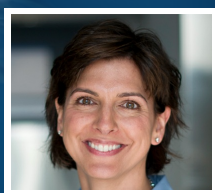


# Decoding the Genomes of Microbes to Identify the Kill Switch



Elodie Ghedin

Professor, Biology and Global Institute of Public Health

## CURRENT RESEARCH

### Finding novel ways to target parasites and viruses for the control of infections

Dr. Elodie Ghedin wanted to be a scientist from as far back as she could remember. As a young scientist, she traveled to West Africa where she studied the quality of drinking water in the Sahel desert in Senegal. However, she quickly discovered that she was more interested in the parasites infesting the waters than in the levels of contaminants. This triggered her interest in a lifetime of research on neglected tropical diseases and the pathogens underlying their transmission and virulence. Now, at New York University, Dr. Elodie Ghedin uses genomics to look at microbes which spans not only the parasite she was first interested in, but also, worms, viruses, and bacteria.

Dr. Ghedin's study of viral and parasitic pathogens are relevant to infectious diseases that threaten humanity worldwide, especially neglected populations. We have recently seen new human outbreaks of avian influenza virus H7N9 in China, Middle-Eastern respiratory syndrome coronavirus (MERS-CoV) in Saudi Arabia, and Ebola virus in West Africa. Analyzing the genomes of these microbes helps scientists understand their evolutionary context and their interactions within their hosts. Armed with this information Dr. Ghedin can aim to find novel ways to push their evolution so they can go from pathogen to commensal, or to identify the kill-switch when necessary. Therefore, Dr. Ghedin's ultimate goal is to identify ways to better target parasites and viruses for the control of infections, through drugs or vaccines. Getting a peek into the blueprint of these organisms also gives her and her team novel insights into complex biological systems.

Current research includes:

- Decoding the Flu: Using novel...

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## AFFILIATION



New York University

## EDUCATION

- Ph.D., in Molecular Parasitology, 1998 , McGill University
- M.S., in Environmental Sciences, 1993 , University of Quebec in Montreal
- B.S., in Biology, 1989 , McGill University

## AWARDS

- University of Pittsburgh Chancellor's Distinguished Research Award, Junior Scholar, 2010
- MacArthur Fellow, 2011
- Kavli Frontiers of Science Fellow, 2012

## RESEARCH AREAS

Health & Wellness, Longevity, Immortality Research

## FUNDING REQUEST

Your contributions will support the continued research of Dr. Elodie Ghedin as she uses genomics to identify ways to better target parasites and viruses for the control of infections, through drugs or vaccines. Your donations will support the necessary \$650K per year for personnel and equipment required for sequencing. In choosing to donate, you will become a part of educating future scientists and developing life-changing treatments!

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