MASTER Erasmus Mundus / MSc Course

SPECTRAL COLOR SCIENCE

COLOR IMAGING SCIENCE

Master CIMET

COLOR IN INFORMATICS AND MEDIA TECHNOLOGY

Two-year Master Course taught in English

MULTIMEDIA TECHNOLOGY SCIENCE

http://www.master-erasmusmundus-color.eu

Study Mobility: up to 4 European Universities

CIMET

Universidad de Granada

UNIVERSITY OF EASTERN FINLAND

Université Jean Monnet SAINT-ETIENNE

Franco-Spanish Master Program in Image & Optics / MSc Course

- ImOptics focuses on the complementary of Image and Optics to develop interdisciplinary and internationally trained experts in optics, photonics and computational imaging.
- Mobility: Semesters 1 & 2 at Granada (60 ECTS), semester 3 at Saint-Etienne (30 ECTS), semester 4 (30 ECTS) devoted to master thesis.

Micro and Nano Optical Systems

Color in Optics and Vision

MASTER

ImOptics

Mediterranean Office for Youth

Human Vision and Computer Vision

Light and Materials

- Truly International course (students and academics)
- 100% taught in English

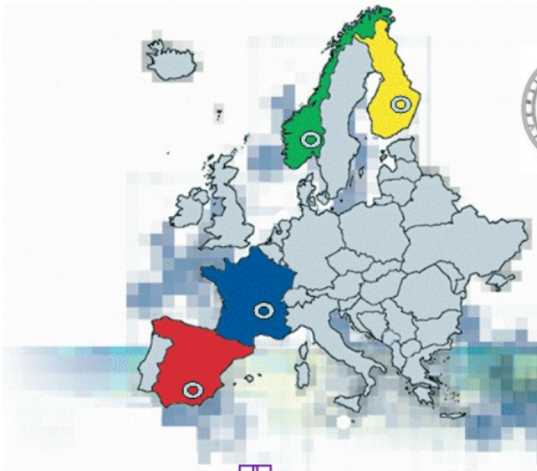
- Two-year master course (120 ECTS)
- Scholarships from the Mediterranean Office for Youth (MOY)

Two European partner universities

Université Jean Monnet SAINT-ETIENNE
UNIVERSITE DE LYON

Universidad de Granada

http://www.master-erasmusmundus-color.eu/study_programme/imoptics2



ugr Universidad de Granada

CIMET

University of Granada, Spain
University of Joensuu, Finland
Gjøvik University College, Norway
University of Saint-Étienne, France

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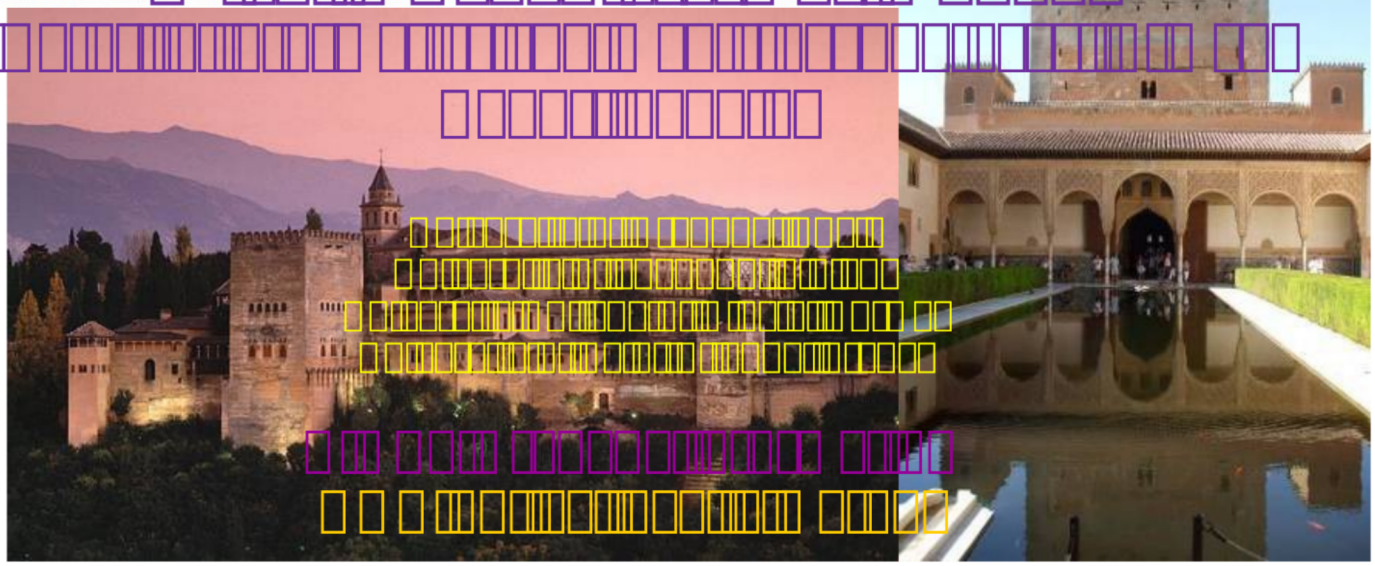

Consortium

The CIMET Consortium is composed of four full partners **University Jean Monnet (France)** , **University of Eastern Finland** , **Gjøvik University College (Norway)** and **University of Granada (Spain)** and four associated partners.

