

# Physics Colloquium

Prof. Damien Thévenin  
Department of Chemistry, Lehigh University

## “From Membrane Protein Biophysics to Selective Tumor Targeting”

Cancerous tissues undergo extensive changes to their cellular environments that differentiate them from healthy tissues. These changes include decreases in extracellular pH and the exposure of anionic lipids to the extracellular environment; both of which can modulate the interaction of peptides and proteins with the cell plasma membrane. Exploiting the physiological differences between cancer and normal cells can provide a powerful approach to selectively target tumors for therapeutic purposes. This is the case of the pH(Low) Insertion Peptide (pHLIP), a peptide that can insert into cell membranes as a transmembrane helix from a soluble state under acidic conditions. During this colloquium, I will present some of our efforts aimed at deciphering the molecular mechanisms behind its tumor selectivity and developing it as a tumor-selective drug delivery platform.

*Prof. Damien Thévenin received a B.S. in Structural Biochemistry and an M.S. in Biology and Biotechnology from Paul Sabatier University (Toulouse, France). He obtained his Ph.D. (Chemistry and Biochemistry, University of Delaware) for his work on the folding and oligomerization of G-Protein Coupled Receptors. For his postdoctoral research, Dr. Thévenin worked with one of the pioneers and leaders in the field of membrane protein biophysics, Prof. Donald Engelman at Yale University. In 2011, Prof. Thévenin joined the Department of Chemistry at Lehigh University, where the research conducted in his group is aimed at the development of tumor-selective therapeutics, and understanding how membrane proteins interact and transduce signals across cell membranes.*

**Thursday August 26<sup>th</sup> in LL 316 at 4:25**

**Refreshments available at 4:00**

***For Zoom participation, please see information below:***

Meeting ID: 972 1274 7894

Passcode: 631869