Fonctions Optiques pour les Technologies de l'informatiON

Foton Institute (Fonctions Optiques pour les Technologies de l'informatiON Optical Functions for information technologies)

Pascal Besnard, director

CNRS, University of Rennes 1 & Insa-Rennes

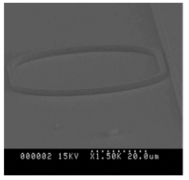
Institut Foton: 3 teams, 3 platforms, 2 sites

1) 3 Research teams:

- Foton-**DOP** (resp. François Bondu): laser Dynamics, micrOwave photonics, Polarimetry, terahertz, imaging
- Foton-**OHM** (resp. Charles Cornet): Optoelectronics, Heteroepitaxy and Materials
- Foton-**SP** (resp. Monique Thual): Photonics Systems

2) 3 platforms

- **CCLO**: integrated optics technologies and characterizations of optical materials and devices (from visible to MIR). photonic integrated circuits for optical communication and sensing applications. Currently, the studied materials are polymers films (with variable refractive index), chalcogenides layers (doped or not doped), germanium layers and nanostructured semiconductors (porous silicon) and porous silica
- **NANORennes**: material growth/deposition, device processing and characterization experiments. (Si, InP, GaP technologies; lasers, micro-cavities, VCSELs, solar cells); heterogeneous/homogeneous integration (heteroepitaxy of III-V compounds on Si, flip-chip (bonding) on Si)
- **PERSYST**: Platform for Evaluation and Research on telecommunication SYSTems (advanced modulation format, high-bitrate characterization, characterization of devices for optical access, system characterization)



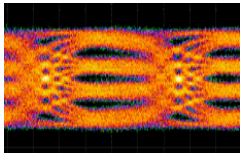
45 APr-Pr & 3 Full R & 3 emeritus

31 IG & Tech

6 post-docs

41 Ph.D

Total: ~ 130



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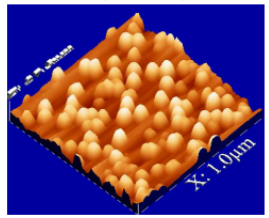

Research in photonics

At the edge of physics (photonics) **and IST** (Information Sciences and Technology)

From fundamental subjects to different areas of applications (optical telecommunications, life sciences, defense, industry, food industry, transport etc.)

- Axis I - Devices and functionalities for optical communications
- Axis II - Microwave, Millimeter and Tera-Hertz Optics
- Axis III - Innovative materials for Photonics
- Axis IV -Instrumentation, Optical Sensors and Coherent Imaging
- Axis V - Advanced concepts for Photovoltaics
- Axis VI - Lasers Physics and Metrology

Questions

Questions ?

http://foton.cnrs.fr