

### **EMERSON CENTER** LECTURESHIP AWARD **SYMPOSIUM**



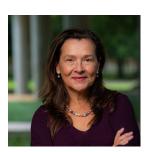
# FROM FUNDAMENTAL RESEARCH TO **BREAKTHROUGHS: PLASMONICS FOR** SUSTAINABILITY AND SOCIETAL IMPACT

# October 10<sup>th</sup>, 2024 **Department of Chemistry**, Atwood Hall, Room #360

AWARD WINNER & **KEYNOTE SPEAKER** 

# Prof. Naomi J. Halas, **Rice University**

### **Plasmonics for Sustainability and Societal Impact**



When illuminated, the conduction electrons of metallic nanoparticles - known as a plasmon, which is responsible for their strong light-matter interactions and properties - undergo a coherent oscillation and generate numerous highly impactful phenomena. For example, the illumination of metal nanoparticles: (1) leads to their strong heating, which opens horizons for applying metallic nanoparticles in cancer therapy. Currently, light illumination of metal nanoparticles is successfully used in the precise and highly localized ablation of cancerous regions of the prostate, eliminating the harmful side effects characteristic of conventional prostate cancer therapies, and (2) generates nonequilibrium, or "hot" electrons, that can effectively drive various societally impactful chemical transformations, including of, but not limited to, remediation of greenhouse gases by converting them to useful molecules or into benign chemicals.

### **INVITED SPEAKERS**

Raphael F.

#### **EVENTS SCHEDULE**

**OPENING CEREMONY & AWARD PRESENTATION** 





<b>Ribeiro</b> Department of Chemistry, Emory University	3:00 - 4:00	<b>Naomi J. Halas:</b> Plasmonics for Sustainability and Societal Impact
	4:00 – 4:45	<b>Raphael F. Ribeiro</b> : Light-Driven Chemistry in Optical Microcavities
Hayk Harutyunyan Department of Physics, Emory University	4:45 – 5:30	<b>Hayk Harutyunyan:</b> Efficient Metasurfaces for Nonlinear and Ultrafast Nanophotonics
	5:30 – 5:45	CLOSING

2:30 - 3:00

6:30 - 9:30

Co-SPONSORS:

**REGISTRATION:** CONTACT:

### **DEPARTMENT OF CHEMISTRY HIGHTOWER FOUNDATION**

http://www.emerson.emory.edu/conferences/form/register.html Ph: 404-727-2382 dmusaev@emory.edu:

**DINNER** (by invitation)

Registration is free.