public institutions, start-ups, biotechs and MNCs access to EDDC's specialised platforms. Click here for more information on EARO's services.

(from left to right)

Back row: Gian Yi Lin, Ng Hui Qi, Linna Lyu, Goh Kay Lin, Jasmine Goh, Teo Hsiang Ling, Wong Mei Yee, Cheryl Tan, Quek Rui Tong, Doris Tee, Esther Boey

Front row: Justina Fulwood, Matan Thangavelu, Kunal Shah, Joel Wong

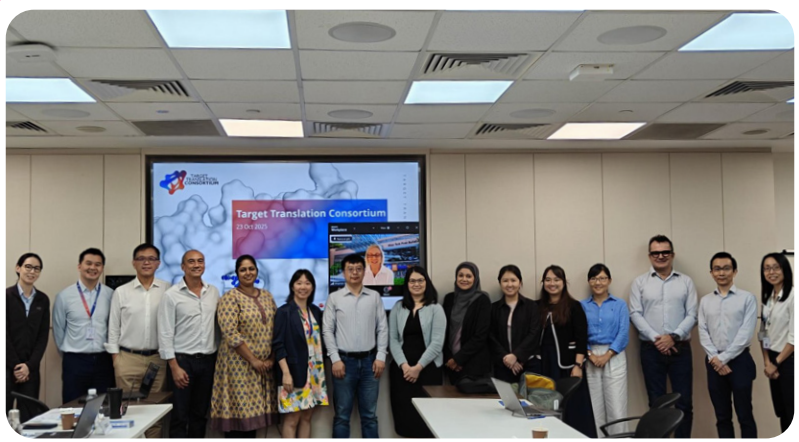
Absent: Connie Chong, Jackie Ang, Shirlyn Yap

21 Institutions & Companies Supported

46 Service Agreements Executed

Recertified for **ISO 9001** until 2028

Target Translation Consortium (TTC)



TTC representatives from A*STAR, Duke-NUS Medical School, EDDC, Lee Kong Chian School of Medicine, Nanyang Technological University, National University Health System, National University of Singapore, NHG Health, and SingHealth

The TTC, comprising representatives from 9 public research performers across Singapore, was initiated by EDDC in 2019 with the goal of providing support to publicly-funded researchers for the preclinical validation of putative drug targets. The TTC drives the Singapore Therapeutics Development Review (STDR) Pre-Pilot Stream 1 grant, with each institution actively engaging its PIs to apply and all representatives jointly making shortlisting decisions.

In addition, the EDDC coordination team conducts pre-submission consultations with applicants and organises 'single asset workshops' for awardees. EDDC's scientific and clinical colleagues also serve as 'Drug Discovery Specialist' consultants to STDR Pre-Pilot Stream 1 Principal Investigators (PIs) as well as mentors to selected STDR Pilot PIs.

8 TTC (STDR Pre-Pilot Stream 1) Projects awarded

16 Drug Discovery Specialists appointed for these projects

1 new STDR Pilot PI mentored

Global Speaking Engagements

EDDC staff were invited to speak and share their insights at 9 global industry events.

CEO Damian O'Connell as a panelist at the **BioCentury 4th East-West Biopharma Summit**

Head of Antibody Technology, Wan Kah Fei, as a speaker at the **Bruker Cellular Analysis Beacon Asia Tour**

Deputy CEO Ang Hwee Ching as a panelist at the **Healthcare Innovation Forum 2025** jointly organised by Pharma Group Vietnam and FPT Corporation

Head of Project Management and EARO Business Ops, Kunal Shah, as a panelist at the **3rd Clinical Trials Festival Asia 2025**

Damian O'Connell as a plenary speaker at the **Singapore Health & Biomedical Congress (SHBC) 2025**

