

**Publications of the Week**
***In Vitro* Characterization of the Human Segmentation Clock**

First Author: Margarete Diaz-Cuadros | Senior Author: Olivier Pourquie *(pictured)*  
 Nature | Brigham and Women's Hospital, Harvard Medical School and Harvard Stem Cell Institute



The segmental organization of the vertebral column is established early in embryogenesis, when pairs of somites are rhythmically produced by the presomitic mesoderm (PSM). The tempo of somite formation is controlled by a molecular oscillator known as the segmentation clock. The authors show that human PSM cells derived *in vitro*—as well as those of the mouse—recapitulate the oscillations of the segmentation clock. [Abstract](#)

**Selective Induction of Antibody Effector Functional Responses Using MF59-Adjuvanted Vaccination**

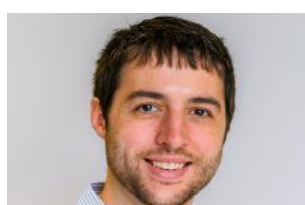
First Author: Carolyn Boudreau | Senior Author: Galit Alter *(pictured)*  
 Journal of Clinical Investigation | Ragon Institute of MGH, MIT and Harvard



Seasonal and pandemic influenza infection remains a major public health concern worldwide. Driving robust humoral immunity has been a challenge given preexisting, often cross-reactive, immunity and in particular, poorly immunogenic avian antigens. Using systems serology, the authors assessed changes in antibody functional profiles in individuals who received H5N1 avian influenza vaccine administered with MF59, with alum, or delivered unadjuvanted. [Abstract](#)

[View All Publications](#)
**Awards**
**The Mark Foundation Announces 2020 Emerging Leader Awards**

The Mark Foundation for Cancer Research



The Mark Foundation for Cancer Research has awarded six grants to promising early career scientists, including Dr. Philip Kranzusch *(pictured)* from Dana-Farber Institute, for projects aimed at addressing unmet needs in cancer research. The Emerging Leader Award program aims to empower early career investigators to take on innovative, risky projects that have significant potential to improve outcomes for cancer patients. [Read More](#)

**Nancy Kanwisher to Receive George A. Miller Prize in Cognitive Neuroscience**

McGovern Institute



Dr. Nancy Kanwisher *(pictured)*, the Walter A. Rosenblith Professor of Cognitive Neuroscience at MIT, has been named this year's winner of the George A. Miller Prize in Cognitive Neuroscience. The award, given annually by the Cognitive Neuroscience Society, recognizes individuals "whose distinguished research is at the cutting-edge of their discipline with realized or future potential." [Read More](#)

[View All Awards](#)
**Local News**
**New Closed-Loop System Offers Promise as Novel Treatment for Post-Bariatric Hypoglycemia**

Joslin Diabetes Center



Gastric bypass vastly improves the health of the patients who elect to receive the surgery. Post-bariatric hypoglycemia, however, can be a severe complication experienced by 10 to 30 percent of patients. Researchers at Joslin Diabetes Center and Harvard John A. Paulson School of Engineering and Applied Sciences have developed a closed-loop system that automatically provides patients with an appropriate, as-needed dose of liquid glucagon to treat this condition. [Read More](#)

**A Mother's Bugs: Research in Mice Shows Antibodies Derived from Mom's Gut Microbes Protect Newborns from *E. coli* Infection**

Harvard Gazette



Mother's milk has been long touted for its salutary effects on the newborn and its ability to shield infants from certain infections. This study shows that antibodies made in response to one particular organism in the maternal gut are passed on to the offspring both via milk and through the placenta to protect newborn pups from infection by at least one disease-causing, and potentially lethal, microbe, *E. coli*. [Read More](#)

**Cambridge Startup Bringing AI to Drug Development Raises \$60M**

Boston Business Journal



A Cambridge startup that helps drugmakers analyze patient and drug information has raised a new financing round that's more than five times larger than what it raised just two years ago. Nference is creating a software platform using artificial intelligence that it says can synthesize "unstructured" data from radiology images, heart rhythm tests, clinical trial protocols and more to help create safer and more effective treatments. [Read More](#)

**Tufts Researchers Suggest a Pathway to Reverse the Genetic Defect of Friedreich's Ataxia**

BioSpace



Scientists at Tufts University have identified a molecular mechanism that could reverse the genetic defect responsible for Friedreich's ataxia, a neurodegenerative disease that leaves its victims with difficulty walking, a loss of sensation in the arms and legs and impaired speech caused by degeneration of nerve tissue in the spinal cord. The researchers said that the genetic anomaly that causes the disease could potentially be reversed by enhancing a natural process that contracts the repetitive sequences in living tissue. [Read More](#)

**New Hope for Sensory Calm**

Harvard Gazette



Harvard University and Deerfield Management have announced the selection of a first project for funding under the Lab1636 R&D alliance that aims to advance promising innovations from labs across the University toward the clinical development of novel therapeutics. The first project discusses efforts towards identifying possible treatments for the touch hypersensitivity that often occurs in people with autism spectrum disorders. [Read More](#)

