



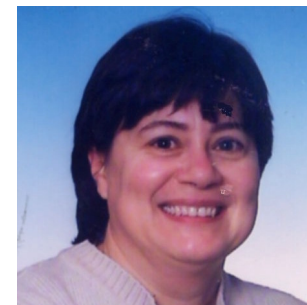
**POLITECNICO
DI MILANO**

Indentazione ed analisi inversa per la caratterizzazione meccanica di film sottili depositati su un substrato

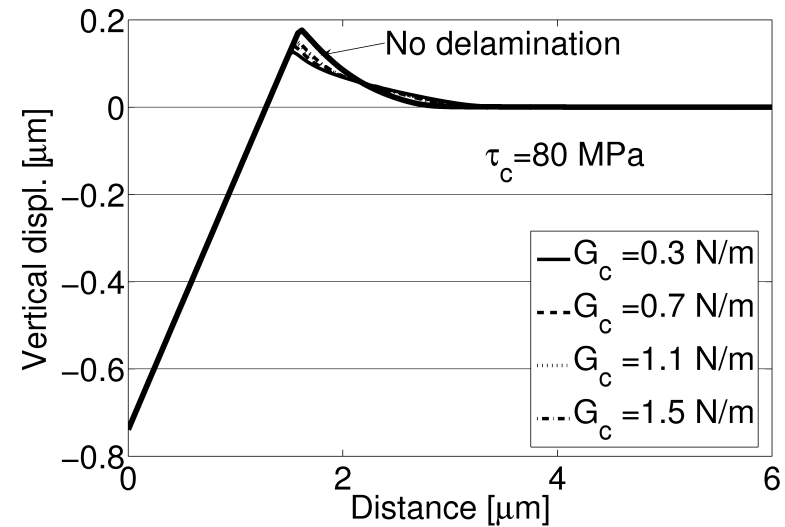
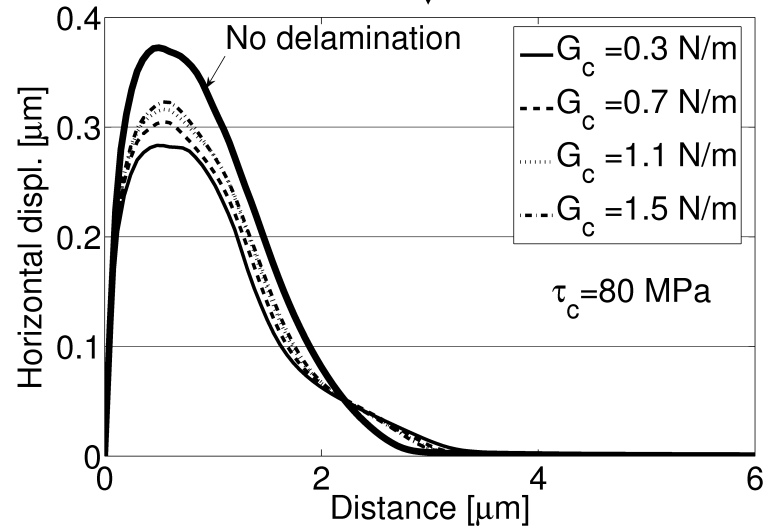
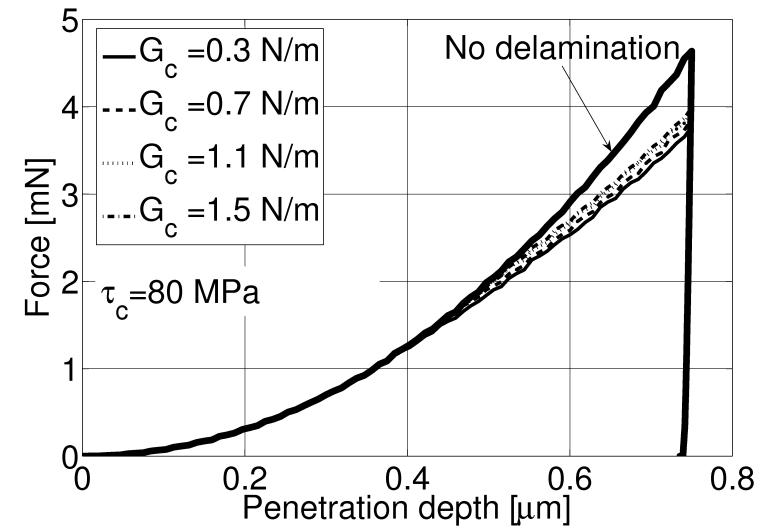
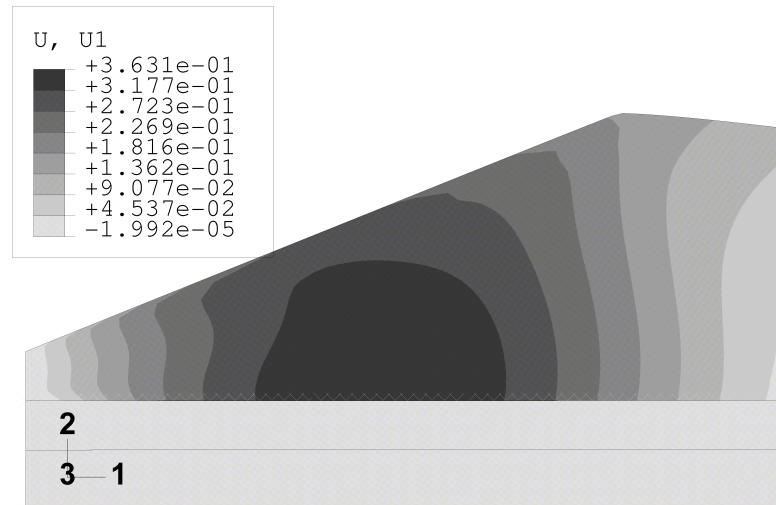
Massimiliano Bocciarelli