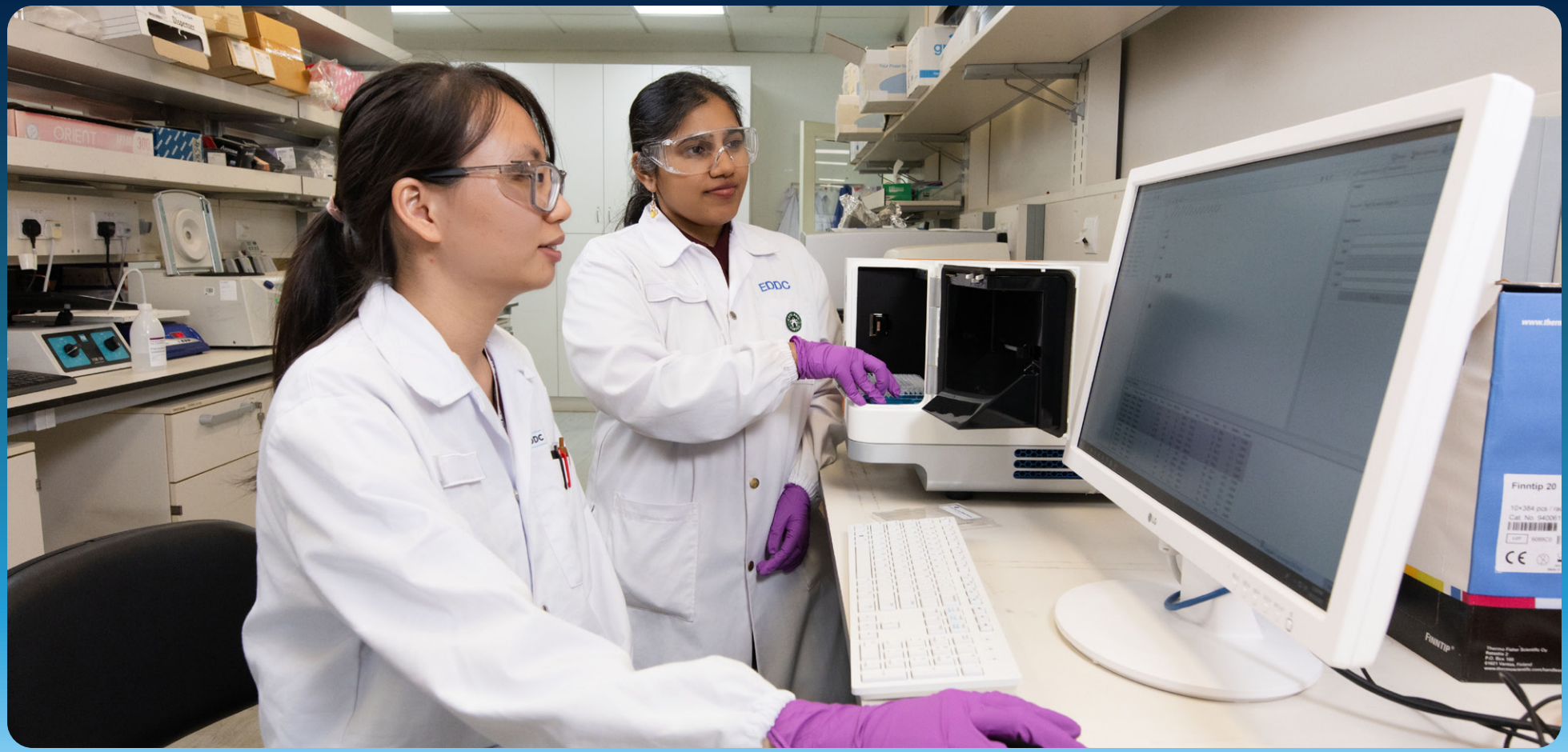
Damian O'Connell as a panelist at the **APAC Health and Life Sciences Summit** by ASK Health Asia

Wan Kah Fei as a speaker at **Antibody Engineering & Therapeutics Asia 2025**

Ang Hwee Ching as a speaker at A*Partners' Centre's **Innovative Drug Discovery in Singapore – Innovation and Collaboration Salon** in Suzhou

Kunal Shah as a panelist at the **Asian Pharma and Biotech Project, Program and Portfolio Management Conference**

DEVELOPING TALENTS



Reflections From New Staff

EDDC's progress in initiating, advancing, and commercialising drug discovery and platform innovation projects is driven by the dedication and talent of our colleagues, as well as the strong collaboration between our R&D and non-R&D teams. This year, we also spotlight reflections from ***new*** staff members, whose fresh perspectives and experiences have enriched our collective journey.