The strong links between the four full partners pre-existed our formal organisation as a consortium to provide the CIMET two-year Master Programme.

As a result of the consortium's dynamic international activities, the **Institute of Technology Bandung (Indonesia)** , **Toyohashi University of Technology (Japan)** , **Monash University, Sunway Campus, Kuala Lumpur, (Malaysia)** and a company, **Chromasens GmbH (Germany)** are now associated to our consortium.

ugr Universidad de Granada	**University of Granada SPAIN** Faculty of Sciences Department of Optics	• Color Imaging Laboratory • Laboratory of Basic and Applied Colorimetry • Laboratory of Vision Sciences and Application
UNIVERSITY OF EASTERN FINLAND	**University of Joensuu FINLAND** Faculty of Sciences Department of Computer Science	• Color Research Laboratory • InFotonics Center
HØGSKOLEN I GJØVIK	**Gjøvik University College NORWAY** Faculty of Computer Science and Media Technology	• Norwegian Color Research Laboratory
Université Jean Monnet SAINT-ETIENNE	**University of Saint-Etienne FRANCE (coordinating institution)** Faculty of Sciences and Techniques Department of Physics	• Laboratory of Graphical Informatics and Vision Engineering • Hubert Curien Laboratory - Department of Optics and Photonics • Hubert Curien Laboratory - Department of Computer Science and Image

MSc Course / CIMET

Overview of the Master Course*

Four European Universities are combining their skills and knowledge to offer a two-year Master Course entitled "COLOR IN INFORMATICS AND MEDIA TECHNOLOGY" (CIMET).

Since 2008, the CIMET Consortium , composed of four European Universities renowned within the color research community, offers a two-year Master Course **Color in Informatics and Media Technology** .

The CIMET Master programme is broadly interdisciplinary and the course curriculum covers innovative areas such as color, photonics, computer vision and imaging science, computer science and multimedia technology. The programme objective is to educate students in advanced methodologies and models in computational color science. With a perfect mix of relevant theoretical and practical knowledge, CIMET post-graduates will be in the position to engage in further academic research or join major companies in the IT industry.

CIMET offers three areas of specialization: Color Imaging Science, Spectral Color Science and Media Technology. These fields, being emergent, rapidly evolving, and of growing impact on the Information Society Technologies, require specialists and specialized competencies.

Course Programme* and Mobility Tracks

*(Subject to revisions)

Semester	Title of Module (location)	Title of Course	Number of ECTS
Semester 1	Fundamentals (Saint-Etienne, Granada)	Photonics and optics Fundamentals	5
		Color science	5
		Image analysis & processing	5
		Data analysis & statistics	5
		Algorithm design and analysis	5
		Optional course or (national) language course	5
		TOTAL	30 ECTS
Semester 2	Specialization 1 Color image capture, devices and processing (Granada)	Radiometry, sources and detectors	5
		Devices and instrumentation	5
		Optical imaging and processing	5
		Advanced colorimetry	5
		Human vision and computer vision	5
		Color in industry	5
		Remote sensing and image processing	5
		Fundamentals of spectral science	5
		Optional course or (national) language course	5
		TOTAL (5 courses to choose among 9)	30 ECTS
	or Specialization 1 Color image capture, devices and processing (Saint Etienne)	Radiometry sources and detectors	5
		Devices and instrumentation	5
		Optical imaging and processing	5
		Advanced colorimetry	5
		Human vision and computer vision	5
		Color in art and design	5
		Ligthing and image capture	5
		Compression and transmission in media systems	5
		Optional course or (national) language course	5
		TOTAL (5 courses to choose among 9)	30 ECTS
Semester 3	Specialization 2 Spectral color science (Joensuu)	Display technologies	5
		Spectral imaging devices	5
		Computational color	5
		Color Science Project	5
		Group project (common to all specializations)	5
		Optional course or (national) language course	5
		TOTAL	30 ECTS
	or Specialization 2 Technologies and models for multimedia systems (Gjøvik)	Content based indexing and retrieval	5
		Cross media production systems	5
		Video processing	5
		Scientific methodology	5
		Group project (common to all specializations)	5
		Optional course or (national) language course	5
		TOTAL	30 ECTS
Semester 4	Theoretical Project	Master thesis	30
		TOTAL	30 ECTS
TOTAL NUMBER OF ECTS			120 ECTS

Partnerships with high/new technology companies and institutions:

Coordinating institution: University Jean Monnet - Faculty of Science and Technology - Campus Pôle Optique Vision
18 rue Professeur Lauras - 42000 Saint-Etienne - France - Tel: +33 477 915 730 - Fax : +33 477 915 726 - email: cimet@ligiv.org

Master CIMET
COLOR IN INFORMATICS AND MEDIA TECHNOLOGY

technicolor

European Commission
ERASMUS MUNDUS

Students

This section aims at providing future CIMET students with useful practical information as well as providing life information through current students testimonies.

