

# Hands-On Experimentation using Digilent Analog Discovery 2

## Complete analog & digital circuits in or out of the lab

### Objectives

- Introduce participants a real all-in-one instrument useful to debug embedded systems, analog electronics, digital circuit design, microelectronics or electronics design with a free and easy to use software
- Demonstrate how active learning modules using portable compact electronic instrumentation can be integrated into undergraduate circuits and electronics courses for both ECE or non-ECE students.



**Description:** In this workshop, we will discuss how affordable hardware can be used to learn not only the fundamentals of analog and digital circuits, but also system design and integration. We will describe how hands-on experiments can lead to a better understanding of STEM concepts incorporated into the exercises. Examples will be given on how these experiments can be introduced into courses outside of electrical and computer engineering. Finally, because student-owned equipment untethers students from traditional labs, the ways in which students at remote locations can engage in laboratory courses will be presented. The workshop will be held in English.

### Location:

Laboratorio Multimedia – Edificio A  
Escuela Politécnica Superior  
Universidad Autónoma de Madrid (UAM)  
Francisco Tomás y Valiente, 11  
28049 MADRID

### Date & time:

Thursday, November 30, 2017. 9AM-2PM

### Pre-Registration:

<http://www.electratraining.org/2017/digilent-workshops/>

**Presenter:** Prof. Mircea Dabacan

Dr. Mircea Dabacan is Professor at Technical University of Cluj-Napoca, Applied Electronics Department. Mr. Dabacan works in data acquisition systems, digital design and embedded systems, and was formerly a visiting professor at Washington State University, Pullman, USA. He also manages the Romanian branch of DigilentInc USA.

**Audience:** The anticipated audience includes engineers involved in embedded systems design, analog electronics, digital circuit design, microelectronics or electronics design, faculty members, instructors, and laboratory staff in Electrical and Computer Engineering and Engineering Technology, Mechanical Engineering and Engineering Technology, First Year Engineering Education, Engineering Physics, Physics, and middle and high school teachers in the physical sciences. Participants need to have basic knowledge about electronics and oscilloscope use. They will leave the workshop with instructional materials so that participants can easily adopt this innovative technique in their own courses.

**Logistics / Venue:**

**Digilent** will bring

- 20 Analog Discovery2
- 20 Solderless Breadboard KIT Small (**Part# 340-015P**)

No HW donation during the workshop.

**EPS-UAM** will bring

- A 20 seats laboratory with computer and projector. Additionally, attendants can also use their own laptops.

**Event Organizer:**

Digilent ([www.digilentinc.com](http://www.digilentinc.com)), TME ([www.tme.eu](http://www.tme.eu)), and Escuela UAM-Electraining (Universidad Autónoma de Madrid) ([www.electraining.org](http://www.electraining.org))