

Chemometrics Tools for Process Monitoring School
Modena
6 – 9 February 2018

Preliminary Program

Tuesday 6 February (optional)

AULA Informatica Uint 3 (piano -1)

9.00 – 9.30 Registration

9.30 – 10.50 Principal Component Analysis (PCA): basis, pre-treatments, nature of data, model dimensionality assessment, graphical representation of results, interpretation, validation. Orthogonal Rotations. (R. Leardi)

10.50 – 11.10 coffee break

11.10 – 13.10 Lab Exercises: PCA (C. Durante - M. Li Vigni - R. Leardi)

13.10 – 14.15 lunch

14.15 – 16.15 Partial Least Squares (PLS): basis, pre-treatments, nature of data, model dimensionality assessment, graphical representation of results, interpretation, validation. Multivariate Calibration (M. Cocchi)

16.15 – 16.30 coffee break

16.30 - 18.30 Lab Exercises: PLS (C. Durante - M. Li Vigni - M. Cocchi)

Wednesday 7 February

AULA Informatica Uint 3 (piano -1)

8.30 – 9.15 Registration

9.15 – 9.45 Introduction to Process Monitoring - Basic about control chart (M. Cocchi)

9.45 – 11.30 Use of PCA models in the context of process monitoring.
Multivariate control charts T2, Q. Contribution plots. (R. Leardi)

11.30 – 11.50 coffee break

11.50 – 12.50 Review of diagnosis methods in MSPC (M. Cocchi)

12.50 – 14.00 lunch

14.00 – 14.20 Data Fusion in Process Monitoring context (M. Cocchi)

14.20 – 16.00 *Cases of study presentation – list of contribution in progress*

16.00 – 18.30 Lab Exercises: Multivariate Control Charts (M. Li Vigni - R. Leardi)

Thursday 8 February

9.15 – 11.15 Batch Process: methods industrial application

11.15 – 11.35 coffee break

11.35 – 13.00 Dealing with Start ups and Transitions in Continuous Processes

(T. Kourti: McMaster University, Hamilton, Ontario Canada)

13.00–14.00 lunch

14.00–15.30 Practical issues in Batch MSPC: synchronization, preprocessing and modelling: part I
(A. Ferrer: Technical University of Valencia)

15.30–15.45 coffee break

15.45–18.30 Exercises on batch synchronization

20.30 Social Dinner

Friday 9 February

9.15 – 11.00 Practical issues in Batch MSPC: synchronization, preprocessing and modelling: part II
(A. Ferrer: Technical University of Valencia)

11.00 – 11.20 coffee break

11.20 – 13.00 Exercises on multi-phase batch modelling

13.00–13.30 Question Time

Closure