PANTHÉON-ASSAS UNIVERSITÉ PARIS

LEMMA
Laboratoire d'économie mathématique et de microéconomie appliquée

PANTHÉON-ASSAS UNIVERSITÉ PARIS

SÉMINAIRE

EXTREME POINTS IN MULTI-DIMENSIONAL SCREENING

24 mars 2026
Lemma - Salle Maurice Desplas -
4 rue Blaise Desgoffe, 75006 Paris

Le mardi 24 mars à 11h, en salle Maurice Desplas, le LEMMA accueille Patrick Lahr (ENS Paris-Saclay), théoricien de la microéconomie spécialisé en *mechanism design*.

Title: "*Extreme Points in Multi-Dimensional Screening*"

Abstract: *We characterize the extreme points of the set of incentive-compatible mechanisms for screening problems with linear utility. Our framework subsumes problems with and without transfers, such as monopoly pricing, principal-optimal bilateral trade and barter exchange, delegation and veto bargaining, or belief elicitation via proper scoring rules. In every problem with one-dimensional types, extreme points admit a tractable description. In every problem with multi-dimensional types, extreme points are dense in a rich subset of incentive-compatible mechanisms, which we call exhaustive mechanisms. Building on these characterizations, we derive parallel conclusions for mechanisms that can be rationalized as (uniquely) optimal under a fixed objective. For example, in the multi-good monopoly problem, mechanisms that uniquely maximize revenue for some type distribution are dense among all incentive-compatible and individually rational mechanisms. The proofs exploit a novel connection between menus of extreme points and indecomposable convex bodies, first studied by Gale (1954).*