"Coming from an academic background, I feel very fortunate that EDDC has been my first step into the drug development industry. My role in the Antibody Technology team has been especially **enlightening**, giving me **exposure to different facets of drug discovery** as well as clinical development and business. Moving into 2026, I look forward to contributing to EDDC's growth through AI-driven drug discovery workflows, while continuing to learn across modalities and functions to translate science into meaningful impact for patients and society."

Lee Chop Yan
Antibody Technology

"One of my highlights for 2025 would be involvement in a portfolio project, where I have the privilege of **contributing to innovative work** in my role in the Discovery Biology team and collaborating with the Antibody Discovery team. I am looking forward to this project going into lead declaration and achieving a Preclinical Development Candidate status in 2026!"

Tan Hwee Ching
Discovery Biology
(Oncology)

"This year has been an **enriching and meaningful learning journey** as I deepened my understanding of EDDC's projects, including EBC-129 and ETC-159. Working on these projects has strengthened my technical expertise and appreciation for collaborative teamwork across disciplines. I've **grown both technically and personally** through these experiences and am grateful for the guidance and support from my colleagues. I look forward to continuing to contribute to EDDC's growing pipeline and supporting innovative research in the years ahead."

Sirin Lee
Translational Sciences
(Biomarker Development)

"Since joining EDDC in April 2025, I've been presented with numerous opportunities both inside and out of the lab. I am **motivated by the colleagues that surround me** and my work that potentially impacts others, to take up these opportunities and give my best effort to upgrade or learn new skills. I am looking forward to navigating the relatively young field of Chemical Biology alongside my teammates and contributing to drug discovery in any way that I can."

Ai'man Lazarus Kieran
Chemical Biology

Reflections From Long-Serving Staff

We interviewed some of our ***long-serving*** staff on their experiences throughout the years. Click the image below to watch a fun video on their journey in EDDC!

Reflections From IFP Fellows

The I&E Fellowship Programme (IFP) is a full-time fellowship programme funded by the National Research Foundation (NRF) to grow a pool of deep-tech talent in Singapore who can translate nascent technologies to the market. The IFP also aims to develop industry-relevant skillsets in our R&D talents. Upon completion of the programme, fellows will be equipped with the necessary skills to take on relevant roles in the local biotech and innovation & enterprise ecosystem.

8 fellows have since graduated from the programme in 2025.

One of our graduates shares her experience below!

(from left to right)

Back row: Timothy Low, Cai Yichao, Nur Huda Ahmad (IFP-Coordinator), Ivalyn Lam, Lim Lee Jin, Vincent Oei, Tiffany Scully

Front row: Jasmine Goh, Shirlyn Yap, Ding Jia Wen, Ho Soo Yei (IFP-Coordinator), Alison Tan, Koh Xiao Hui, Yeo Xun Hui

"EDDC's IFP programme gave me a dual lens on drug development—combining scientific rigor with the business mechanics of translation. In my current role at BMSIPO, that foundation helps me grasp companies' technologies quickly, pinpoint critical gaps, and connect them with the right partners across the ecosystem."

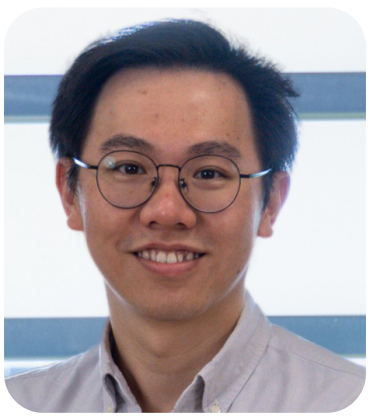
Yeo Xun Hui
Biomedical Sciences Industry Partnership Office (BMSIPO)
Manager

Talent for the Community

EDDC has nurtured talent who are now driving drug discovery innovation in roles across local biotechs. Read how the EDDC experience has shaped them for the roles they currently play in the community!

