

INTRODUCCIÓN A LA ESPECTROSCOPIA DE INFRARROJO CERCANO (NIRS): FUNDAMENTOS, TRATAMIENTO DE DATOS Y APLICACIONES

El conocimiento existente sobre fundamentos básicos, instrumentación y algoritmos de tratamiento matemático de datos NIRS, mayormente se han generado en lengua inglesa. Ello representa una dificultad añadida para estudiantes, investigadores y profesionales, que no poseen el Inglés como lengua materna. La oportunidad de celebración en Brasil del congreso bianual del ICNIRS, en Octubre del 2015, anima a realizar la presente oferta de formación en Español, para facilitar la participación de hispanoparlantes de países latinomericanos cercanos al lugar de celebración del Congreso NIR2015.

El curso está estructurado en los siguientes bloques temáticos:

- Módulo I.** Introducción a la tecnología NIRS.
- Módulo II:** Etapas críticas en el proceso de desarrollo de aplicaciones NIRS.
- Módulo III.** Métodos de regresión multivariante más usuales (RLM, PCR, PLS) en el desarrollo de calibraciones NIRS.
- Módulo IV.** Ejemplos de aplicaciones NIRS en diferentes campos. Servicios analíticos y redes NIRS. Futuro de la tecnología NIRS.

Mínimo pre-requisito: conocimiento y práctica de análisis de datos fisico-químicos por métodos químicos tradicionales. Es deseable que los futuros participantes, al menos hayan visitado algún laboratorio NIRS y conozcan como se presentan muestras al instrumento y que tipo de información proporciona el mismo.

**Schedule: 8 am – 12 am
13:30 pm – 17:30 pm
(October 18, 2015)**



Tom Fearn is Professor of Applied Statistics at University College London, UK. He has worked in NIR since 1978, and received the Tomas Hirschfeld award for contributions to near infrared spectroscopy in 2001. His publications include joint authorship of the books Practical NIR Spectroscopy, with Osborne and Hindle, and A User Friendly Guide to Multivariate Calibration and Classification, with Næs, Isaksson and Davies. He is chemometrics editor of the Journal of Near Infrared Spectroscopy and writes the Chemometric Space column in NIR News.

TRAINER PROFILE



Ana Garrido-varo is PhD in Agriculture Engineering (University of Córdoba, Spain). Since 1980 she has served as instructor and teacher in the Faculty of Agriculture and Forestry Engineering (University of Cordoba). Currently, she holds the position of Professor in Fundamentals and Technology of Livestock Production and in Non-destructive Spectral Sensors for Quality, Safety and Traceability of Agri-Food Products. She has over twenty five years experience in the field of Near Infrared Spectroscopy (NIRS).

She leads the Non-Destructive Spectral Sensors Unit (NDSSU) at her Faculty. From 1992 until today she has trained more than 500 students, researchers and professionals through NIRS courses taught in Spanish. She is the academic coordinator of the International Virtual Platform for Teaching and Learning of Near Infrared Spectroscopy- IVPTL-NIRS (<http://www.uco.es/nirsplatform/>). In 2005 she was honoured by ICNIRS with the Tomas Hirschfeld award and since 2013, she held the position of ICNIRS Chair. She has published more than 200 journal papers, book chapters, conferences and refereed workshop papers and she has supervised more than 50 MSc and PhD theses related to NIRS, NIRS-microscopy and NIRS-imaging.

Maria Dolores Pérez-Marín, PhD in Agriculture Engineering. Senior Lecturer in Non-destructive Spectral Sensors and in Livestock Production in the Faculty of Agriculture and Forestry Engineering (University of Cordoba, Spain). Her contributions cover the whole spectrum, from basic research to implementation on an ever widening range of applications in food and agriculture using NIRS, alone or combined with other sensors. This research has resulted in well over 170 publications. She has an intensive dedication to the training of undergraduate and postgraduate students (Msc and PhD) and in courses for beginners with an international audience. She is member of the Council Management Committee (2013-2017) and of the Educational Group of ICNIRS, being involved in the educational project IVPTL-NIRS. She has been recognized with the Tomas Hirschfeld Award 2014.

