

SPOTTED

Colossal quest; life edit; building skills

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Colossal quest

Pharmaceutical giant **AstraZeneca** has teamed up with genome giant **Craig Venter** to sequence 2 million genomes over the next decade. The goal of the collaboration is to identify rare mutations tied to various conditions, and then see how people with those mutations respond to different drug treatments.

“I believe we really have finally turned the corner and genomics will become central in drug development efforts,” **David Goldstein**, director of Columbia University’s Institute for Genomic Medicine and chair of AstraZeneca’s Genomics Advisory Board, **told Reuters**.

The massive project, announced last week, is projected to cost hundreds of millions of dollars, according to **Mene Pangalos**, executive vice president of AstraZeneca’s Innovative Medicines and Early Development Biotech Unit. But that’s a small fraction of what it would have cost in 2003, when researchers spent a whopping \$3 billion and 13 years to sequence a single genome. Today, the same feat costs \$1,000 and three days’ work.

Venter’s company, **Human Longevity, Inc.**, is tasked with performing the sequencing and using machine learning to uncover patterns of mutations tied to disease risk and treatment responses, *Reuters* reports.

SOURCES:

Reuters / 21 Apr 2016

AstraZeneca taps gene pioneer Venter for huge drug-hunting sweep

<http://www.reuters.com/article/us-astrazeneca-genomics-idUSKCN0XI2Z1>

New leadership

The National Institutes of Health (NIH) has put Harvard epidemiologist **Matthew Gillman** in charge of a **revamped effort** to explore environmental influences on children's health.

The NIH tapped Gillman to head a program called **Environmental Influences on Children's Health Outcomes** (ECHO). The program replaces the **National Children's Study** (NCS), in which researchers were to follow 100,000 children from before birth to age 21. The study was cancelled in 2014 after the NIH spent \$1.3 billion on planning and pilot studies, because of poor oversight and cost overruns.

Instead of following 100,000 new children, ECHO is designed to build on existing children's studies to explore whether environmental exposures raise the risk of certain conditions, including autism.

Gillman was previously involved in the NCS and several other large, longitudinal studies, including the **Framingham Heart Study**, which has identified a slew of heart disease risk factors.

SOURCES:

National Institutes of Health / 25 Apr 2016

Statement on the selection of Dr. Matthew Gillman as ECHO program director

<https://www.nih.gov/about-nih/who-we-are/nih-director/statements/selection-dr-matthew-gillman-echo-program-director>

Life edit

Emmanuelle Charpentier is famous for her work on the gene-editing tool **CRISPR**. But that **fame is hard to swallow** for the 48-year-old microbiologist, according to a profile in this week's *Nature*.

Writer Alison Abbott paints Charpentier as a quiet, tiny and "restless" researcher eager to carry on her work without the drama of prizes and patents. (This year alone she has landed 10 prizes and a prestigious appointment as director of the **Max Planck Institute for Infection Biology** in Berlin, all while embroiled in a dispute over **who owns the rights to CRISPR**.)

"Jean-Paul Sartre, the French philosopher, warned that winning prizes turned you into an institution — I am just trying to keep working and keep my feet on the ground," she told *Nature*.

The profile maps Charpentier's many moves throughout her 20-year career, including stints at nine research institutions in five countries. "She's so resourceful, she could start a lab on a desert island," Patrice Courvalin, Charpentier's Ph.D. supervisor at the **Pasteur Institute** in Paris, told *Nature*.

Although Charpentier's days of starting labs from scratch on a shoestring budget are over, she insists that her determination hasn't waned. "The scientist that I am got me here, and that is the scientist that I want to remain," she says.

SOURCES:

Nature / 27 Apr 2016

The quiet revolutionary: How the co-discovery of CRISPR explosively changed Emmanuelle Charpentier's life

<http://www.nature.com/news/the-quiet-revolutionary-how-the-co-discovery-of-crispr-explosively-changed-emmanuelle-charpentier-s-life-1.19814>

Film focus

Autism is in the spotlight once again this week, with three films highlighted in *The New York Times*.

One of the films, a documentary called "**As One: The Autism Project**," follows children, parents and teachers involved in a theater program for children with autism in the United Arab Emirates. The three-month program culminates in a musical performance. Will they pull it off? Based on the tear-jerker of a trailer, we think so.

The second film, "**Nightlights**," is the fictional tale of 27-year-old Jacob, who has severe autism, and his twin sister, Erin. Erin devotes her life to caring for Jacob, but begins to wonder whether she can care for herself at the same time.

The third film, a documentary called "**Asperger's Are Us**," follows a comedy troupe composed of four friends on the autism spectrum. The film premiered at the South by Southwest Festival in Austin, Texas, last month and was recently bought by Netflix, *The New York Times* reports.

SOURCES:

The New York Times /

<http://www.nytimes.com>

Building skills

More than **23 million people** play Minecraft, a video game in which players can work together to build structures to protect themselves from monsters. Players are typically alone with their

computers, but the game is quite social. That's why Stuart Duncan can't believe that nearly 7,000 people have joined his private **Minecraft community for people with autism**.

But he realizes that the online world eliminates the pressure to make eye contact or interpret facial expressions — social skills that some people who have autism struggle with.

"With Minecraft, you can really just be yourself," Duncan, who has a child with autism, told *New Scientist*. "The social interactions, the relationships, the communication — everything just boils down to you and your keyboard."

Duncan, a web developer, also has autism. Managing his Minecraft community, which he calls "Autcraft," is now his full-time job. (To join, gamers must submit an online application, and they can get kicked out for bullying or destroying another player's buildings.)

Some autism researchers say Autcraft can help people with autism engage socially without feeling anxious. "It builds from the interests and passions of people with autism rather than trying to redirect or surprise them," **Matthew Lerner**, assistant professor of psychology, psychiatry and pediatrics at Stony Brook University in New York told *New Scientist*.

SOURCES:

New Scientist / 27 Apr 2016

How Minecraft is helping children with autism make new friends

<https://www.newscientist.com/article/mg23030713-100-how-is-helping-children-with-autism-make-new-friends/>
