

INSTITUT HENRI POINCARÉ



**l'Equipe Combinatoire et Optimisation (ECO) du CNRS et de l'Université Paris VI
le Laboratoire d'Informatique Algorithmique : Fondements et Applications (LIAFA)
de l'Université Paris VII**

**invite you to a 5-day didactic seminar on simple algorithmic proofs
of an assortment of beautiful discrete existence theorems.**

Algorithms and Pretty Theorems --- Existential Polytime.

Led by Jack Edmonds and some of Claude Berge's other progeny.

**in the Hermite Amphitheatre of the historic Institut Henri Poincaré
Latin Quarter of Paris, 11 rue Pierre et Marie Curie - Paris 05
February 8 - 12, 2010, at 10:00 & at 14:00.**

REGISTER - There is no cost and no budget. However if you are hoping to come, please send an email to pretty.structures@free.fr

Philosophy:

Mathematicians traditionally prove the kinds of theorem of the seminar by contradiction, induction, double-counting. Algorithmic proofs can be just as attractive when they are rendered in casual math language.

To be worth everyone knowing, and teaching in basic courses, will be an aim of the seminar, with topics from graph theory, algebra, combinatorial optimization, polymatroids, geometry, and game theory. In celebration of "Turing Year", P and NP will be useful.

An "existentially polytime" or "EP" theorem is one which says that something exists, any instance of which is easy, when it is displayed, to recognize as an instance. It is worth studying proofs of EP theorems which tell a way to find an instance of whatever is asserted to exist. Many theorems fit the paradigm when suitably stated.

Contributions are welcome.

Seminar website: <http://pretty.structures.free.fr>
Institut Henri Poincaré website: <http://www.ihp.jussieu.fr>