

PROF. RICCARDO LEARDI'S CURRICULUM VITAE

SCIENTIFIC ACTIVITY

Riccardo Leardi was born in Novi Ligure (Italy) on October 17, 1959.

In 1983 he graduated cum laude in Pharmaceutical Chemistry and Technology at the Faculty of Pharmacy of the University of Genova..

His actual position is Associate Professor at the Department of Pharmacy of the School of Medical and Pharmaceutical Sciences of the University of Genoa. In 2013 he got the qualification for full professor in Analytical Chemistry.

Since 1985 he has been working in the section of Analytical Chemistry of the Department of Pharmacy of the University of Genova, and his research field is Chemometrics.

His interests are mainly devoted to problems of classification and regression (applied especially to food, environmental and clinical data), experimental design, process optimization, multivariate process monitoring and multivariate quality control.

His original research focused mainly on genetic algorithms, especially in their application to the problem of variable selection, and three-way methods.

He developed a software for the application of genetic algorithms in variable selection and, in collaboration with Lars Nørgaard of the Department of Food Science of the Royal Veterinary and Agricultural University of Copenhagen, a software for the application of backward interval PLS to remove non-relevant spectral regions.

Both softwares are freely downloadable (<http://www.models.kvl.dk/GAPLS> and <http://www.models.kvl.dk/itoolbox>, respectively).

He also developed the chemometrical softwares CAT (Chemometric Agile Tool) and BasiCAT, both freely downloadable from the site <http://gruppochemiometria.it/index.php/software>.

He is author of more than 150 papers and about 140 communications in national and international meetings, several of which as invited speaker; he was invited to give talks and courses in several industries and research centers (ABB Research, Alenia, Aschimfarma, Associazione Farmaceutici

Industria, Autonomous University of Barcelona, Bellini S.p.A., Biofer S.p.A., Bracco, Bristol-Myers Squibb Italia, Cambrex Profarmaco Milano SRL, Center of Food and Fermentation Technologies (TFTAK) Tallinn, Chiesi Farmaceutici, Confindustria Bergamo, Dow Chemical, ETH Zurich, Exxon Chemical International Inc., Ferrero, General Impianti, Hercules & DuPont, Innovhub, Institute for Bioengineering of Catalonia, Irish Distillers, Istituto Zooprofilattico Sperimentale, Italcementi, Joanneum Research, Lamberti S.p.A., Mapei, Matforsk, Medtronic, Merck Serono, NASA, National University of Ireland in Maynooth, Novamont, Olon S.p.A., Opocrin S.p.A., Ordine dei Chimici Genova, Pernod Ricard, Procos SPA, Roquette Italia S.P.A., Royal Veterinary and Agricultural University Copenhagen, Saras S.p.A., Solvay S.A., University of Antwerp, University of Bologna, University of Cagliari, University of Geisenheim, University of Genoa, University of Modena, University of Nice, University of Padova, University of Pavia, University of Salerno, University of Sassari, Valpharma International).

He organizes two schools of Chemometrics (Multivariate Analysis; Experimental Design), each held twice a year at the University of Genoa.

He has been a teacher in the School “Chemometric Tools for Process Monitoring”, held for about ten years at the University of Modena.

He taught the module “Experimental Design” inside the “Copenhagen School of Chemometrics”.

He is a teacher of the module “Experimental design for mixtures” for the Master “Formulation et Data Mining” of the Université Paris-Cergy.

He taught preconference courses about experimental design in several international meetings.

He has been editor of a book published by Elsevier and Section Editor of “Comprehensive Chemometrics: Chemical and Biochemical Data Analysis” (for the Section “Optimization”).

He is a regular reviewer for several Journals.

He speaks fluently the following languages: Italian, French, English, Spanish.

CONSULTANCIES

Since November 2002 he started his activity of chemometric consultancy. This is the list of some of his clients:

- ACOS (water supplier of Novi Ligure, a small town of 30,000 people, Italy): multivariate quality control of water;
- Agras Delic (Italy): application of multivariate analysis to pet food products;
- AMGA (gas and water supplier of Genoa, Italy): data analysis of the gas consumption and multivariate calibration with the climatic data;
- Bellini S.p.A. (Italy): application of experimental design and multivariate analysis to lubricants;
- Biofer S.p.A. (Italy): course of chemometrics; application of chemometrics for optimization and process monitoring;
- Bracco (Italy): course of chemometrics;
- Cambrex Profarmaco (Italy): course of chemometrics, application of experimental design and multivariate analysis to pharmaceutical products, process monitoring by NIR probe;
- Center of Food and Fermentation Technologies (TFTAK) Tallinn (Estonia): course of experimental design;
- Chelsea Football Club (UK): multivariate monitoring of the conditions of the football players, in order to prevent overtraining;
- Chiesi Farmaceutici (Italy): application of experimental design and multivariate analysis to many research fields, resulting in several scientific papers;
- Consorzio Venezia Nuova (Italy): application of three-way PCA to environmental monitoring of the Venice Lagoon;
- Dow Chemical (USA): application of GA for wavelength selection in multivariate calibration; multivariate process monitoring;
- Ferrero (Italy): process monitoring and experimental design applied to several products;
- Fileni (Italy): multivariate analysis on data about poultry;

- Glaxo Smith Kline (UK): application of GA for variable selection;
- Innovhub (Italy): course of chemometrics;
- Irish Distillers (Ireland): application of experimental design to instrument optimization; multivariate quality control; multivariate process monitoring;
- Italcementi (Italy): course of chemometrics;
- J. M. Smucker (USA): multivariate calibration, N-way PCA and analysis of sensory data in coffee;
- Lamberti S.p.A. (Italy): multivariate process monitoring, experimental design and multivariate calibration to product optimization;
- Lavazza (Italy): application of experimental design and multivariate analysis to coffee;
- Loccioni (Italy): application of GA for wavelength selection in multivariate calibration; multivariate quality control; experimental design;
- Merck Serono (Italy): course of chemometrics;
- Molecular Discovery (UK): consultancy for updating the chemometric part of a software devoted to molecular modeling;
- NASA (USA): application of experimental design to protein crystallization (including the design of a set of experiments that have been performed on board of the International Space Station);
- Novamont (Italy): application of multivariate process monitoring to industrial data;
- Olon S.p.A. (Italy): statistical analysis on quality control data; course of chemometrics;
- Perkin-Elmer (USA): experimental design applied to a chromatographic column;
- Pernod-Ricard (France): application of multivariate techniques to discriminate between different brands of spirit; application of three-way PCA to data from panel tests;
- Pernod-Ricard U.S.A. (USA): multivariate calibration to detect the composition of mixtures; multivariate quality control;
- Procos SPA (Italy): course of chemometrics, application of experimental designs;

- Research Institute of Geisenheim, Department for Wine Analysis and Beverage Research (Germany): application of GA for wavelength selection in multivariate calibration; experimental design; application of three-way PCA to data from panel tests;
- Roquette Italia S.P.A. (Italy): course of chemometrics, process monitoring;
- Sanofi Chimie (France): application of experimental design to a chemical reaction;
- Turin Polytechnical School (Italy): application of multivariate calibration to predict physico-chemical properties of natural products.

SCIENTIFIC PAPERS

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