# Séminaire Pablo Musé

Bonjour,

Vous êtes cordialement invités à assister au séminaire de [Pablo Musé](#) (Prof. UdelaR, actuellement sabbatique à TSI) qui aura lieu le:

Lundi 30 septembre 12:00, Amphi Emeraude, 46 rue Barrault.

**Boosting Monte Carlo Rendering by Ray Histogram Fusion**

[Pablo Musé](#) (UdelaR, en sabbatique au TSI)

Joint work with M. Delbracio (Duke), T. Buades (UIB) and JM Morel (ENS Cachan).

### *Abstract*

*In this talk I will present a recent method that proposes a new multi-scale filter accelerating Monte Carlo renderers. Each pixel in the image is characterized by the colors of the rays that reach its surface. The proposed filter uses a statistical distance to com- pare with each other the ray color distributions associated with different pixels, at each scale. Based on this distance, it decides whether two pixels can share their rays or not. This simple and easily reproducible algorithm provides a PSNR gain of 10 to 15 decibels, or equivalently accelerates the rendering process by using 10 to 30 times fewer samples without observable bias. The algorithm is consistent, does not assume a particular noise model, and is immediately extendable to synthetic movies. Being based on the ray color values only, it can be combined with all rendering effects.*

### *Short Bio*

Pablo Musé received the Electrical Engineering degree from Universidad de la República, Uruguay, in 1999, the Diplôme d'Etudes Approfondies degree in mathematics, vision and learning and the Ph.D. degree in applied mathematics from ENS de Cachan, France, in 2001 and 2004, respectively. From 2005 to 2006 he was with Cognitech, Inc., Pasadena, CA, USA, where he worked on computer vision and image processing applications. In 2006 and 2007 he was a Postdoctoral Scholar with the Division of Geological and Planetary Sciences, California Institute of Technology, Pasadena, working on remote sensing using optical imaging, radar and gps networks. Since 2008 he has been with the Division of Electrical Engineering, School of Engineering, Universidad de la República, where he is currently an Associate Professor of signal processing.

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