# JACOBI MODULAR FORMS AND
# BORCHERDS AUTOMORPHIC PRODUCTS
# (60 MINUTES $\times$ 3)

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1. INTRODUCTION: The orthogonal group O(2,n) and moduli spaces.

A) Modular varieties of orthogonal type and moduli spaces of elliptic curves and polarized K3 surfaces.
B) Rational quadratic divisors and ramification divisor of modular varieties.
C) Pluri-canonical differential forms and modular forms on orthogonal group.
D) Projective and affine definition of modular forms of orthogonal type.
E) Fourier-Jacobi expansion.

2. JACOBI LIFTING.

A) Modular forms on a parabolic subgroup, Heisenberg group and its modular character.
B) Weil representation, vector valued modular forms and Jacobi forms.
C) Singular weight and classical Jacobi theta-series.
D) Jacobi lifting and the simplest modular forms for orthogonal groups.

3. BORCHERDS AUTOMORPHIC PRODUCTS.

A) The first automorphic correction of Jacobi forms.
B) Borcherds products in terms of Jacobi forms.
C) Examples and applications.