



VILLANOVA UNIVERSITY
**MECHANICAL ENGINEERING
DEPARTMENT**
Spring 2020 SEMINAR SERIES

Seminar Date: January 17th, 2020

Lecture: Freedom and Evolution

Speaker: Adrian Bejan, Ph.D., J.A. Jones Distinguished Professor
Department of Mechanical Engineering, Duke University

Abstract:

Evolution is the defining phenomenon of nature. Everywhere we look what we see is evolving because it is free to move and morph. Without change there is nothing --no image, no beauty, no time, no future. This lecture outlines the role played by freedom and evolution in physics (thermodynamics): given freedom, all movement exhibits the tendency to evolve into configurations that provide greater access. Let me begin with familiar designs (inanimate, animate) and conclude with why the physics of evolution is not only useful but also necessary to progress. Man can use what he sees in evolution to improve all the things that make our lives better. See: FREEDOM AND EVOLUTION: Hierarchy in Nature, Society and Science (Springer, New York, January 2020)

Biography:



Dr. Adrian Bejan received the Benjamin Franklin Medal (2018) and the Humboldt Research Award (2019) for thermodynamics and the constructal law of natural design and its evolution in engineering, science and social systems. His degrees are from the Massachusetts Institute of Technology (B.S.1971, M.S.1972, Ph.D.1975). He has authored over 30 books and 650 peer-refereed journal articles and has been awarded 18 honorary doctorates from universities in 11 countries, from France to Azerbaijan, and from Brazil to South Africa.

Host: Prof. Sylvie Lorente