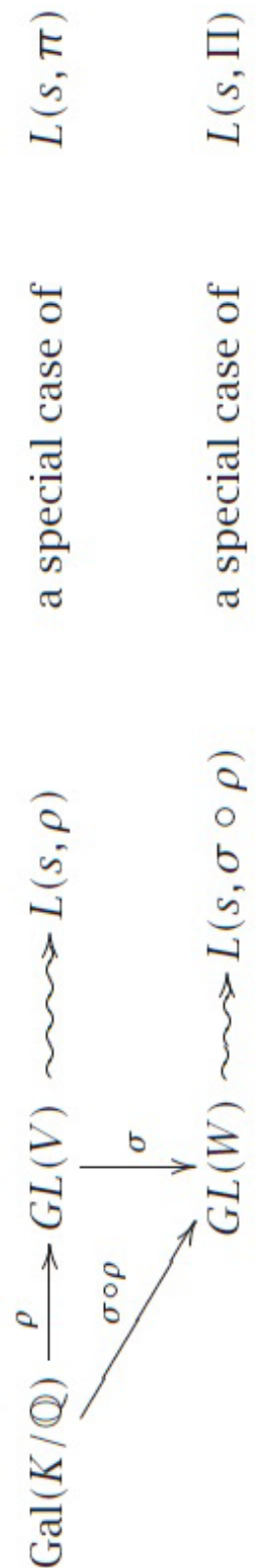AMERICAN UNIVERSITY OF BEIRUT
CENTER FOR ADVANCED MATHEMATICAL SCIENCES

AMERICAN UNIVERSITY OF BEIRUT
FACULTY OF ARTS & SCIENCES
Department of Mathematics

THE LANGLANDS PROGRAM
AN INTRODUCTION AND RECENT PROGRESS

The Langlands Program, connecting algebra, analysis and geometry in diverse ways, is foundational to modern number theory. I will introduce this program and indicate some recent progress. As we shall see, a great deal still remains to be done.

$$L(s, \pi) \quad \text{a special case of}$$
$$L(s, \Pi) \quad \text{a special case of}$$

$$\mathrm{Gal}(K/\mathbb{Q}) \xrightarrow{\rho} GL(V) \rightsquigarrow L(s, \rho)$$
$$\sigma \circ \rho \searrow \quad \downarrow \sigma$$
$$GL(W) \rightsquigarrow L(s, \sigma \circ \rho)$$

Natural maps for Galois representations lead to conjectured functoriality maps.

SOLOMON FRIEDBERG
Boston College

Solomon Friedberg is James P. McIntyre Professor of Mathematics at Boston College. His research focuses on number theory, automorphic forms, and representation theory. He has authored over 75 research papers, is a Fellow of the American Mathematical Society, and also received the 2021 AMS Award for Impact on the Teaching and Learning of Mathematics. Dr. Friedberg served 9 years as chair of the mathematics department at Boston College; under his leadership, the department launched a new Ph.D. program and implemented a new B.S. program. He received his Ph.D. in mathematics from the University of Chicago in 1982, and has also held faculty positions at Harvard and at the University of California, Santa Cruz.

TUESDAY, MARCH 21, 2023

4:00 PM – ONLINE (VIA ZOOM)