"I joined EDDC in late 2019, just before the world turned upside down when the COVID-19 pandemic struck. The whirlwind of working on COVID small molecules and antibodies during lockdown was unforgettable - 8 months from inception to IND felt like a crazy race! EDDC's variety of projects in many disease areas, our scientific rigor, and **a culture of continuous improvement** make it a **fantastic launchpad for biotech careers**. Five years later, I've moved on to a small startup in metabolic/obesity research, and yes - I do sometimes miss especially my fabulous Translational Sciences team!"

Hannes Hentze
Hebe Biotechnology
Chief Development Officer



"I am grateful for the **exposure and freedom to pursue novel ideas** within EDDC's rigorous drug discovery environment. I have also had valuable opportunities to lead in-house drug discovery projects and novel platforms, and to participate in significant ecosystem grants, experiences typically uncommon for early-career researchers. Additionally, interactions with key stakeholders through my role as Secretariat for EDDC's Portfolio Review Committee (PRC) have been enriching and impactful to me."

See Yiyang
QDX
Lead Medicinal Chemist

"Reflecting on my time at EDDC, I am deeply grateful for the opportunity to work with such dedicated and inspiring colleagues. Throughout the organisation, I saw a **strong passion for scientific excellence** and a genuine drive to translate discoveries into therapies that truly make a difference for patients. The people of EDDC shaped my experience in meaningful ways, and the relationships and insights I gained will remain an important part of my professional journey."

Wang Yang
Callio Therapeutics
Senior Director of Strategy, Chief of Staff

MEET OUR PEOPLE

Discovery Biology

Oncology

The Oncology group focuses on discovering effective anti-cancer therapies in indication areas with high unmet need, including solid cancers such as lung, gastric, and colorectal cancers. The group consists of scientists with deep oncology expertise who drive and implement project activities aimed at identifying and evaluating therapeutic candidates, as well as elucidating their mechanism of action. These include, but are not limited to, various *in vitro* experimental capabilities such as biochemical, 2D/3D or co-culture cell-based assays that recapitulate the disease indications using state-of-the-art instruments.

Inflammation & Immunology

The Inflammation and Immunology (I&I) group drives innovation in the I&I therapeutic domain, including the discovery and evaluation of novel therapeutic targets. Strategically positioned to enhance EDDC's immunology capabilities, the team develops and implements a range of immune cell-based functional assays, which can be expanded into more complex co-culture systems. The group investigates therapeutic agents for autoimmune diseases, aiming to suppress aberrant cytokine driven pathology, reset the immune system through B cell depletion and to repair/restore tissue homeostasis. Since its inception, the group has steadily expanded its impact by fostering collaborations with the local research community to turn insights from disease samples into potentially novel therapeutic solutions.

Structural Biology

The Structural Biology team harnesses advanced technologies to elucidate the 3D-structures of proteins, DNA/RNA, and their complexes with drug candidates—enabling data-driven innovation across the drug discovery continuum. By providing atomic-level insights, the team empowers rational drug design, lead optimization, and the development of next-generation therapeutics. Collaborating closely with medicinal and computational chemists as well as biologists, the team integrates fragment-based screening, biophysical profiling of target–ligand interactions, and high-resolution structure determination using a suite of complementary platforms, including biophysics, X-ray crystallography, NMR spectroscopy, and cryo-electron microscopy (Cryo-EM). These capabilities form a cornerstone of structure-guided discovery, accelerating the translation of molecular insights into impactful medicines.

