

Lab section/coordinators	Lab description & Organisers
<p><b>FEE-oriented Labs</b></p> <p><i>Local: Prof. Jose Luis Pau (UAM)</i></p> <p><i>From Abroad Dr. A. Savoy-Navarro (IRFU-CEA, Paris Saclay /CNRS, FR)</i></p>	<p><b>1 RD53 Pixel Front-End Characterization</b> by Profs. V. Re and L. Gaioni (Bergamo U. &amp; INFN, IT) <b>at UAM</b></p> <p><b>2 FD-SOI Pixel Detector</b> by Prof Y. Unno, KEK, JP and Dr.K. Androso, EPFL &amp; ETH Zurich, CH, <b>at UAM</b></p> <p><b>3 Thin Moderate Gain Ultrafast Timing detectors</b> by Drs N. Moffat and G. Pellegrini, IMB-CNM, CSIC and Prof. S. Grinstein and Dr. P. Fernandez-Martinez IFAE-UAB, SP, <b>at UAM</b></p> <p><b>4 Introductory Computer Lab to Silicon Photonics Integrated Circuits</b> by Prof. W. Bogaerts (Ghent University &amp; IMEC, BE) <b>at UAM</b></p> <p><b>5 Artificial Intelligence-on Chip Physics Driven Hardware Co-design</b> by Drs F. Fahim and N. Tran (FNAL, USA), G. Di Guglielmo (Columbia, N.Y. USA), M. Valentin, R. Shi, Prof. S. Ogrenci Memik (Northwestern U, Chicago, USA) <b>at UAM</b></p>
<p><b>Data Transmission</b></p> <p><i>Local: Jose del Peso (UAM)</i></p>	<p><b>1 Quantum Communication Lab</b> by Prof. V. Martin, Drs. J.P. Brito Mendez, L. Ortiz (UPM), <b>at UAM</b></p> <p><b>2 Fast clock transmission systems for HL-LHC</b> by Dr. O. Sahin, (IRFU-CEA, U. Paris Saclay, FR) <b>at UAM Physics Dept</b></p> <p><b>3 Light Detection &amp; Ranging ( LiDAR)</b> by Prof. Y. Unno (KEK, JP) &amp; HPK support <b>at UAM Physics Dept</b></p> <p><b>4 Getting started with <math>\mu</math>controllers</b> by Dr. L. Calligaris (UNESP, BR) <b>at UAM Physics Dept</b></p>
<p><b>Test Bench-Marking Platforms</b></p> <p><b>1- Particle Physics</b></p> <p><i>From Abroad: Dr. Carlos Lacasta (IFIC, U. Valencia)</i></p>	<p><b>1 EASy-Silicon Strip Sensor Testbench</b>, by Drs. C. Garcia and C. Lacasta (IFIC, U. Valencia) <b>at UAM</b></p> <p><b>2 Charged Particle Track Reconstruction in an FPGA</b> by Drs. I. Tomalin (RAL, UK) &amp; G. Fedi (Imperial College, UK) <b>at UAM</b></p> <p><b>3 Triggerless system: HLT GPU based:</b> Dr. D. Martinez Santos, U. Santiago de Compostela, Prof. X. Vilasis Cardona (Llull U. Barcelona) <b>at UAM</b></p> <p><b>4 IA tools &amp; real-time HEP Trigger</b>, by Drs. S. Jindariani, B. Hawks, J. Mitrevski, J. Ngadiuba (FNAL, USA) <b>at UAM</b></p>

