

AI News Digest

07/13/2026 - 07/19/2026

WEEKLY DIGEST: BIOLOGICAL & BIOMEDICAL SCIENCES

AI Innovations Propel Advances in Biological Research

Recent advancements in AI are significantly impacting biological and biomedical sciences, with researchers uncovering new insights into decision-making processes in the brain and enhancing biosecurity through innovative technologies. The introduction of VariantBench aims to improve genetic variant discovery, while a new biodegradable plastic offers a sustainable solution to environmental challenges. Additionally, funding for NeuroAI initiatives highlights the growing intersection of AI and neuroscience, paving the way for future breakthroughs.

KEY FINDINGS

- ✓ Decision-making processes in the brain begin earlier than previously thought, challenging traditional models.
- ✓ VariantBench introduces a comprehensive benchmark for evaluating AI in genomic data analysis.
- ✓ A new biodegradable plastic, 'living plastics,' self-destructs in six days without leaving microplastics.

IMPLICATIONS

- Enhanced understanding of brain function could lead to improved mental health treatments.
- AI-driven benchmarks may accelerate the pace of genetic research and personalized medicine.
- Innovative materials like 'living plastics' could revolutionize waste management and environmental sustainability.

Key Metrics: Hemispheric raised \$52 million in early-stage funding.; VariantBench comprises 118 evaluations for AI agents.; New biodegradable plastic degrades in just 6 days.

1. Scientists discovered the brain doesn't make decisions the way we thought

Category: Research

Departments: Biological Sciences, Computer Science, Psychology

Topics: AI Hardware, Brain-Computer Interfacing, Feedback Loop Mechanisms, Biologically-Inspired AI, Decision-Making Models

Impact Score: 26.0

Rubric Scores

Research Relevance: 5

Educational Value: 4

Innovation / Novelty: 5

Practical Impact: 4

Interdisciplinary Potential: 5

Ethical / Policy Implications: 3

Researchers at the University of Illinois Urbana Champaign have identified that decision-making processes in the brain begin earlier than previously thought, challenging the traditional model that views information flow as strictly hierarchical. Their study, published in the Proceedings of the National Academy of Sciences, reveals that early sensory regions, such as the primary somatosensory cortex, play a significant role in decision-making through feedback loops with higher brain areas. This finding suggests that understanding the brain's interconnected architecture could inform the design of more efficient and capable artificial intelligence systems. The research aims to leverage insights from biological intelligence to enhance AI performance and energy efficiency.

<https://www.sciencedaily.com/releases/2026/07/260712011757.htm>

2. Following the questions where they lead

Category: Research

Departments: Political Science & Public Administration, Electrical & Computer Engineering, Public Health Sciences, Biological Sciences

Topics: AI for Democratic Participation, Computational Tools for Public Health, Microfluidic Devices for Diagnostics, Interdisciplinary AI Applications

Impact Score: 25.0

Rubric Scores

Research Relevance: 4

Educational Value: 3

Innovation / Novelty: 4

Practical Impact: 5

Interdisciplinary Potential: 5

Ethical / Policy Implications: 4

Bailey Flanigan, a faculty member at MIT's Schwarzman College of Computing and the departments of Political Science and Electrical Engineering and Computer Science, focuses her research on enhancing democratic participation through computational and mathematical tools. Her interdisciplinary background spans medicine, public health, and economics, driven by a desire to address pressing global issues, particularly in low-resource settings. Flanigan's academic journey reflects a shift from traditional scientific research to public health initiatives, such as developing microfluidic devices for HIV detection, motivated by the need for impactful solutions for underserved populations. Her work aims to bridge gaps across disciplines to foster meaningful societal change.

<https://news.mit.edu/2026/following-questions-where-they-lead-bailey-flanigan-0717>

3. Our approach to bioresilience

Category: Research

Departments: Biological Sciences, Public Health Sciences, Computer Science, Political Science & Public Administration

Topics: Healthcare AI, Pathogen Surveillance, Vaccine Design Optimization, AI for Biosecurity, AlphaFold Applications

Impact Score: 24.0

Rubric Scores

Research Relevance: 4

Educational Value: 3

Innovation / Novelty: 4

Practical Impact: 5

Interdisciplinary Potential: 4

Ethical / Policy Implications: 4

Google DeepMind and Isomorphic Labs have announced a collaborative initiative aimed at enhancing global biosecurity through advanced AI technologies. Their bioresilience program focuses on three key areas: prevention, detection, and response to infectious diseases and potential biothreats. The partnership has established over 15 collaborations with government and biosecurity organizations to develop safeguards against the misuse of AI models, optimize pathogen surveillance, and accelerate the design of vaccines and therapeutics. Notable advancements include the application of AI systems like AlphaFold and the IsoDDE to improve the accuracy and efficiency of biological research and outbreak response.

