

Image Sensor and Camera Technology 25-26-27 January 2017 in San Francisco

On request from several customers, Aphesa organizes an additional session of the image sensor and camera technology training course in San Francisco. The training sessions are organized as three days per location and split over several courses, it is possible to subscribe for a single course, multiple courses or the full session.

The courses are introductory to mid-level, with some advanced topics, and are designed for engineers who are new to the field of imaging or non-engineering personnel who needs a more in-depth understanding of the technology or engineers familiar with some elements of machine vision but not the whole picture. It is also a good refresher course for experienced engineers and a good introductory course for sales, marketing and support personnel. Each course is accompanied by a question and answer session and an open discussion session. Some courses include exercises. There are PDF notes for each course available for download or on a pen drive.

The courses in San Francisco are organized at a downtown venue between Wednesday January 25th and Friday 27th, the week before the Photonics West show and Electronic Imaging symposium and two weeks before the image sensors conference.

The course sessions or a customized course session can be organized in company for a special price and an unlimited number of attendees.

Venue

The training is organized at Intelligent Office, located 101 Pine Street, Suite 1100 in downtown San Francisco, almost at the intersection with Market street (First Republic bank building).

The closest BART station is Embarcadero and the closest bus and light rail station is Market & Battery. There are several parking garages and restaurants inside this building and on Market Street. There is a vast choice of hotels in downtown San Francisco.



Course schedule

- Day 1:
 - 8:45 AM to 9:00 AM: Welcome and registration.
 - 9:00 AM to 9:15 AM: Course introduction and Aphesa presentation – code: APHE
 - 9:15 AM to 12:30PM and 1:30PM to 2:00PM: Introduction to imaging (light, light spectrum, light sources, scene, behavior of light, basic radiometry and photometry, lighting techniques, polarization, filters, lasers, optical basics, MTF, CCD and CMOS image sensors, camera basics, color issues, multispectral and hyperspectral imaging, camera interfaces, photography and imaging terms, lens standards, camera interface standards) – course code: IMAG, including a short break, course level introductory to mid-level.
 - 2:00PM to 5:00PM: Introduction to CMOS image sensors (photodiodes, pinning, SPAD, pixels, 3T, 4T and 5T pixel operation, rolling vs global shutter, arrays, image sensor design, readout circuits, ADC circuits, architectures, spatial and temporal noise sources and noise compensation, color filters, microlenses, dark current, defect pixels, ageing, temperature effects, high temperature imaging), including a short break – course code: CMOS, course level mid-level to advanced.
- Day 2:
 - 8:30AM to 9:00AM: End of CMOS course.
 - 9:00AM to 9:45AM: Production of CMOS image sensors (design flow, image sensor production process, image sensor packaging, back-side illumination, wafer scale packaging, butting, stitching) – course code: PROD, course level introductory to mid-level
 - 9:45AM to 10:15AM: Introduction to high speed and real time imaging – course code: HSRT, course level introductory to mid-level.
 - 10:15AM to 10:30AM: break
 - 10:30AM to 12:30PM: Introduction to software based (multiple exposure) high dynamic range imaging, including algorithms and artifacts and introduction to specific CMOS image sensors for HDR imaging, including control methods, pixel designs and artifacts – course code: HDRI, mid-level to advanced.
 - 1:30PM to 2:30PM: Introduction to 3D imaging – course code: 3DIM, course level introductory to mid-level.
 - 2:30PM to 4:00PM: Introduction to the EMVA1288 standard – course code: EMVA, course level introductory to mid-level.
 - 4:00PM to 4:15PM: break.
 - 4:15PM to 4:30PM: Introduction to infrared imaging – course code: IRIM, course level introductory.
 - 4:30PM to 5:00PM: Special considerations related to mobile imaging – course code: MOBI, course level introductory.
- Day 3:
 - 8:30AM to 11:45AM: Introduction to image processing, including a short break – course code: PROC, course level mid-level.

- 11:45AM to 12:30PM: Open discussions and additional questions.
- 1:30PM to 3:00PM: Test to assess your knowledge level.
- 3:00PM to 5:00PM: Private consulting sessions available

The attendees will receive a certificate of attendance and a certificate of test results

Prices

Course code	Price, before January 1 st	Price, after January 1 st
APHE	Free	Free
IMAG	275 euro	330 euro
CMOS	Not available as individual course	Not available as individual course
PROD	50 euro	60 euro
HSRT	45 euro	55 euro
HDRI	Not available as individual course	Not available as individual course
3DIM	75 euro	85 euro
EMVA	Not available as individual course	Not available as individual course
IRIM	40 euro	50 euro
MOBI	40 euro	50 euro
PROC	180 euro	215 euro

Special price for the full session: 850 euro (first 3 registrations before November 15th), 975 euro (ordered before January 1st) or 1150 euro (ordered after January 1st).

Reductions are offered for attendance to multiple courses (-10% on the total price for more than two course) or multiple members of a company attending the same courses (-10% for the second member, -30% for any additional member), or previous attendees (-10%).

Cancellation policy: 50 euro (or 50% of course price if less than 50 euro) if more than four weeks before the courses, 50% if less than four weeks before the courses, 100% otherwise.

Payment terms: 30 days net, invoiced at the time of booking, net 10 after January 1st.

The full course session of three days will not run or will be reorganized over only one or two days if more than one third of the time does not have the required minimum number of attendees. The minimum number of attendees is 3 and the maximum is limited to 8.

Registration

Contact info@aphesa.com or one of our authorized distributors if you intend to attend one or more training sessions, mentioning the course code and the number of attendees from the same company. Aphesa will then provide a quotation for the desired training package. The final decision to organize or cancel courses will be made eight weeks before the scheduled training date. Contacting us for a quotation or for more information does not engage yourself to buy a course.

About Aphesa

Founded in 2008, Aphesa provides consulting and development services in the field of imaging. Our company has designed multiple customer specific cameras for use in industrial, medical and oil&gas applications and has provided consulting services for the design of many other image sensors, cameras and systems. Our experience includes GigE-Vision, USB, CameraLink cameras and line scan or area scan sensors in color or monochrome. Our experience also includes high temperature designs, multispectral imaging, high dynamic range imaging, high-speed imaging, embedded image processing and many other topics. Aphesa is also specialized in image sensor and camera testing and has developed EMVA1288 compliant test equipments as well as other specific test equipments for laboratory or production use; the EMVA1288 measurements are also offered as a service.

More information about Aphesa: <http://www.aphesa.com>

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