

We Are HIM

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Initially named the Institute of Cancer and Basic Medical Sciences, the Hangzhou Institute of Medicine (HIM), Chinese Academy of Sciences (CAS) was inaugurated on May 8, 2019, through a collaborative agreement between CAS and the Zhejiang Provincial Government.

The Mission

At the heart of HIM nestles an ambitious mission: to spearhead pioneering innovations in tumor diagnostics and therapeutics, precision medicine, drug development, and intelligent healthcare technologies.

By leveraging omics technologies, including genomics, proteomics, and metabolomics, the Institute seeks to unravel the molecular underpinnings of various cancers, paving the way for the development of precise diagnostic tools and individualized treatment

strategies tailored to each patient's unique genetic and molecular profile.

HIM is also dedicated to fostering development of novel drugs and delivery systems. The Institute aims to accelerate the discovery of pharmacological agents that are more efficacious, incur fewer side effects, and can be administered with less invasion and more precision, thus addressing the pressing need for new treatments against diseases that remain stubbornly resilient to existing therapies.

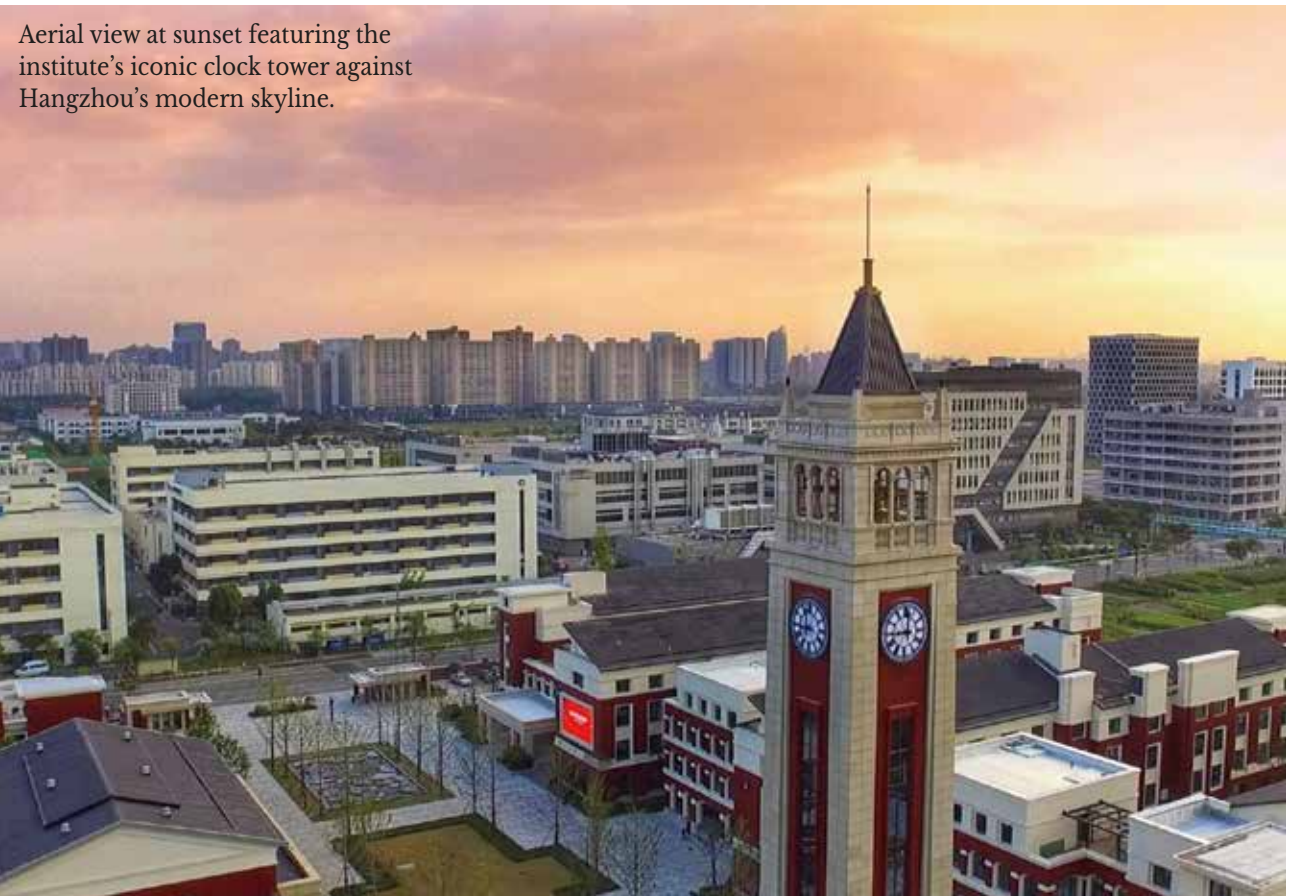
Recognizing the transformative potential of technology in healthcare, HIM has also prioritized the development of intelligent healthcare technologies driven by machine learning and artificial intelligence (AI). By fusing the newest technological innovations with medical expertise, the Institute seeks to create systems capable of predicting, or even tracking, disease progression, aiding in clinical prognoses, particularly through the advent of

The landscape
of HIM.



