

# Clarkson University

## Spring 2023 David A. Walsh '67

### Arts & Sciences Seminar Series

Friday, January 20<sup>th</sup> at 12pm

Room: SC 362

#### MOLECULAR VEHICLES FOR TARGETED DIAGNOSTICS AND THERAPY OF CANCER

Conventional or systemic chemotherapy has been used for decades to treat cancer and is considered one of the main oncological therapies based mainly on intravenous drug infusion. Despite the benefits of conventional chemotherapy, there is much debate about its toxicological effects, which are often responsible for discontinuation of cancer treatment. Targeted therapy aims to destroy cancer cells by the cellular machinery responsible for the formation of cancer cells, while minimally harming healthy ones. Thus, the effects of targeted therapy tend to be more tolerable than conventional chemotherapy. Diagnostics and targeted therapies using monoclonal antibodies, antibody fragments, camelid antibodies, small molecule inhibitors have significantly changed cancer diagnosis and treatment over the past 10 years. Targeted diagnoses are more accurate and targeted therapies are substantially more effective and generally better tolerated than traditional chemotherapy. Here we discuss the concept of affibodies, a potential replacement of antibodies in the near future.



#### Stefan Eugen Szedlacsek, Ph.D.

#### Professor of Biochemistry

Ștefan graduated with a BS in Chemistry and a then a BS in Mathematics from the University of Bucharest. He earned his Ph.D. in Biotechnology from the Polytechnic University of Bucharest. Since 1996 he has been an "Alexander von Humboldt" scholar. Research internships at: Center de Biologie Moleculaire CNRS Marseille, France; University of Illinois at Urbana-Champaign (USA); University of Kiel (Germany); Max-Planck Institute for Molecular Physiology in Dortmund (Germany); Max-Planck Institute for Molecular Biology of Membranes in Frankfurt/Main (Germany); University of Saarland, Homburg (Germany), University of Oxford (Great Britain). Currently, Ștefan is the head of the Department of Enzymology, Institute of Biochemistry of the Romanian Academy, in Bucharest, Romania. His research interest lies in structure-activity relationships with enzymes involved in signaling processes. He is currently a Visiting Fulbright Scholar in the Department of Leukemia at the MD Anderson Cancer Center, the University of Texas, Houston, TX.



The Arts & Sciences Seminar Series is a weekly colloquium series that has been supported by the School of Arts & Sciences Advisory Council at Clarkson University especially through generous gifts from David A. Walsh '67.

SA&S 300: Arts and Sciences Seminar is a one credit course intended to foster an interdisciplinary outlook in undergraduates majoring in the School of Arts and Sciences.