

NEWS & COMMENTARIES



Perspective: Women Courage, purpose and persistence in healthtech

by **Dr Zara Ghazoui's** journey shows how women in tech drive change in healthcare, blending AI expertise with human-centred innovation.

Dr Zara Ghazoui, Director of Digital Innovation at AstraZeneca, has built her career at the intersection of science, big data, AI and healthcare. With over two decades of experience in data, AI, oncology and digital transformation, she is also a mentor and judge for healthtech startups. Her story is a testament to courage, purpose and persistence, the pillars she believes every woman in tech should stand on.

The article cover the following topics:

- Unleashing purpose-driven leadership in healthtech
- Mindset as a catalyst to break barriers
- Guiding startups towards impact
- AI transforming cancer care and beyond

<https://startufluxembourg.com/news/courage,-purpose-and-persistence-in-healthtech-505d0d41e7e0abfc52322c011d3c8203>



Biotech news from around the world

Hyderabad's Genome Valley sees a major expansion with the opening of two facilities by Thermo Fisher Scientific. The Bioprocess Design Center is a scale-up hub for biologics and vaccine manufacturing, enabling rapid prototyping, process optimization and scale-up across cell culture, microbial fermentation, purification and analytical testing. In addition, the Customer Experience Center allows scientists, startups and industry professionals access to Thermo Fisher's newest technologies through collaborations.

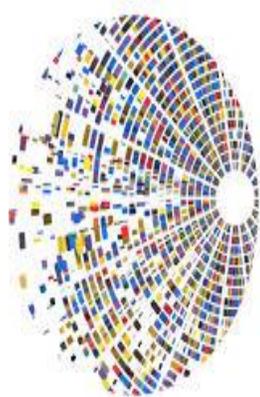
<https://doi.org/10.1038/s41587-025-02984-3>

GSK picks first Flagship biotechs

London-based GSK has selected its first two biotech collaborators from venture capital Flagship Pioneering's bioplatfrom companies. The agreements are part of a \$7.2 billion pact between the big pharma and the venture capital firm forged in 2024. The chosen biotechs are Cambridge, Massachusetts human protein company ProFound Therapeutics and genomics biotech Quotient Therapeutics, located in Cambridge, UK.

<https://www.nature.com/articles/s41587-025-02986-1>





TARGET 2035
LIGAND-AI

IHI Project LIGAND-AI Launches to Advance Artificial Intelligence (AI)-Driven Drug Discovery through Open Science | Structural Genomics Consortium

Led by Pfizer and the Structural Genomics Consortium (SGC), LIGAND-AI consortium will interrogate thousands of proteins relevant to existing and unmet disease areas including rare, neurological, and oncological conditions.

The new multi-sector public-private partnership funded by the Innovative Health Initiative (IHI) brings together 18 partners across nine countries to generate large open, high-quality datasets of

protein–ligand interactions and use them to train artificial intelligence (AI) models capable of predicting candidate molecules as suitable binders for thousands of human proteins.

<https://www.thesgc.org/news/ihl-project-ligand-ai-launches-advance-artificial-intelligence-ai-driven-drug-discovery>



The Italian parliament first to recognize obesity as a chronic and relapsing disease

On 1 October 2025, the Italian Parliament approved the first law worldwide to officially recognized obesity as a chronic and relapsing disease that can lead to life-threatening complications. This landmark legislation followed closely after the publication of national guidelines on the diagnosis and treatment of obesity^{1,2}, representing a pivotal moment in the country's public health strategy. Article 1 of the law defines obesity as a disease — no longer merely a precursor of other illnesses — but “a true priority for clinical interventions and public health strategies”.

<https://doi.org/10.1038/s41591-025-04112-9>



Technology is changing how we write — and how we think about writing

By Andrew Robinson, 2026

An exploration of how writing systems, from ancient Chinese characters to modern alphabets, shape language, and whether users of ChatGPT can be said to be authors at all. Tools of the Scribe: How Writing Systems, Technology, and Human Factors Interact to Affect the Act of Writing Brian Roark et al. Springer (2025)

The world's oldest writing system still in use, that of Chinese characters, dates from about 1200 bc. It has survived almost as long as its even older predecessors. For instance, cuneiform — comprising wedge-shaped marks inscribed in clay tablets with a stylus — was

used in ancient Mesopotamia until the first century ad and Egyptian hieroglyphs remained in use until the fourth century ad. Moreover,