<https://deepmind.google/blog/our-approach-to-bioresilience/>

4. VariantBench: An Agentic Benchmark for Genetic Variant Discovery and Interpretation

Category: Research

Departments: Biological Sciences, Computer Science, Public Health Sciences

Topics: Healthcare AI, Genomic Variant Interpretation, AI Agent Evaluation, Case-Specific Inspections

Impact Score: 24.0

Rubric Scores

Research Relevance: 5

Educational Value: 4

Innovation / Novelty: 5

Practical Impact: 4

Interdisciplinary Potential: 3

Ethical / Policy Implications: 3

The study introduces VariantBench, a benchmark comprising 118 evaluations designed to assess AI agents' capabilities in variant discovery and interpretation within genomic data analysis. The evaluation revealed that leading models, such as GPT-5.6 Sol and Claude Opus 4.8, achieved pass rates of only 42.1%, with no configuration surpassing half of the tasks. The analysis highlighted that while agents could perform standard tasks, they struggled with case-specific inspections and complex genomic regions, indicating a reliance on scientific judgment for successful outcomes. The findings suggest that while AI agents are advancing in genetic variant analysis, significant challenges remain in their ability to handle nuanced, data-specific tasks effectively.

<https://blog.latch.bio/p/variantbench-an-agentic-benchmark>

5. New "living plastic" self-destructs in just 6 days without leaving microplastics

Category: Research

Departments: Metallurgical, Materials & Biomedical Engineering, Biological Sciences

Topics: Biodegradable Plastics, Microbial Degradation, Polymer Engineering, Wearable Decomposable Devices, Plastic Pollution Mitigation

Impact Score: 22.0

Rubric Scores

Research Relevance: 4

Educational Value: 3

Innovation / Novelty: 5

Practical Impact: 4

Interdisciplinary Potential: 4

Ethical / Policy Implications: 2

Researchers have developed a new type of biodegradable plastic, termed "living plastics," which incorporates dormant microbes capable of degrading the material upon activation. In a study published in ACS Applied Polymer Materials, the team engineered *Bacillus subtilis* to produce two polymer-degrading enzymes that work in sequence, allowing the plastic to fully decompose within six days without generating microplastics. The living plastic maintained mechanical properties similar to conventional polycaprolactone and was successfully demonstrated in a wearable device that degraded completely within two weeks. Future work aims to adapt this technology for other plastics and explore activation methods in water, addressing plastic pollution more effectively.

<https://www.sciencedaily.com/releases/2026/07/260715083552.htm>

6. Hemispheric raises \$52M for AI brain foundation model

Category: Business

Departments: Biological Sciences, Computer Science, Psychology, Electrical & Computer Engineering

Topics: Healthcare AI, NeuroAI, Brain Foundation Model, Computational Neuroscience

Impact Score: 18.0

Rubric Scores

Research Relevance: 3

Educational Value: 2

Innovation / Novelty: 4

Practical Impact: 4

Interdisciplinary Potential: 3

Ethical / Policy Implications: 2

Hemispheric, a NeuroAI company focused on understanding the human brain, has announced its emergence from stealth mode with \$52 million in early-stage funding. The funding round included participation from several investors, such as OneMind/Awareness Capital and Protocol Labs. Hemispheric was co-founded by computational neuroscientist Hagai Lalazar and Gidi Littwin, who previously co-founded the facial recognition AI company RealFace, acquired by Apple in 2017.

<https://www.mobihealthnews.com/news/hemispheric-raises-52m-ai-brain-foundation-model>

7. Sensing warm and cool: how the body detects temperature changes

Category: Research

Departments: Kinesiology, Nursing, Biological Sciences, Public Health Sciences

Topics: Healthcare AI, Thermoreceptor Function, Thermal Dysfunction, Advanced Imaging Techniques

Impact Score: 17.0

Rubric Scores

Research Relevance: 3

Educational Value: 2

Innovation / Novelty: 4

Practical Impact: 3

Interdisciplinary Potential: 4

Ethical / Policy Implications: 1

Researchers at the University of Queensland have discovered that the skin's thermoreceptor nerve cells, which are responsible for sensing temperature, can detect both cool and warm sensations, contrary to the previously held belief that separate cells were responsible for each temperature. This study utilized advanced imaging techniques in mice to track the response of thousands of thermoreceptors to non-painful temperature changes. The findings suggest that these thermoreceptors increase activity in cooler conditions and decrease in warmer ones, which may have implications for understanding thermal dysfunction in conditions such as spinal cord injury, multiple sclerosis, and aging. The research aims to inform future therapies by providing a clearer understanding of how thermoreceptors function and their potential role in early degeneration indicators.

<https://news.uq.edu.au/2026-07-sensing-warm-and-cool-how-body-detects-temperature-changes>