Course Plan - GIAN workshop on Unsupervised Data Mining: From Batch to Stream Mining Algorithms

	9.30 AM - 10.30 AM	10.30 AM - 11.30 AM	11.30 AM - 12.00 PM	12.00 PM - 01.00 PM	01.00 PM - 03.00 PM	03.00 PM - 04.00 PM	04.00 PM - 04.15 PM	04.15 PM - 05.15 PM	05.30 PM - 06.30 PM
01/04/2019 - Day 1	Registration	Inauguration	High Tea Break	Lecture 1 - Prof. Stefan Kramer	Lunch	Lecture 2 - Prof. Stefan Kramer	Tea Break	Lecture 3 - Prof. Stefan Kramer	Lab visit and interection

New Timetable

	09.30 AM - 10.30 AM	10.30 AM - 11.45 AM	11.45 AM - 12.00 PM	12.00 PM - 01.00 PM		03.00 PM - 04.00 PM	04.00 PM - 04.15 PM	04.15 PM - 05.15 PM	05.30 PM - 06.30 PM
02/04/2019 - Day 2		Lecture 4 - Prof. Stefan Kramer	Tea Break	Lecture 5 - Prof. Stefan Kramer	Lunch	Lecture 6 - Prof. Stefan Kramer	Tea Break	Lecture 7 - Prof. Stefan Kramer	
03/04/2019 - Day 3		Lecture 8 - Prof. Stefan Kramer		Lecture 9 - Prof. Stefan Kramer		Lecture 10 - Prof. Stefan Kramer		Lecture 11 - Prof. Stefan Kramer	Demo Session
04/04/2019 - Day 4		Lecture by host faculty, scholars		Lecture by host faculty, scholars		Lecture by host faculty, scholars		Demo Session	
05/04/2019 - Day 5	Lecture 12-Prof. Stefan Kramer	Validictory and Certificate Distribution		Exam					

Venues:	
Registration	First floor, Block 9, IIT Patna
Lectures / Tutorials	NKN Room, Fourth floor, Block 9, IIT Patna

Prof. Stefan Kramer's Lectures

Lectures 1 and 2: Introduction to Stream Mining, Tools and Software, Performance Measures, Prequential Error, Statistical Significance Testing, Stochastic Bounds, Basic Algorithmic Tools, Concept Drift
Lecture 3: Batch Pattern Mining, Itemsets, Association Rules, Evaluation Measures, Frequent, Closed, Maximal Patterns, A Priori Algorithm, Pattern Growth Algorithms
Lecture 4 : Pattern Mining on Data Streams, Data Structures, Moment, FP-Stream
Lectures 5 and 6: Clustering, Definition, Performance Measures, k-Means, DBSCAN, BIRCH, Sync, CIPA
Lecture 7 : Clu-Stream, DenStream, ClusTree
Lecture 8: Batch Density Estimation
Lecture 9 : Online Density Estimation
Lectures 10 and 11: Batch Process Mining, Petri Nets, alpha Algorithm and Variants, Learning Real-Time Automata, Learning Probabilistic Real-Time Automata
Lecture 12: Online Learning of Probabilistic Real-Time Autom