



Tuesday 16 January

8.30 Registration

9.00 Opening of the workshop
F. Chazal¹, T. Faneu², Scientific Correspondents of DataSciEn'2018
(1 Inria, 2 IFPEN)

Welcome Address
X. Longaygue, Scientific Division (IFPEN)

SESSION 1: FRAMEWORKS AND PLATFORMS

9.15 Plenary Lecture by **O. Grisel** (Inria)
Predictive Modeling in Python with scikit-learn

10.00 Data challenges with modularization and code submission
B. Kégl (CNRS)

10.30 Presentation of the data challenges

10.40 Coffee Break

11.00 Accelerating deep learning with HPC architectures
F. Courteille (Nvidia)

11.30 Open Turns
M. Baudin (EDF)

12.00 ATOUT : Advanced Tools for Optimization and Uncertainty Treatment
D. Sinoquet (IFPEN)

12.30 Lunch

SESSION 2: ADVANCES IN ALGORITHMS

13.45 Plenary Lecture by **P. Gallinari** (UPMC, LIP6)
Machine Learning to Deep Learning

14.30 Transfer Learning with Convolutional Networks
Y. Grandvalet (UTC)

14.55 Deep Learning for Physical Processes: Incorporating Prior Scientific Knowledge
E. de Bezenac (UPMC, LIP6)

15.20 Topological descriptors for geometric data
S. Oudot (INRIA)

15.45 Coffee Break

16.05 Multivariate parametric regression under shape constraints
F.Wahl (IFPEN)

16.30 Statistical models with large number of observations
N. Durrande (PROWLER.io)

16.55 Warp 10, a uniform approach to time series storage and analytics
M. Herberts (Cityzen Data)

17.20 Prognostics and Health Management (PHM) for Schlumberger tools
L. Baur (Schlumberger)

17.45 **Lab1 : Scikit-learn** **Lab2 : NVidia**

17.45 – 20.30 Cocktail Party

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SESSION 3: INDUSTRIAL SESSION

9.00 Plenary Lecture by **M. Lutz** (Total)

9.45 Overview of recent scientific visualization results at Total EP
M. Plainchault and B. Conche (Total)

10.15 Presentation of the DatalA Institute
B. Thirion (Inria)

10.30 Coffee Break

11.00 How data science is changing renewables asset management
M. Anderhalt (Données Brutes)

11.30 Predicting flooding in a distillation column: a data-driven modeling approach
N. Behara (Total)

12.00 Lunch

13.30 AGATHE : Predictive maintenance applied to HVAC equipment
C. Mallet (Engie)

14.00 Data science in the non-supervised context of wind power
P. Poncet (Engie)

14.30 Calibration and validation of 0D-1D models for energy forecasting
M. Keller (EDF)

15.00 Coffee Break

15.30 Inline inspection and external inspection of oil and gas pipelines
J. Igersheim and L. Querella (Total)

16.00 Hydropower scheduling: learning handmade corrections
M. Huard (Univ. Paris Sud)

16.30 Closing address