(from left to right)

Back row:
Deepika Raman, Vincent Oei, Kang Congbao, Sriram Narayanan, Lee Le Tian, Ke Zhiyuan, Ang Xiaoman, Ang Qi An, Elaine Choo, Kang Zi Han, Chng Song Hui, Ivalyn Lam Yue Qi, Nithya Baburajendran, Victor Ho, Tan Chong Teik, Timothy Ashley Low, Visalatchi Thiagarajan

Front row:
Huang Qiwei, Jothi Anantharaja, Tan Hwee Ching, Snow Lee, Liew Chong Wai, Fong Jia Yi, Ong Shi Min, Sherry Wang

Absent:
Fanny Teo, Carol Koh, Oh Qin Yao, Perlyn Kwek

Discovery Chemistry

(from left to right)

Back row: Juliana Mohammad, Tan Li Hong, Lim Jieyan, Xu Pan, Padmanabhan Anbazhagan, Veincent Yap, Frankie Mak, Diane Lim, Sandra Sim, Hannah Toh, Eileen Tay

Front row: Xu Weijun, Brian Chia, Klement Foo, Subramanyam Vankadara

Absent: Yang Haiyan, Ronald Toh

Medicinal Chemistry

The Medicinal Chemistry team is central to EDDC's small molecule drug discovery effort, through generating compounds that can become therapeutic candidates to address human diseases. Working closely with Discovery Biology colleagues, the team engages early in project strategy planning, and supports the progression of projects from hit triage to lead optimisation. The drug design process is accelerated by our computational chemists who help predict and rationalise protein-ligand interactions using computer-aided drug design methodologies.

Beyond our core, the team actively explores new innovations and advances in chemistry to enhance EDDC's internal work processes. The team also proposes new biological targets, finds alternative mechanisms of inhibiting targets, and creates innovative platforms.

Peptide Chemistry

The Peptide Chemistry team is an agile drug-hunting team specialising in peptides, peptidomimetics and antibody-drug conjugate drug design, discovery & development, with a special focus on initiating and delivering new drug assets into EDDC's pipeline. The team was also instrumental in designing a SARS CoV-2 peptidomimetic protease inhibitor which was out-licensed in 2022.

Antibody Technology

The Antibody Technology division focuses on biologics discovery and platform innovation, specialising in Therapeutic Protein and Antibody Discovery and Antibody Design. We are advancing our High-Throughput Single B-cell Antibody Discovery platform (HiTAD) into HiTADPlus by integrating rabbit-derived diversity with precision display engineering. This enhances diversity via combinatorial libraries, refines precision through multi-parametric affinity and functional tuning, and accelerates modular building block design for proprietary multi-specific antibody engineering. We generated a proprietary rabbit cognate-pair NGS dataset to support AI-augmented antibody design in HiTADPlus, using unsupervised ML clustering and fine-tuned LLM models from our internal knowledgebase.

Additionally, we expanded to dual/multi-targeting antibodies through our Optimised Platform for Therapeutics Innovation in MultiSpecific (OPTIMuS), enabling rapid combinatorial bispecific assembly and phenotypic screening. OPTIMuS will be deployed indication-agnostically to advance next-generation biologics discovery. Finally, our experienced project leaders guide biologics project milestones, designing antibody product profiles aligned with target product profiles to translate innovative concepts into commercially viable therapeutic candidates.

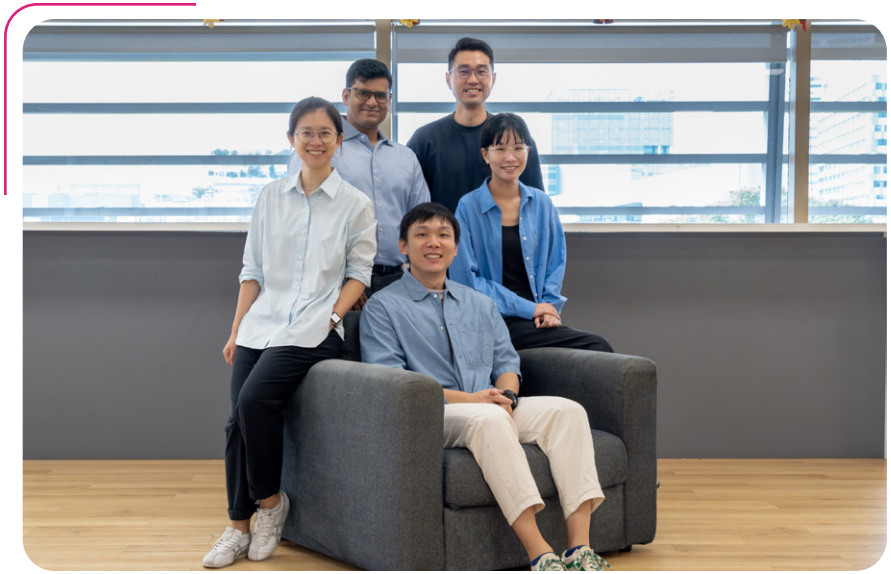
(from left to right)