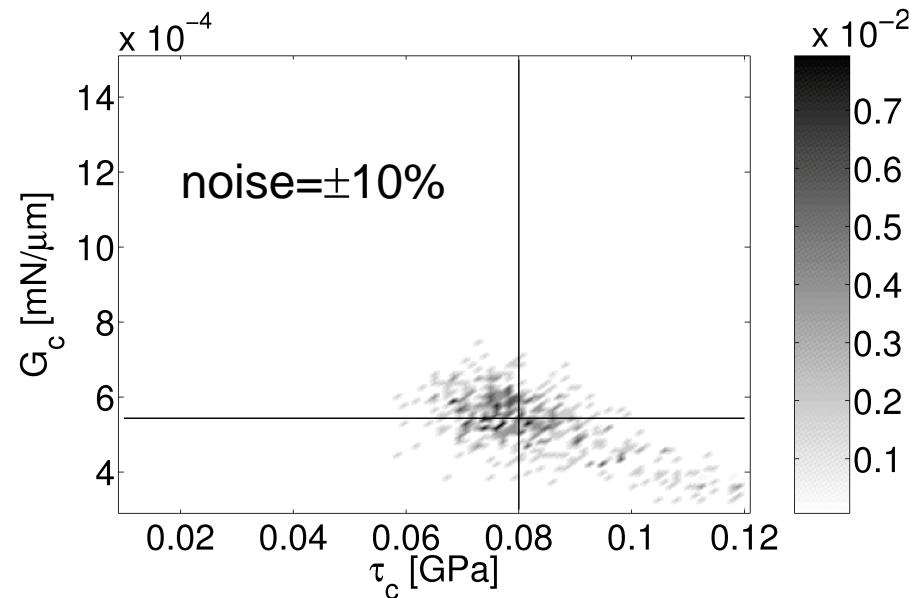
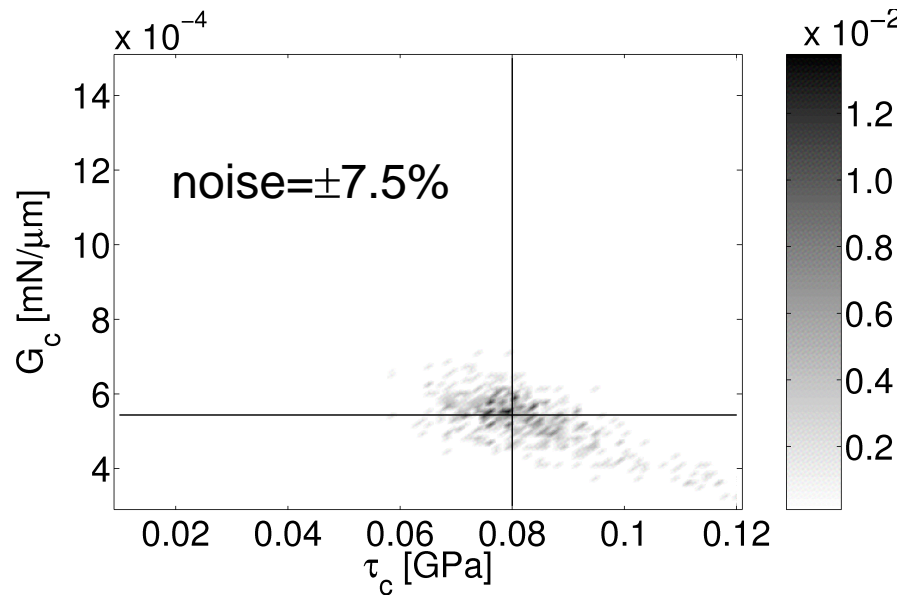
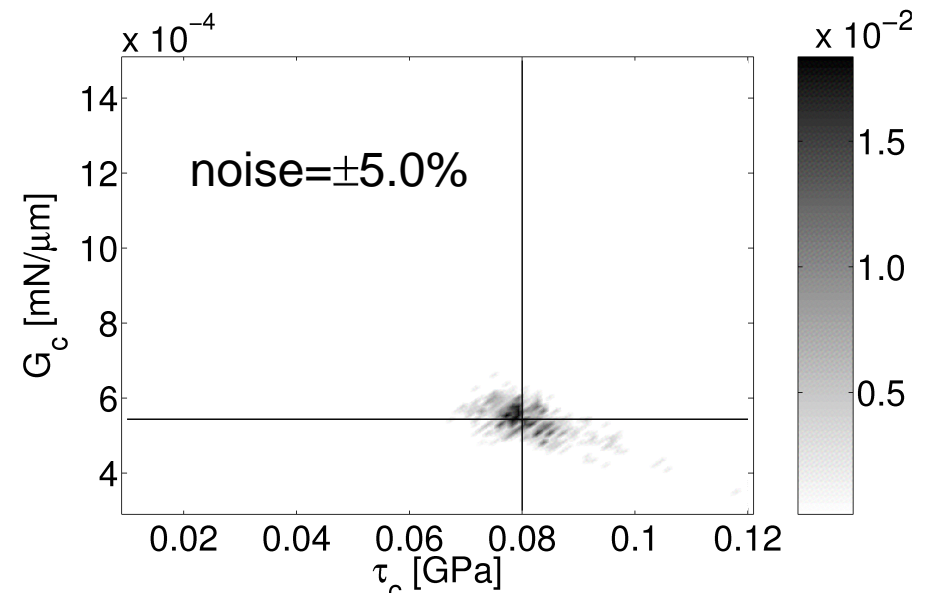
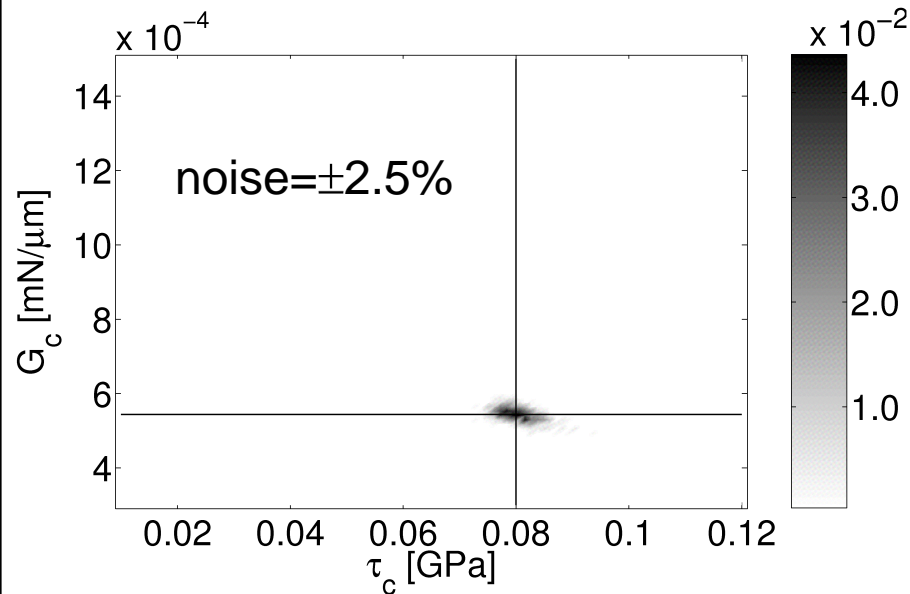
Gabriella Bolzon



Indentation causes delamination



Identification of fracture energy G_c and mode II resistance τ_c



➤ Future prospects:

- application of the proposed procedure to truly experimental data;
- exploitation of soft computing techniques to avoid computational burden (e.g. artificial neural network);
- statistical approaches (Kalman filter);
- effects of residual stresses.