<https://www.nature.com/articles/d41586-026-00245-0>



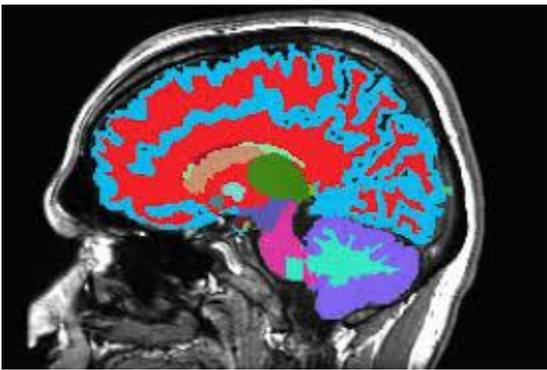
PRETIDORS: Ashamed Scientists: Epstein files reveal deeper ties to scientists than previously known. Newly released files from the investigation of convicted of unlawful act Jeffrey Epstein reveal that his ties to the scientific community were deeper than previously known. Epstein, who died by suicide in 2019 after being arrested and charged with sex trafficking, was a wealthy financier who invested millions in science projects and socialized with researchers. It was already known that, after Epstein's initial conviction for sex crimes in 2008, some scientists continued to associate with and take money from him, prompting fallout at top research institutions. For instance, Epstein gave US\$800,000 to the Massachusetts Institute of Technology in Cambridge, which led two

scientists to resign and the university to suspend another.

Latest batch of documents show researchers consulting the financier and sex offender on publications, visas and more.

<https://www.nature.com/articles/d41586-026-00388-0>

SELECTED PUBLICATIONS

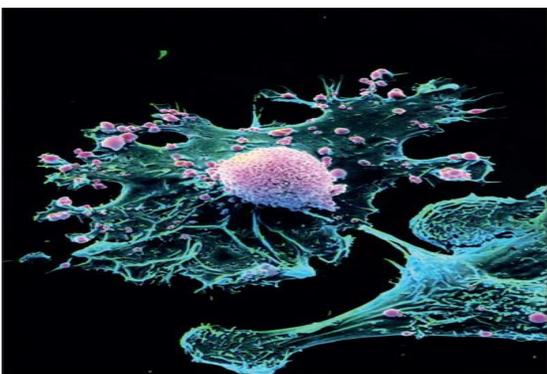


MRI-based multi-organ clocks for healthy aging and disease assessment

The MULTI Consortium 2026

<https://doi.org/10.1038/s41591-025-03999-8>

In this study, seven magnetic resonance imaging-based multi-organ biological age gaps (MRIBAGs) were developed, extending understanding of human aging and disease across various organ systems, including the brain, heart, and liver. Analyzing data from 313,645 individuals, the researchers linked these MRIBAGs to numerous plasma proteins and metabolites. Genome-wide association studies discovered significant MRIBAG-locus pairs, while genetic correlation and Mendelian randomization analyses highlighted both organ-specific and cross-organ connections, including links to multiple biological aging clocks and disease endpoints.



Whole-genome landscapes of 1,364 breast cancers

Kim et al., 2026

<https://doi.org/10.1038/s41586-025-09812-3>

Breast cancer is a significant global health issue. This study analyzed whole-genome sequences from 1,364 breast cancer cases, identifying new oncogenic changes and potential driver genes. It found that genomic instability occurs decades before diagnosis and linked certain genomic features to clinical outcomes, which could help in treatment evaluations



Rhythms of risk: the intersection of clocks, cancer, and chronotherapy

Mello et al., 2026

<https://doi.org/10.1172/JCI198780>.

Circadian clocks regulate daily cellular and physiological rhythms, impacting processes such as the cell cycle, DNA repair, and immune function, which play roles in cancer progression and treatment. Disruption of these clocks can either promote or inhibit cancer depending on the tumor type. This highlights the connection between circadian physiology

and oncogenic pathways. The review emphasizes the potential of integrating circadian biology into precision oncology to enhance treatment effectiveness and reduce toxicity through chronotherapy, tailored to specific cancer types.