Back row:
Jessie Lim, Chiam Poh Cheang, Ding Jia Wen, Wan Kah Fei, Lee Chop Yan, Felicia Zhang, Yap Thai Leong, Koh Xin Yu, Tabitha Tan

Front row:
David Voo, Nur Quraishah

Absent: Sim Wei Qiang, Koh Xiao Hui

Computational Biology



(from left to right)

Back row: Vamshidhar Gangu, Koe Chwee Tat | **Front row:** Sun Miao, Cai Yichao, Li Xuanzi

The Computational Biology group is responsible for leveraging strategic data analytics and computational innovation to accelerate and augment EDDC's drug discovery pipeline. We deliver hands-on analytics across the portfolio and apply statistics, causal reasoning, and machine learning—using the right AI for the right problem—to solve concrete biology and drug-discovery challenges.

In particular, we drive novel target discovery by integrating unique datasets with global patient multi-omics data, creating a machine learning-ready analytical foundation. Our iterative target nomination workflow deploys wet-dry learning cycles and advanced analytics and AI where they deliver maximum scientific value. Through emerging multi-omics capabilities—including adopting spatial technologies—we are working to generate unique patient datasets that fuel hypothesis generation and reveal new therapeutic opportunities.

In addition, we invest in foundational data infrastructure that enables breakthrough discoveries. Implementing FAIR data principles across various data platforms, we aim to establish a unified source of truth with consistent identifiers, standardized controls, and comprehensive data lineage—protecting intellectual property, accelerating trustworthy data reuse, and shortening discovery cycles while enhancing decision quality across all programs.

Chemical Biology

(from left to right)

Back row: Stephen Chew, Ai'man Lazarus Kieren | **Front Row:** Grace Lin, Liew Si Si, Ng Guan Zhi

The Chemical Biology Department comprises an interdisciplinary team that plays a pivotal role in bridging two key gaps within EDDC.

First, it bridges the gap between Discovery Chemistry and Discovery Biology by providing unique insights and employing cutting-edge tools to elucidate the mechanisms of action of novel compounds in biological pathways, advancing our understanding of disease mechanisms.

Second, it bridges the gap between small molecule and large molecule research, employing advanced approaches such as click chemistry, "plug-and-play" conjugation toolkits, to link small molecules with antibodies (e.g. antibody-drug conjugates). This integrative approach expands the therapeutic toolbox, drives innovative discovery, and accelerates the translation of new therapeutic strategies.

Translational Sciences

In Vivo Pharmacology

The In Vivo Pharmacology (IVP) team enables advancement of projects from discovery to the IND (Investigational New Drug) submission stage by providing critical scientific and technical expertise. The IVP team executes high-quality in-house studies and facilitates study outsourcing to CROs. IVP team members specialise in designing and performing robust efficacy studies in oncology and immuno-oncology, fibrosis, and infectious diseases.

The team facilitates the assessment of drug metabolism, pharmacokinetic properties, tolerability and pharmacology of lead molecules. Once a molecule is selected for development, IND-enabling activities are conducted before regulatory submissions and approval for clinical trials. The work is supported by a state-of-the-art animal vivarium at Biopolis and designated laboratory software platforms for data acquisition and analysis.

Biomarker Development

The Biomarker (BM) Development team is responsible for the development of biomarker assays to enable project transition from discovery to PDC, and then into clinical trials. They drive the biomarker strategies for EDDC's precision medicines from program inception and translate them for use in First-in-Human studies and beyond.

