

## SensorFint / ChemSchool Agenda

date	Half Day number	Time slot	Content	Teachers	Detailed program
Mon 5th pm	1	13:30 - 14:00	Welcoming		
		14:00 - 14:30	Introduction	JM Roger	Introduction / installation of the tools
		14:30 - 15:45	PCA, theory	Tom Fearn	PCA on classical data (low inter correlation)
		15:45 - 16:15			Coffee break
		16:15 - 17:00	Preprocessing	Tom Fearn / JM Roger	Preprocessing NIR spectra
		17:00 - 18:00	PCA, theory	Local + Tom Fearn	PCA on spectra (high inter correlation)
Dinner, free time, work on personal data					
Tue 6th am	2	08:30 - 10:15	PCA, application	Tom Fearn + locals	Outlier detection, Loading interpretation, Pretreatment selection
		10:15 - 10:45			Coffee break
		10:45 - 11:30	ICA	Douglas Rutledge	Theory, algorithm, examples
		11:30 - 12:30	Practical work	All	Practical work on PCA / ICA
Lunch					
Tue 6th pm	3	14:00 - 15:45	Practical work	Tom Fearn + locals	Unsupervised <b>Challenge</b> : choosing the best pretreatments, detecting outliers, structure, etc. without any model
		15:45 - 16:15			Coffee break
		16:15 - 18:00	Modelling & Validating	Marina Cocchi	PLS : Theory, algorithm, Practical works
Dinner, free time, work on personal data					
Wen 7th am	4	08:30 - 10:15	Modelling & Validating	Marina Cocchi	PLS-DA : Theory, algorithm, Practical works
		10:15 - 10:45			Coffee break
		10:45 - 12:30	Modelling & Validating	Marina Cocchi + JM Roger	Modelling workflow, Case studies, including fails
Lunch					
Wen 7th pm	5	14:00 - 15:45	Modelling & Validating	All together	Supervised <b>Challenge</b> : tune the best model, on the data preprocessed in session 2, test on unknown samples; Discussion
		15:45 - 16:15			Coffee break
		16:15 - 18:00	Modelling & Validating	All together	Supervised <b>Challenge</b> : tune the best model, on the data preprocessed in session 2, test on unknown samples; Discussion
Ondalys event - Dinner on the beach					
Thu 8th am	6	08:30 - 10:15	ANN based methods	Federico + Eric	Introduction about ANN, self organizing maps or GTM alternative method
		10:15 - 10:45			Coffee break
		10:45 - 12:30	ANN based methods	Federico + Eric	Introduction about ANN, self organizing maps or GTM alternative method
Lunch					
Thu 8th pm	7	14:00 - 15:45	Non linear methods	Matthieu Lesnoff	Local PLS methods
		15:45 - 16:15			Coffee break
		16:15 - 18:00	Non linear methods	Matthieu Lesnoff	Local PLS methods
Social event					
Fri 9th am	8	08:30 - 10:15	Non linear methods	All	Exercises, <b>Final Challenge</b>
		10:15 - 10:45			Coffee break
		10:45 - 12:30	Non linear methods	All	Exercises, <b>Final Challenge</b>
		12:30 - 14:00			Lunch