Benefits of Erasmus Mundus for individuals

- Participate in high-level masters/doctoral courses
- Receive double/multiple/joint degree from consortium of excellent universities
- Acquire in-depth knowledge of Europe + European HE
- Improve linguistic skills, intercultural experience
- Improve employability of students through recognition of qualifications and study periods abroad
- Academic exchange of knowledge, ideas, contacts

CIMET Students - Cohort 5

MASTER ImOptics

Labeled by

Mediterranean Office for Youth

Franco-Spanish Master Programme

Universidad de Granada

Université Jean Monnet Saint-Etienne – Université de Lyon

Saint-Etienne – Granada

Contacts in coordinating and partner universities:

Academic enquiry:

- **Alain TREMEAU**, University Jean Monnet, Saint-Etienne, France : alain.tremeau@univ-st-etienne.fr
- **Juan Luis NIEVES**, University of Granada, Spain: jnieves@ugr.es

General enquiry: master.imoptics@univ-st-etienne.fr

Partnership with high/new technology companies

Gobierno de España – Ministerio de Educación, Cultura y Deporte; technicolor; chromasens; tecnalia; CIMET; Rhône-Alpes; OLYMPUS; INFRAMOR; ZENROBOTICS

Franco-Spanish Master Program in Image & Optics / MSc Course

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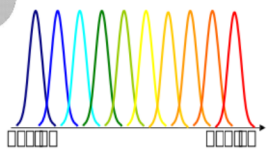
- Two-year master course (120 ECTS)
- Scholarships from the Mediterranean Office for Youth (MOY)

Two European partner universities

Université Jean Monnet Saint-Etienne – Université de Lyon; Universidad de Granada

http://www.master-erasmusmundus-color.eu/study_programme/imoptics2



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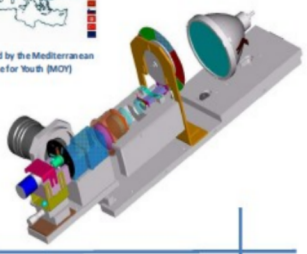

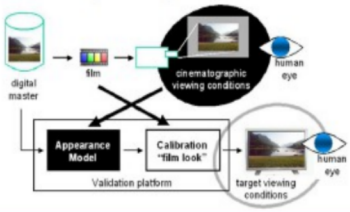

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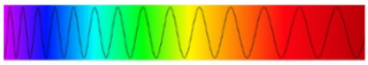

ImOptics

- The applicant must hold BSc (i.e. 180 ECTS in the European system) or equivalent, in physics, optics, computer science, mathematics or any discipline related to optics and photonics.

- Mobility: Semesters 1 & 2 at Granada (60 ECTS), semester 3 at Saint-Etienne (30 ECTS), semester 4 (30 ECTS) devoted to master thesis in Granada or St-Etienne.
- Truly international course (students and academics)

Color in Optics and Vision	Light and materials
Micro and nano Optical systems	Human Vision and Computer Vision

Two European Universities

ugr Universidad de Granada

Université Jean Monnet Saint-Etienne

Strong relationships with industries, boosting career prospect

technicolor · chromasens · tecnalia · CIMET · OLYMPUS · ZENROBOTICS

Partner Universities: Faculty of Science & Technology, University Jean Monnet , Saint-Etienne (France)
Optics Department – Faculty of Science – University of Granada (Spain)
Contact: master.imopdcs@univ-st-etienne.fr Website: http://www.master-erasmusmundus-color.eu/study_programme/imopdcs2

Time schedule	ImOptics Course titles	Number of ECTS
Semester 1 (Sept-February)	Color Science	5
	Data Analysis and Statistics	5
	Image Processing & Analysis	5
at	Fundamentals of Photonics	5
University of Granada	Design and Analysis of Algorithms	5
(30 ECTS)	Basics and Fundamentals with Matlab (optional)	5
	Spanish / French (Optional)	5
Semester 2 (February- July)	Radiometry, Sources and Detectors	5
	Fundamentals of Spectral Science	5
	Optical Imaging and Processing	5
at	Human Vision and Computer Vision	5
University of Granada	Advanced Colorimetry	5
(30 ECTS)	Advanced Color Image Processing (optional)	5
	Lighting and Image Capture (optional)	5
Semester 3 (Sept- January)	Characterization methods of materials, Interactions	5
	between radiations and surfaces	5
	Non-linear optics & optical properties of inhomogeneous	5
at	materials	5
University Jean	Micro and nano Optical systems	5
Monnet, Saint-Etienne	Numerical models & methods in nano photonics	5
(30 ECTS)	Laser-materials interactions-applications in biophotonics	5
	Computer Vision (optional)	5
	Project on Computer Vision (optional)	5
	French – French Culture (optional)	5
Semester 4 at UGR or UJM 30 ECTS	Master Thesis	30
Graduation	Total number of credits required	120

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ImOptics

Franco-Spanish Master Programme

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CIMET
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University of Joensuu, Finland
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