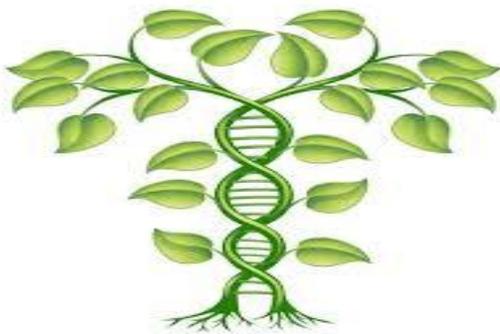
Diabetes exacerbates destructive inflammation by activating the CD137L-CD137 axis in dendritic and IL-17+ T cells

Xin Huang et al., 2026

<https://doi.org/10.1172/JCI193289>.

Periodontal disease, a common bacterial infection, poses significant risks for systemic diseases, particularly exacerbated by diabetes. Research integrating murine and human studies utilized single-cell RNA-Seq to uncover a hyperglycemia-driven pathway involving the upregulation of

CD137L in dendritic cells and increased CD137 expression in IL-17+ T cells. The CD137L-CD137 axis was identified as crucial for inflammation and tissue damage related to diabetes. Inhibition of CD137L reduced diabetes-related bone loss and inflammatory cell infiltration. Additionally, high glucose levels were shown to dysregulate dendritic cells, adversely affecting $\gamma\delta$ T cell activity. The study established the importance of dendritic cells in producing CD137L and introduced the CD137L-CD137 pathway as a potential therapeutic target to address diabetes-related inflammatory complications.



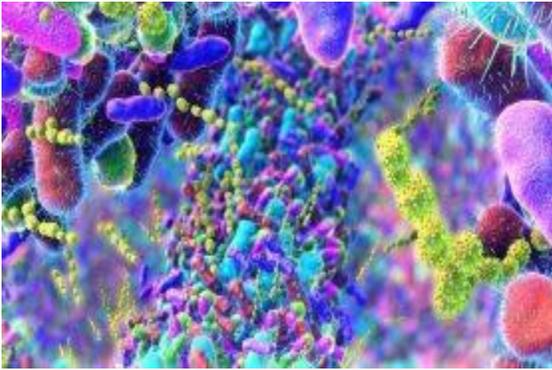
Large-scale mining of plant genomes unlocks the diversity of oxidosqualene cyclases

Stephenson et al., 2026

<https://doi.org/10.1038/s41589-025-02034-8>

The study investigates the diversity of oxidosqualene cyclases (OSCs) across 599 plant genomes, revealing complex transformations leading to triterpenoid diversity. Functional evaluation of 20 selected OSC sequences indicates product profiles that challenge previous functional conservation beliefs. The research uncovers new OSCs producing

previously uncharacterized triterpenes and offers mechanistic insights into enzymatic pathways. The findings suggest lineage-specific OSC subgroups adapted to various environmental niches, enhancing our understanding of metabolic diversification in plants.



Intratumoral bacteria are immunosuppressive and promote immunotherapy resistance in head and neck squamous cell carcinoma

Silver et al., 2026

<https://doi.org/10.1038/s43018-025-01067-1>

In the context of immune checkpoint blockade (ICB) for head and neck squamous cell carcinoma (HNSCC), a study analyzed oropharyngeal HNSCC treated with durvalumab alone or with tremelimumab. The research revealed that only the total abundance of intratumoral bacteria could predict ICB response, correlating with an immunosuppressive tumor microenvironment marked by neutrophil accumulation and T cell depletion. Experimental manipulation of intratumoral bacteria in animal models confirmed a relationship with immunological outcomes. Specifically, increased bacterial abundance led to resistance against anti-PDL1 ICB, highlighting its role as a suppressor of antitumor immunity and a promoter of immunotherapy resistance.