Graphic: HIM

Aerial view at sunset featuring the
institute's iconic clock tower against
Hangzhou's modern skyline.



Graphic: HIM

biomarker discovery, and optimizing patient care protocols, ultimately promoting healthcare delivery.

Underpinning these research thrusts is HIM's unwavering commitment to fostering the next generation of medical science talent and advocating for rigor in scientific experimentation and robust scientific education. The Institute recognizes that sustaining an innovative scientific ecosystem requires a continuous influx of knowledge and expertise and efflux of transformative findings, ensuring that the pipeline of discovery and application never stagnates.

A Multidisciplinary Tapestry: Research Centers

HIM has established a network of research centers and laboratories that embodies a collaborative spirit and a commitment to innovation. The following summarizes some of these key

research centers:

Aptamer Selection Center develops high-throughput, cost-effective screening technologies for generating aptamers, which bind specifically to proteins, small molecules, or cells. It focuses on overcoming technical challenges and providing novel tools for oncology and basic medical research.

Nucleic Acid Molecular Medicine Research Center supports the "Healthy China" strategy by advancing tumor diagnosis, treatment, and prevention through nucleic acid research. It focuses on developing new technologies for efficient disease detection and precise interventions while tackling key scientific and technical challenges.

Center for Intelligent Molecular Diagnostics focuses on molecular diagnosis and automated detection of major diseases, including malignant tumors and infectious diseases. It is also working on instant intelligent detection equipment, home-based diag-

High-throughput automated aptamer screening system.



Graphic: HIM

nostic solutions, and an AI and block-chain-assisted platform for medical big data analysis.

Center for Innovative Drugs and Precision Theranostics tackles the technical barriers of cell therapy and is actively engaged in the development of small-molecule drug candidates. It also houses laboratories for gastric cancer intelligent surgery and proteomics research.

Medical Synthetic Biology Research Center focuses on artificial biological systems, including non-natural and modified nucleic acids, functional nucleic acid drugs, mRNA therapies, AI-driven protein design, artificial cells, and biopharmaceuticals. It aims to drive innovation in basic research and develop clinical applications by designing and manipulating molecules, genes, cells, and devices.

Biomaterials & Medical Devices Research Center investigates novel biomaterials and develops medical devices for various applications, from imaging to advanced therapies.

Omics & AI for Medicine Re-

search Center integrates genomics, proteomics, and bioinformatics to advance drug discovery, multiomics, and intelligent diagnostics.

Clinical & Translational Research Center focuses on malignant tumor research, addressing unmet needs in prevention, diagnosis, and treatment as part of the “Healthy China” strategy. Its research includes boron neutron capture therapy, heavy ion radiotherapy, early screening technology, and traditional Chinese medicine for radiotherapy side effects. The center fosters interdisciplinary collaboration and talent development to drive medical innovation and improve patient outcomes.

A Collaborative Ecosystem

HIM fosters a dynamic network of partnerships and joint initiatives that expand its research capabilities and global reach in biomedicine. Joint research programs with leading medical/research entities worldwide lever-

Comprehensive workflow for drug development and evaluation at the Center for Innovative Drugs and Precision Theranostics.



Facilities for nucleic acid drug development and efficacy evaluation

Graphic: HIM



International research teams at HIM.

Graphic: HIM

age complementary strengths to drive advancement.

Exchange programs facilitate cross-pollination of ideas and talents, enriching the research community. HIM scientists work with prestigious international laboratories, while global researchers contribute to HIM's projects, fostering a global medical research network.

Strategic alliances with pharmaceutical/biotech industry leaders aim to translate basic findings into viable medical products and services accessible globally.

HIM actively engages the broader biomedical field through consortia, symposia, shared databases, and large-scale collaborative initiatives. This two-way knowledge exchange enriches HIM's research and amplifies its global healthcare impact.

A Strategic Nexus: Hangzhou Medical Port Town

Inspired by the world-class Mayo Clinic in the USA, but with global affiliated presence in many countries, including China, the rationale behind establishing HIM within the city of Hangzhou is multifaceted. Hangzhou's burgeoning status as a nexus for technology and healthcare, including hospitals and clinics, as well as healthcare-oriented businesses, together with the presence of over a thousand biomedical firms in the region, has created fertile soil for medical science innovation.

Nestled in this dynamic nexus, HIM may benefit from a symbiotic relationship with the surrounding entities. It is anticipated that the fusion of research institutions, hospitals, and biotech companies will create a synergism that fosters an environment conducive to innovation, idea exchange, and the rapid translation of discoveries.

(Source: HIM)