

NewsCenter Home

Faculty Experts

Key Issues

Archives

Marketing Your Events

Office of Communications and Marketing

UAlbany News Twitter
@UAlbanyNews

NEWSCENTER

THE WORLD WITHIN REACH



NEWS RELEASE

Contact: [Media Relations Office](#) (518) 956-8150

Recommend 0

Tweet

UAlbany Researchers Discover New Form of Protein Regulation

ALBANY, N.Y. (December 29, 2016) -- Proteins, the tiny molecular machines that are responsible for completing a multitude of tasks including DNA replication and transporting molecules, are an essential part of organisms and participate in virtually every process within cells. Protein regulation is critically important to the survival of an organism, both by controlling the amount of proteins made and whether or not they are in the “on” or “off” state.



Marlene Belfort and her team of researchers at the RNA Institute have discovered new methods for understanding protein regulation.

A recent University at Albany-led study has opened new possibilities for understanding protein regulation. [Publishing in the journal Genes & Development](#), UAlbany researchers Christopher Lennon, Matthew Stanger and Marlene Belfort have found a new method for how inteins function within a protein to control a cell's on/off switch.

Inteins are invasive elements that are made as proteins within some of the most important protein machines in the cell, largely keeping them in an ‘off’ state until the intein itself leaves through a remarkable escape act called protein splicing. Inteins have long been considered as parasites that burden the proteins, and thus organisms they invade. But the Belfort group has recently shown otherwise; these inteins can actually be useful.

“Our new research points to a remarkable example of conditional intein escape, where the intein splices out dramatically faster when the invaded protein is provided with a cellular factor that signals that the protein is necessary. So intein escape turns the protein on when needed” said Marlene Belfort, a distinguished professor of [Biological Sciences](#) at UAlbany.

These findings indicate that some inteins have evolved to regulate the on/off status of the proteins they are found in, escaping only under conditions where the invaded protein should be functioning in the cell.

“This work provides a convincing argument for a role of inteins beyond simple parasites, but rather as adaptive elements that can exquisitely control the on/off state of the proteins they are found in,” said Lennon, a post-doctoral research associate in the Department of Biological Sciences at UAlbany. “Because inteins are widespread in nature, particularly in microorganisms, it is possible that we have only begun to scratch the surface of an exciting new form of protein regulation.”



Post-Doctoral Research Associate Christopher Lennon

UAlbany Experts

To find more faculty experts, use the search field below or navigate by category.

Search Experts

Faculty Experts Categories

- [Africa](#)
- [Aging](#)
- [Art](#)
- [Asia](#)
- [Biology](#)
- [Business](#)
- [Childhood](#)
- [Community Relations](#)
- [Constitutional Law](#)
- [Criminal Justice](#)
- [Cultures](#)
- [Demographics/Census](#)
- [Diversity](#)
- [Domestic Politics](#)
- [Economics](#)
- [Education](#)
- [Emergency Preparedness](#)
- [Energy](#)
- [Environment](#)
- [Ethics](#)
- [Family](#)
- [Government](#)
- [Health](#)
- [Higher Education](#)
- [History](#)
- [Homeland Security](#)
- [Human Rights](#)
- [Information Technology](#)
- [International Politics](#)
- [International Relations](#)
- [Interpersonal Relationships](#)
- [Journalism](#)
- [Judaism](#)
- [LGBTQ](#)
- [Language](#)
- [Latin America](#)
- [Law](#)
- [Literacy](#)
- [Literature](#)
- [Mathematics](#)
- [Media](#)
- [Mental Health](#)
- [Minorities](#)
- [Music](#)
- [Nanotechnology](#)
- [New York State](#)
- [Parenting](#)
- [Philosophy](#)
- [Policing](#)
- [Popular Culture](#)
- [Psychology](#)
- [Public Health](#)

Belfort and her team of researchers are part of UAlbany's groundbreaking RNA Institute. Housed in UAlbany's [College of Arts and Sciences](#), the [RNA Institute](#) is focused developing tools and analytics for moving RNA therapeutics down the drug candidate pathway. Belfort also holds a joint appointment in the [Department of Biomedical Sciences](#) at UAlbany's [School of Public Health](#).

0 Comments

University at Albany News

Login ▾

Recommend

Share

Sort by Newest ▾



Start the discussion...

Be the first to comment.

For more news, subscribe to UAlbany's [RSS headline feeds](#)

About the University at Albany

A comprehensive public research university, the University at Albany offers more than 120 undergraduate majors and minors and 125 master's, doctoral, and graduate certificate programs. UAlbany is a leader among all New York State colleges and universities in such diverse fields as atmospheric and environmental sciences, business, criminal justice, emergency preparedness, engineering and applied sciences, informatics, public administration, social welfare, and sociology taught by an extensive roster of faculty experts. It also offers expanded academic and research opportunities for students through an affiliation with Albany Law School. With a curriculum enhanced by 600 study-abroad opportunities, UAlbany launches great careers.

- [Public Policy](#)
 - [Religion](#)
 - [Sexuality](#)
 - [Space Exploration](#)
 - [Sports](#)
 - [Students](#)
 - [Substance Abuse](#)
 - [Technology](#)
 - [Terrorism](#)
 - [Theatre](#)
 - [Urban](#)
 - [Violence](#)
 - [Welfare](#)
 - [Women](#)
 - [Workplace](#)
-
- [Complete Alphabetical Listing of all Faculty Experts](#)
 - [UAlbany Experts Home](#)