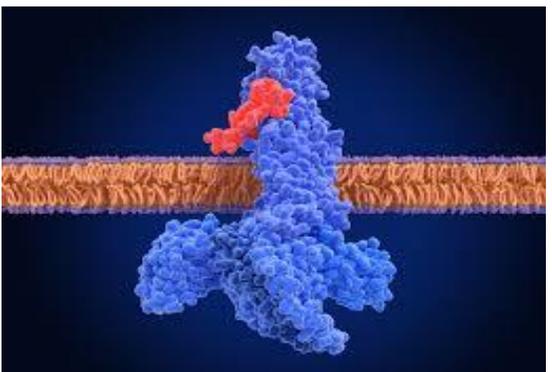


Evaluating progesterone receptor agonist megestrol plus letrozole for women with early-stage estrogen-receptor-positive breast cancer: the window-of-opportunity, randomized, phase 2b, PIONEER trial

Burrell et al., 2026

<https://doi.org/10.1038/s43018-025-01087-x>

The use of progestogens in breast cancer treatment has been a topic of debate. Recent studies indicate that ligand-bound progesterone receptors interact with estrogen receptors, modifying their transcriptional activity. The PIONEER study, involving 198 women with early-stage ER+ breast cancer, assessed the impact of adding megestrol (40 mg or 160 mg daily) to letrozole. The primary endpoint was the change in tumor proliferation via Ki67 immunohistochemistry. Results demonstrated a significant reduction in tumor proliferation when megestrol was combined with letrozole, correlating with decreased ER genomic binding.



Repurposing glucagon-like peptide-1 receptor agonists for the treatment of neurodegenerative disorders

Sabbagh et al., 2026

<https://doi.org/10.1038/s43587-025-01029-3>

Therapeutic advances in Alzheimer's disease (AD) are focusing on new targets beyond amyloid, such as tau, neuroinflammation, and neurotransmitters. Glucagon-like peptide-1 receptor agonists (GLP-1RAs) are being studied as potential AD treatments due to their effects on reducing dementia risk and neuroinflammation, although clinical trials have not yet proven their effectiveness.



Organ-specific proteomic aging clocks predict disease and longevity across diverse populations

Wang et al., 2026

<https://doi.org/10.1038/s43587-025-01016-8>

Aging and related diseases involve similar pathways at the protein level. Researchers created aging clocks for ten organs using data from the UK Biobank and other cohorts. These clocks help predict disease and death risk, particularly for brain aging, which is linked to lifestyle and specific genes. They offer insights into tracking aging and disease risk.



Time-of-day immunochemotherapy in nonsmall cell lung cancer: a randomized phase 3 trial

Huang et al., 2026

<https://doi.org/10.1038/s41591-025-04181-w>

A study tested whether giving immunochemotherapy early in the day could improve treatment outcomes for patients with advanced lung cancer. In the LungTIME-Co1 trial, 210 patients were split into early and late treatment groups based on when they received their therapy. Results showed that the early group had better progression-free survival (PFS) of 11.3 months compared to 5.7 months in the late group and higher overall survival (OS) of 28.0 months versus 16.8 months. The early group also showed an increase in certain immune cells. No new safety issues were found between the groups.

RECOMMENDED EVENTS & JOB CORNER



7th Annual

TIL Therapies Summit

Resources: The 7th TCR-Based Therapies Summit: Your All-in-One Resource for the 2026 Summit

The 7th TCR-Based Therapies Summit is your dedicated forum providing exclusive industry insights, establishing meaningful connections, and offering face-to-face networking with the senior experts driving innovation across the TCR field.

Our new data showcases include...

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Post Doctoral Fellow (Pluripotent Stem Cell Disease Modeling Lab) Qatar

The Pluripotent Stem Cell Disease Modeling Lab at Sidra Medicine is seeking a highly motivated computational biologist to join our research team as a postdoctoral fellow. The Post-Doctoral Fellow, as part of the program team, engages in collaborative scientific work with other colleagues to deliver specific research tasks. The Postdoctoral Fellow may also prepare status reports on program process.



The Sub-Saharan Africa Health Research and Innovation Fellowship (SAHRI Fellowship)

is a three-year programme designed to strengthen health research capacity and foster biomedical innovation in sub-Saharan Africa.

Academic phase:

- Master of Science in Tropical Medicine (60 ECTS) at ITM, Antwerp
- Systems Thinking in Biotech Development course (3 ECTS) at KU Leuven

- Industry internship and research placements:
- Six-month industry internship at BioNTech in Germany
- Hands-on research projects at leading African centres (EACCR, CRUN)
- Return-home phase:
- Twelve months of research implementation in the fellow's home institution or region
- Continued mentorship and opportunities to transition into a PhD program
- Throughout the fellowship, participants are supported by a mentorship framework linking them with experts from academia, African research institutions, and industry.

For more information and submission of your application, visit their page

<https://lnkd.in/enGb7gcM>



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