**Waltham Biotech's Drug Beats Alexion's Blockbuster Soliris in New Trial**

Boston Business Journal



Boston biotech giant Alexion Pharmaceuticals Inc. has new reason to fear for the future of its blockbuster drug Soliris. Apellis Pharmaceuticals Inc. has announced that its lead drug candidate, APL-2, bested Alexion's blockbuster drug in a Phase 3 trial of patients with paroxysmal nocturnal hemoglobinuria, a rare disorder that impairs patients' ability to produce blood cells. [Read More](#)

**New Automated Insulin Dosing System Hailed as a Breakthrough for Diabetics**

Boston Herald



Diabetes patients typically have to manage their insulin intake throughout the day with finger-pricking and delicately balancing levels based on their food intake, stress, exercise levels and other lifestyle choices. An artificial pancreas system that automatically monitors and regulates blood glucose levels will reduce constant worry and self-care for Type 1 diabetes patients and is being hailed as a breakthrough by one of Boston's top diabetes doctors. [Read More](#)

**'Molecular Missing Link' May Explain Allergic Reactions to Personal Care Products**

Brigham and Women's Hospital



Chemical compounds found in consumer products can cause an allergic reaction in the skin, a common condition known as allergic contact dermatitis (ACD). Investigators from Brigham and Women's Hospital, Columbia University and Monash University have uncovered a new molecular mechanism by which common components of consumer products can trigger an immune response, highlighting a specific molecular connection that may explain the mystery behind these cases of ACD. [Read More](#)

**Dana-Farber Cancer Institute to Establish Chen-Huang Center for EGFR Mutant Lung Cancers**

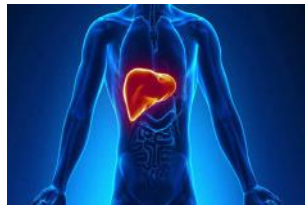
Dana Farber Cancer Institute



Dana-Farber Cancer Institute will create the Chen-Huang Center for EGFR (epidermal growth factor receptor) Mutant Lung Cancers to stimulate research, promote clinical trials, and strengthen the institute's capabilities for studying and treating lung cancer. The Chen-Huang Center is being established with a \$5 million gift from Winston Chen, PhD, and his wife, Phyllis Huang, of Silicon Valley. [Read More](#)

**Versatile Bile Acids**

Harvard Medical School



Could bile acids play a role in immunity and inflammation? The answer appears to be yes, according to two separate Harvard Medical School studies. The findings of the two studies show that bile acids promote the differentiation and activity of several types of T cells involved in regulating inflammation and linked to intestinal inflammatory conditions. They also reveal that gut microbes are critical for converting bile acids into immune-signaling molecules. [Read More](#)

[View All Articles](#) | [Submit an Article](#)
**Upcoming Events in Boston**

- January 14 11:00 AM Exploring Accessible R-Groups Using Electrostatics and Shape**  
 Cambridge Innovation Center
- January 15 8:00 AM Recombinant Antibody and Biosimilars Course**  
 Biopharmaceutical Analysis Training Laboratory
- January 21 6:00 PM Seed and Angel Financing for Life Science Companies**  
 Draper
- January 22 6:00 PM Going Beyond the Gut: The Future of Microbiome Therapeutics**  
 Broad Institute of MIT and Harvard
- January 22 12:30 PM Synthetic Control Arms in Clinical Trials and Regulatory Applications**  
 Harvard Medical School

[View All Events](#) | [Submit an Event](#)
**STEMCELL Jobs**

- Scientific Sales Representative, Cell Separation Products (Cambridge, MA)**  
STEMCELL Technologies
- Scientific Inside Sales Representative (Cambridge, MA)**  
STEMCELL Technologies
- Manager, Marketing Project Management (Burnaby, BC)**  
STEMCELL Technologies
- Project Manager, Research & Development (Vancouver, BC)**  
STEMCELL Technologies
- Process Chemist, Nanoparticles (Vancouver, BC)**  
STEMCELL Technologies

[View 96 Other STEMCELL Jobs](#)
**Other Science Jobs in Boston**

- Computational Biologist (Scientist/Senior Scientist Level)**  
Jnana Therapeutics
- Research Specialist I, Rare Disease DDU**  
Takeda
- Staff Scientist, Tissue and Organ Regeneration**  
Wyss Institute
- Senior Associate Scientist, CNS Genetic Diseases**  
Sanofi
- Senior Scientist, Process R&D and Tech Ops**  
Akebia Therapeutics

[View 131 Other Science Jobs](#) | [Submit a Job](#)

 Submit your articles and events by reaching out to us at [info@scienceinboston.com](mailto:info@scienceinboston.com).

BROUGHT TO YOU BY



- STEMCELL Technologies**  
Products | Services
- STEMCELL's Science Newsletters**  
Free Weekly Updates on Your Field
- The Stem Cell Podcast**  
Interviews and Updates on Stem Cell Science