

THE BROUT-ENGLERT-HIGGS MECHANISM AND ITS SCALAR BOSONS

APRIL 17TH, 8:00 P.M.

SCIENCE CENTER HALL B
ONE OXFORD STREET, CAMBRIDGE, MA

RECEPTION FOLLOWING LECTURE IN THE PUTNAM GALLERY, SC 136
COLLECTION OF HISTORICAL SCIENTIFIC INSTRUMENTS
YOU ARE ALSO INVITED TO VISIT 'BODY OF KNOWLEDGE' EXHIBIT, SC 251

FRANÇOIS ENGLERT

UNIVERSITÉ LIBRE DE BRUXELLES



2013 NOBEL PRIZE IN PHYSICS

“FOR THE THEORETICAL DISCOVERY OF A MECHANISM THAT CONTRIBUTES TO OUR UNDERSTANDING OF THE ORIGIN OF MASS OF SUBATOMIC PARTICLES, AND WHICH RECENTLY WAS CONFIRMED THROUGH THE DISCOVERY OF THE PREDICTED FUNDAMENTAL PARTICLE, BY THE ATLAS AND CMS EXPERIMENTS AT CERN’S LARGE HADRON COLLIDER”



A CONSISTENT APPROACH TO SHORT RANGE INTERACTIONS THROUGH MASSIVE GAUGE VECTOR FIELDS WAS PROPOSED BY ROBERT BROUT AND ME, AND INDEPENDENTLY BY PETER HIGGS. I SHALL EXPLAIN OUR MOTIVATIONS FOR CONSTRUCTING THIS BEH MECHANISM WHICH ALSO GIVES INFORMATION ON THE ORIGIN OF ELEMENTARY PARTICLE MASSES. I SHALL DISCUSS ITS CONTENT AND ITS USE. I WILL COMMENT ON THE ATLAS AND CMS DISCOVERY AT CERN OF THE SCALAR BOSON PREDICTED BY THE MECHANISM: I WILL SHOW HOW IT CONFIRMS ITS VALIDITY AND HOW IT MAY HAVE IMPLICATIONS ON STRUCTURES AT YET UNEXPLORED ENERGIES.



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