Prior to clinical development, the team establishes robust pharmacodynamic (PD) biomarker assays and, if required, performs development tests for suitable patient selection biomarker assays, to enhance the chances for clinical success and differentiation. Patient selection biomarkers are chosen in alignment with clinical development objectives, validated, then clinically implemented using a network of external partners operating under CAP/CLIA accreditation.

(from left to right)

Back row:
Atul Sureshrao Akarte, Agnes Ong, Frances Karla Kusuma, Sirin Lee

Front row:
Shawn Tan Pei Feng, Sylvia Gan, Vikas Madan, Susmitha Vuddagiri, Veronica Diermayr, Nurul Nazihah Rozaini

Strategy Planning

(from left to right)
Teo Hsiang Ling, Liew Si Si, Klement Foo, Yu Lan, Sharleen Cheng, Ang Hwee Ching, Tiffany Scully

The Strategy Planning team works closely with EDDC's leadership and across all functions to establish EDDC's strategic goals and priorities on a 5-year (per Research Innovation & Enterprise cycle) and annual basis, align the organisation to develop and implement workplans according to these agreed goals and priorities, and track the progress of the organisation towards achieving these outcomes.

The team is responsible for stakeholder management through organising regular meetings with EDDC's Governing Board and other key stakeholders to jointly review EDDC's performance and to seek endorsement for new initiatives or strategic milestones as well as conduct annual reporting of EDDC's progress to its stakeholders.

Project Management

(from left to right)
Xu Haoying, Tan Bee Huat, Nurul Nazihah Rozaini, Kunal Shah, Phuong Lan Le Ngoc

The Project Management team works hand-in-hand with senior management, scientific and development teams to manage portfolio projects, platforms and the triage workflow. The team oversees EDDC's entire portfolio of projects and platforms in collaboration with the leadership team and ensures that portfolio is risk mitigated, and individual projects/platforms proceed within the agreed scope, timeline and budget. The team also coordinate publication submission, technology disclosure submission as well as grant submission and tracking. To support the commercialisation efforts led by the Business Development team, the Project Management team takes the lead in assembling project documents and budgets.

The team members have multi-disciplinary backgrounds and extensive public and private sector experiences, enabling them to contribute to organisational success.

Development

(from left to right)

Kunal Shah, Julienne Cometa, Venkateshan Srirangam, Stéphanie Blanchard, Ranjani Nellore, Lee Yock Ann, Kantharaj Ethirajulu

Absent: Veronica Diermayr

CRO: Contract Research Organisation | CDMO: Contract Development and Manufacturing Organisation | CMO: Contract Manufacturing Organisation | CTA: Clinical Trial Authorisation | cGMP: Current Good Manufacturing Practice | mAb: Monoclonal antibody | IND: Investigational New Drug

Chemistry, Manufacturing & Controls

The Chemistry, Manufacturing & Controls (CMC) team screens, selects, and manages qualified CDMO/CMOs for product development and cGMP contract manufacturing for drug substances (DS) and drug products (DP) in compliance with applicable regulatory requirements. Investigational products used in clinical trials include small molecules and biologics such as mAb, ADC, vaccines, and recombinant proteins. The team also provides information for the CMC dossier in regulatory filings.

Regulatory Affairs

The Regulatory Affairs team works closely with Singapore's Health Sciences Authority (HSA) and the U.S. Food and Drug Administration (FDA) to coordinate regulatory efforts around clinical trials that EDDC is supporting. The team also works closely with scientific colleagues to offer regulatory consultations on CTA/IND submissions, development planning and other regulatory submissions.

Medical

The Medical team operates under two main functional areas. Firstly, designing and executing (including safety lead and sponsor medical oversight of ongoing clinical trials) clinical development plans for EDDC assets that progress to the clinical stage. Secondly, guiding the discovery teams to make decisions at various stages of a project.

Clinical Operations

The Clinical Operations team manages all development activities from study start up to close out, including vendor selection and CRO oversight, ensuring the study is conducted in accordance with scientific and ethical guidelines.

