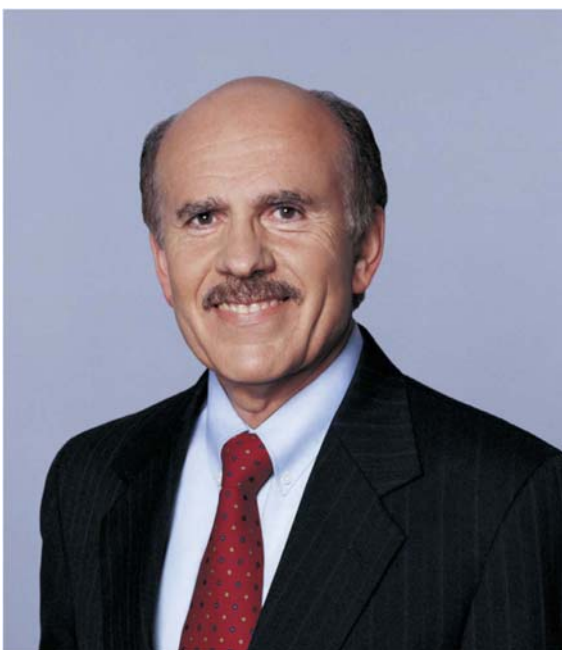


The Road to Stockholm - A Nobel Mission



Presented by

NOBEL LAUREATE
Louis Ignarro, Ph.D.

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Department of Molecular and
Medical Pharmacology
UCLA School of Medicine

Thursday, March 12, 2020

11:00pm – 12:00pm

HEC Classroom 1, Pomona
and streamed to

Lecture Halls 1 and 2, Lebanon
HEC Classroom 2, Pomona



Questions? Contact Hendrik Szurmant at hszurmant@westernu.edu

Louis Ignarro, Ph.D.

Professor Emeritus

Department of Molecular and Medical Pharmacology

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Recipient of the 1998 NOBEL PRIZE in Physiology and Medicine

for “nitric oxide as a signaling molecule in the cardiovascular system”.
Shared with Robert Furchgott and Ferid Murad.

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Dr. Ignarro's early research experience with cyclic GMP led him to make the original discovery that nitric oxide (NO) is a vasorelaxant and that its mechanism of action involves cyclic GMP. In concurrent studies, Dr. Ignarro was the first to elucidate the mechanism of vasodilator action of nitroglycerin and related nitrates and nitrites, namely, their metabolism to NO and consequent stimulation of cyclic GMP production in vascular smooth muscle. This led to his discovery that NO also inhibits platelet aggregation, accounts for the antiplatelet actions of nitro compounds and elicits this action via cyclic GMP. The discovery of the mechanism of action of nitroglycerin led to Dr. Ignarro's original observations that S-nitrosothiols were intermediates in the metabolic activation of nitroglycerin and served as potent and labile NO donors in the process. This was the first study on the biology of S-nitrosothiols, and led to their widespread use as NO donor agents. Studies on the mechanism of activation of guanylyl cyclase by NO led to the original finding that NO binds to the heme prosthetic group and activates the enzyme by a proto-porphyrin IX-like binding interaction. Dr. Ignarro's laboratory first showed that endothelium derived relaxing factor (EDRF) activates guanylyl cyclase and that the biological and chemical properties of EDRF are attributed to NO. Dr. Ignarro made the first observation that NO is the neurotransmitter mediating penile erection, which led to the development of Viagra.