	<p><b>5 High Granularity Calorimeter Signal Processing, with M.L. based Reconstruction in the CMS HGCal</b> by Drs. A. Zabi &amp; Shamik Ghosh (LLR, Ecole Polytechnique, FR) <b>at UAM Physics Dept</b></p>
<p><b>2- Astrophysics/Cosmo</b></p> <p><i>Local: Dr. Santiago Avila Perez (IFT-UAM)</i></p> <p><i>From Abroad: Dr. Jean Gabriel Cuby (CNRS/INSU, FR)</i></p>	<p><b>1 Dark Energy Spectroscopic Instrument (DESI): Quasar Identification</b>, by Dr. I. Perez-Rafols, LPNHE, CNRS/IN2P3, Paris, FR. <b>at UAM</b></p> <p><b>2 Characterization of a CCD (Charge-Coupled Device) Camera</b>, by Drs J-G. Cuby and A. Le Van Suu, Aix-Marseille U. &amp; CNRS/INSU, FR <b>at UAM</b></p> <p><b>3 Remote Astronomical observations with a 50 cm Telescope at Observatoire of Haute Provence (IRiS), After Lab hours (night)</b> by Drs. J-G. Cuby and A. Le Van Suu, Aix-Marseille U. &amp; CNRS/INSU, FR <b>at UAM Observatory</b></p>
<p><b>Medical Labs</b></p> <p><i>Local: Prof. Jose del Peso (UAM)</i></p> <p><i>From Abroad: Prof. Nicola d'Ascenzo (HUST, CN &amp; NEUROMED, IT)</i></p>	<p><b>1 Clinical Positron Emission Tomography/Magnetic Resonance Imaging: Acquisition and Quantification</b>, by Profs N.Malpica &amp; A. Torrado Carvajal <b>at URJC &amp; HM Hospital</b></p> <p><b>2 In Silico Study Deep Brain Stimulation (DBS)</b>, by Dr. D. Ortega, Ponce, <b>at IMDEA (UAM Campus)</b></p> <p><b>3 Irradiation of a Biomaterial using a Proton Beam and characterization of the damage produced for proton-therapy pre-clinical studies</b>, by Dr. M. Crespillo, Profs. M.D. Ynsa &amp; M. Manso (UAM) and Drs. G. Garcia and S. Vinals (CMAM), <b>at CMAM at UAM</b></p> <p><b>4 New Digital SiPM for PET-MRI</b>, by Prof. N. D'Ascenzo (HUST, CN) <b>at UAM</b></p> <p><b>5 Electronics for Portable Reflectance Pulse Oximetry and Electrocardiography systems</b> by Profs. J.L. Pau, A. Redondo and B.J. Garcia (UAM) <b>at UAM</b></p>
<p><b>Accelerators-Technology</b></p> <p><i>Local: Dr. Concepcion Oliver (CIEMAT)</i></p> <p><i>From Abroad: Dr. Pierre Vedrine (IRFU-CEA/DACM, Paris Saclay, FR)</i></p>	<p><b>1 Designing a Superconducting Magnet</b>, by Drs. L. Garcia-Tabares and C. Oliver (CIEMAT) <b>at CIEMAT</b></p> <p><b>2 Applied Superconductivity</b> by Drs. L. Tabares Garcia and C. Oliver (CIEMAT) <b>at CIEMAT</b></p> <p><b>3 Beam Dynamics for CMAM Accelerator</b> by Drs. G. Garcia (CMAM), A. Arteché, L. Nevay, W. Shields (Royal London Univ.), C. Oliver (CIEMAT), <b>at CMAM at UAM</b></p>

<p><b>Theory Masterclass</b></p> <p><i>Dr. Alberto Casas (IFT-UAM/CSIC)</i></p>	<p><b>1 Can We Feel The Dark Matter?</b> by <i>Dr. D. Cerdeno (UAM)</i> <b>at IFT-UAM</b></p> <p><b>2 Higgs Physics in the Standard Model and beyond</b> by <i>Dr. S. Heinemeyer (IFT, UAM-CSIC)</i> <b>at IFT-UAM</b></p>
<p><b>Computational Labs:</b></p> <p><i>Local: Prof. Gonzalo Martinez (Politechnic School, UAM)</i></p> <p><i>From Abroad: Dr. Rogerio Iope (UNESP Sao Paulo, BR)</i></p>	<p><b>1 Massive Parallel Computing: Fundamentals of parallel programming using INTEL Architecture and Software tools</b>, by <i>Dr. R. Iope (UNESP, BR) &amp; (INTEL, USA)</i> <b>at UAM Politechnic School</b></p> <p><b>2 Quantum Computing Lab: Enjoying the IBM Quantum Experience</b> by <i>Prof. G. Sierra and Dr. E. Lopez Manzanares (IFT, CSIC-UAM)</i> <b>at IFT-UAM</b></p> <p><i>Machine Learning and Deep Learning is introduced through different applications (see other sections here above)</i></p>