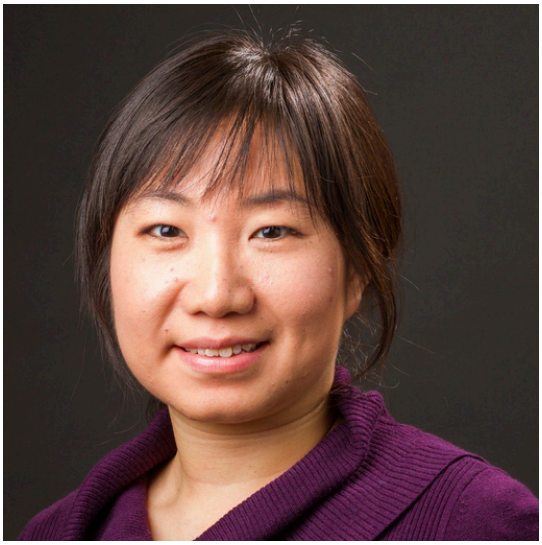
19th Annual Darwin Day Dinner

A Celebration of Curiosity, Science, and Scientists

What happens when a species shaped by natural selection learns to reshape its own cells?

Yale's **Dr. Shangqin Guo** Presents the New "Cellular Alchemy" Revolutionizing Biology

Cell Reprogramming and Editing: What Darwin Could Not Have Imagined



Biologists can now do things Darwin had no means to investigate. How would he have reacted to the discoveries of the past few decades? Could cells from a blood sample become nerve cells? Could aging tissues regain some of their youthful abilities? What happens when a species shaped by natural selection learns to reshape their own cells?

At the heart of this story is the remarkable discovery that a cell's identity can be reset. In 2006, Shinya Yamanaka and Kazutoshi Takahashi demonstrated that cells could be reprogrammed into Induced Pluripotent Stem Cells (iPSC) that could create new types of cells and won a Nobel prize.

Dr. Guo will trace the ideas and experiments that led to this breakthrough, how the researchers made it happen, and why it is revolutionizing biology. We will explore where this "cellular alchemy" is potentially taking us: making nerve cells from blood cells, growing replacement cells, and investigating whether aspects of aging can be reversed. Alongside reprogramming comes a second, breakthrough: correcting specific harmful changes in DNA by CRISPR editing another Nobel Prize winning discovery. Together resetting cell identity and repairing genetic errors and mutations offers new routes toward treating diseases. She will discuss what has been achieved, what remains challenging and uncertain, and what may lie ahead as we learn to give our cells a different future.

Dr. Shangqin Guo, PhD, is an Associate Professor of Cell Biology at Yale School of Medicine and Group Leader at the Yale Stem Cell Center where she leads the Guo Lab. Her work focuses on stem cell biology, cell fate, and cellular reprogramming, including how mature cells can be transformed into new cell types. Her achievements have been celebrated with prestigious awards and grants. She received the 2014 Stem Cells Young Investigator Award for her contributions to stem cell reprogramming, NIH Director's New Innovator Award, Yale Cancer Center's Class of 1961 Cancer Research award.

Dr. Guo explains the focus of The Guo Lab in this video: https://bit.ly/TheGuoLab.

Join us for cocktail hour, dinner, science quiz (with prizes!), and a presentation by
Yale School of Medicine Associate Professor Dr. Shangqin Guo

DARWIN DAY is an international recognition of the importance of science to the advancement of human understanding of life. It Held around Charles Darwin's birthday on February 12, it honors Darwin's groundbreaking discovery alongside the enormous benefits that scientific knowledge, acquired through human curiousity and ingenuity, has contributed to our lives.

Date: Saturday, February 6, 2027
Time: 5:00 PM Cocktail Hour
6:00 PM Dinner
At: The Inn at Longshore
260 Compo Rd. South
Westport, CT 06880
Price: Early Bird (Nov 15-Jan 4) - $79
Jan 5 - Feb 2 - $95
Teachers/College Students - $40
Secondary Students - $10

Scan the QR Code to Register

Or Visit
www.DarwinDayCT.org

Darwin Day CT is proudly sponsored and hosted by the Humanists and Freethinkers of Fairfield County with support from the American Humanist Association.