Groups

Partner research laboratories University Jean Monnet

Laboratoire Hubert Curien, University Jean Monnet, Saint-Etienne, UMR CNRS 551

Laboratoire Hubert Curien ’s core competence in photonics systems and diffractive optics science and technologies are based on micro/nano technologies, laser processing,biophotonics and image processing. These have been expanded to include research in computer science, machine learning and applied cryptography & telecom.

Since the early nineties, academic research on Computational Color Imaging has been conducted by Professor Alain Trémeau and his team at University Jean Monnet. Their research activities focus on:

Image segmentation Calibration of displays and projection devices, Quality control, Image quality metrics Color appearance models

The team currently consists of eight associated professors plus one professor and their work focus on:

Video motion tracking, Video segmentation (Hubert Konik), Motion saliency, Visual appearance models (Eric Dinet), Object recognition, Color invariants (Damien Muselet), Color difference metrics, Image quality metrics, Multispectral imaging (Alain Trémeau) And other themes linked to Image Processing.

This team has published numerous articles, organised or contributed to numerous international conferences (CGIV 2010, CCIW 2009, CGIV 2004, CGIP 2000) and summer schools (IPCV 2004, EHINC 1999). Through numerous book chapters editing, team members have largely contributed to the international Color research community.This team has also supervised many PhD Thesis and Master Thesis on

both Academic and Industrial projects. Since 2009, this team has been associated to the Hubert Curien Laboratory (UMR CNRS 5516) that accounts for the biggest Research Unit at University Jean Monnet.Hubert Curien Laboratory core competences in photonics systems and diffractive optics science and technologies are based on micro/nano technologies, laser processing, biophotonics and image processing.

These have been expanded to include research in Computer science and Machine learning.With an annual budget topping 1200 K€, Hubert Curien Laboratory is pushed forward by national agencies (French government and CNRS) to transfer its knowledge to the industry by means of industrial contracts, technical transfer projects, patent licensing and the creation of spin-off companies. Hubert Curien Laboratory, has about 4000 m2 dedicated to research in the heart of the Scientific and Technologic Park of the University Jean Monnet called “Pôle Optique et Vision” in close connections with private companies and institutions such as the PORA (Rhône-Alpes Region Optical Center). More than 120 researchers and PhD students work today in the two research department of the lab: “Optics and photonics” Department and “Computer science and image processing” Department. The number of Professors and Assistant Professors with permanent positions has increased by 30% over the last 10 years. The number of PhD, Post Doctoral and non-permanent positions has increased by 67% over the same time period.

LABEX MANUTECH-SISE (Saint-Etienne, Lyon)

- The LABEX MANUTECH-SISE is a “Laboratoire d’Excellence” whose ambition is to promote the Lyon – St-Etienne place at the highest international level in the field of surface and interface science and engineering. The objectives of the LABEX are to develop the understanding and control of surface phenomena, such as wear, friction, fatigue resistance, chemical reactivity, wettability, visual and tactile aspects. The aims of the LABEX are also focused on the creation and control of surface functionalities, such as in tribology, optics and chemistry, as well as on the optimization of advanced processes of surface and interface manufacturing at different scales, including ultrashort laser micromachining and assembling.

Tribology and System Dynamics Laboratory’s (LTDS), Ecole Centrale de Lyon, UMR 5513

- The LTDS is a multi-site, multi-disciplinary and multicultural laboratory. Research accompaniment and management, experimentation, modeling, simulation… The LTDS, Mixed Research Unit, conducts research in the following fields: Tribology: the study of friction, wear, lubrication, adherence; System dynamics : the science of vibrations, system and mechanical device stability; Mechanical analysis of materials and processes: construction and structural

calculation, transformation processes and biomechanics.

Laboratoire d’Analyse des Signaux & des Processus Industriels, Université Jean Monnet, Saint-Etienne, EA 3059

Laboratoire Charles Fabry, Institut d’Optique Graduate School, Palaiseau, UMR CNRS 8501

- Laboratoire Charles Fabry is a joint research laboratory (Unité Mixte de Recherche) established by Institut d Optique – Graduate School and the French national research agency CNRS (Centre national de la Recherche scientifique), with Université Paris-Sud as a cooperating institution.

Centre de Recherche et de Restauration des Musées de France (C2RMF), Musée du Louvre, Paris, UMR CNRS 171

Georges Friedel Laboratory, Ecole Nationale Supérieure des Mines de Saint-Etienne, UMR 5307

- The Georges Friedel Laboratory (CNRS UMR 5307) is a unit of the Institute for Engineering and Systems Science (INSIS) of the French National Center for Scientific Research (CNRS). Located at the École Nationale Supérieure des Mines de Saint-Étienne (EMSE) and under the administrative authority of both EMSE and CNRS, the laboratory gathers all of the potential of EMSE in the fields of Materials Science, Mechanics and Process Engineering.

Institut Fédératif de Recherche en Sciences, Ingénierie et Santé IFRESIS – IFR INSERM 143

Centre des Matériaux, Centre de Morphologie Mathématique, Mines ParisTech, UMR CNRS 7633

University of Granada

Optics department Color imaging lab

- We are looking into the design of optimum sensors to use in the spectral acquisition of HDR color images. Based in color and/or spectral information of images, we also work in the development of algorithms for recognition of objects in natural scenes, dehazing methods and multispectral color scanners. University of Eastern Finland

Spectral Color Research group InFotonics Center

Gjøvik University College

The Norwegian Color and Visual Computing Laboratory

- The Norwegian Colour and Visual Computing Laboratory is a research group within the Media Technology Laboratory and Faculty of Computer Science and Media Technology at Gjøvik University College. It was founded in spring 2001 to serve the rising needs for colour management solutions in the graphic arts industry.