Business Development

(from left to right)

Back row:
Ang Hwee Ching, Low Choon Bing, Rachel Lim, Christophe Bodenreider, Chia Hsin-Ee, Goh Kay Lin, Katherine Zhuo

Front row:
Samantha Wong, Ervin Tan, Mayura Wagle, Tiffany Scully

Business Development

The Business Development (BD) team spearheads EDDC's engagement with pharma and biotech companies, as well as venture capital and venture builders, to commercialise EDDC's portfolio assets. The team monitors the competitive landscape for EDDC's portfolio projects and also works closely with our innovative platforms to support the development of strategic development plans towards licensing or spin-offs.

Alliance Management

The Alliance Management (AM) team drives EDDC's engagement and support for public sector researchers, mainly through the Target Translation Consortium (TTC) and the Singapore Therapeutics Development Review (STDR). AM also manages EDDC's collaborations with and outreach to publicly funded researchers as well as global alliance partners.

Communications

The Communications (DigiComms) team is responsible for maintaining EDDC's online presence and its brand assets. The team communicates EDDC's achievements, partnerships, expertise and capabilities through multiple channels including press releases, annual reports, and web-based written and visual content. DigiComms also supports EDDC's outreach efforts to the community through events and staff speaking engagements on various platforms.

External Innovation

The External Innovation effort works hand-in-hand with the BD and AM teams to identify and establish co-development opportunities with local and international academic and biotech partners.

Operations

(from left to right)

Back row:
Dai Mingyan, Stephanie Blanchard, Helen Yeo, Sharleen Cheng, Dakshani Selvakumar, Samantha Lee, Lynette Liew, Poh Zhi Ying, Sebastian Tan

Front row:
Nur Huda Ahmad, Yu Lan, Ho Soo Yei, Chan Wai Ling

Absent:
Selina Chan, Vera Tan

Admin Ops, Lab Ops & IT teams

These teams collaborate across EDDC to uphold operational excellence. By keeping day-to-day operations smooth, stable, and efficient, they provide the essential foundation that enables our research and business functions to run effectively and productively.

Resource Management

Operating under the Chief of Staff Office, the Resource Management team plays a pivotal role in overseeing EDDC's resource allocation. In close collaboration with A*STAR's Finance, Procurement, HR, and ITSS departments, the team ensures effective budgetary, portfolio, and personnel management. Key responsibilities include managing budget forecasts, preparing tri-annual financial reports for the Governing Board, and securing annual budget approvals, all while maintaining vigilant oversight of project activities and resource utilisation.

Through strategic capacity planning and proactive workload management, the team ensures optimal readiness for upcoming initiatives and sustains high productivity levels across the organisation.

Quality Assurance

The Quality Assurance (QA) team at EDDC ensures the effective management of the Quality Management System (QMS) in line with ISO 9001 standards. To uphold high-quality standards, the team conducts internal and clinical audits, provides guidance on Good Clinical Practice (GCP) to ensure regulatory compliance, and supports staff training programs. QA also leads continuous improvement initiatives to enhance processes and overall compliance.

Social Events

Team-Building 2025
Theme: Sustainability

EDDC celebrating our team-building day at Singapore Polytechnic Graduates' Guild

Competing to get ahead in the games!

Excited to make and use these recycled plastic products through a workshop by Plastify

Rolling giant dice as part of our team-building games!

Social Events

Social Fridays

Various teams from EDDC take turns to organise a social gathering every 2 months!

National Day celebrations at EDDC organised by our Development colleagues!

Chinese New Year celebrations with our own 'god of fortune' from Oncology

Tea Time at Business Development's Social Friday

Painting mini pumpkins at Antibody Technology's Social Friday

Social Events

Year-End Dinner 2025

Theme: Y2K

EDDC celebrating 2025 with our year-end dinner at Mount Faber Peak!

Competing for our emcee's attention to score some points

Capturing memories at our photobooth

Showing their moves during our "Just Dance" segment

Our Best-Dressed Winners!

Here's to 2026!

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