Machine learning meets galaxy classification:
Addressing paradigms of galaxy evolution and their environment

Scientific Programme		
21/11/2023		
09:00 Registration and Welcome		
09:20 Invited talk: Is classification solved?	Marc	Huertas-Company
09:55 ERGO-ML-Comparing IllustrisTNG and HSC galaxy images via contrastive learning	Lukas	Eisert
10:15 Quality evaluation in GAN neural network	Miguel	Cárdenas-Montes
10:35 Galaxy Classification with Neural Networks	Laura	Toribio San Cipriano
10:55 Domain adversarial neural networks to classify ionised nebulae in nearby galaxies	Michele	Ginolfi
11:15 Semantic segmentation with Deep Learning techniques to detect galaxy edges	Jesús	Fernández
11:35 Coffee Break		
11:55 Invited talk: A journey through the classfication of galaxy imahes with DL	Jesús	Vega Ferrero
12:30 Understanding the morphology of high-redshift galaxies using unsupervised machine learning and JWST	Clár-Bríd	Tohill
12:50 DESI Galaxy Revolution: Uncovering Hidden Spectral Patterns	Malgorzata	Siudek
13:10 Constraining the evolution of S0 galaxies through the principal component analysis of their optical spectra	Josep L.	Tous
13:30 Exploring galaxy properties with siamese neural networks and galaxies from the CALIFA survey	Ginés	Martínez Solaeche
13:50 Lunch Break		
15:10 Departure to El Escorial		
16:00 Visit to La biblioteca Laurentina		
18:00 Departure to Madrid		
20:30 Social Dinner (Madrid)		
22/11/2023		
09:15 Invited talk: Can machine learning tell us anything we don't already know about clusters of galaxies?	Maggie	Lieu
09:50 Deep Learning Generative Models to Infer Mass Density Maps from SZ, X-ray and Galaxy Members Observations in Galaxy Clu	Daniel	de Andrés Hernández
10:10 Structural relationships of remote galaxies from the CANDELS survey using Support Vector Regression ML models	Guillermo	Valé Arteaga
10:30 Charting the Cosmos: Self-Organized Insights from Large-Scale Surveys	Israel	Matute
10:50 Unsupervised classifications of galaxy spectra up to redshift 1.2	Jihane	Moultaka
11:10 Coffee Break		
11:35 Invited talk: Galaxy merger challenge: A comparison study between machine learning-based detection methods	Berta	Margalef Bentabol
11:55 Merging features looming in the background	Luis	Suelves
12:30 Deep Learning for Galaxy Merger Time	William	Pearson
12:50 Effects of Sersic profile subtraction from galaxy images on convolutional neural network performance for galaxy merger classi	Dawid	Chudy
13:10 A post-merger enhancement only in star-forming Type 2 Seyfert galaxies: the deep learning view	Mathilda	Avirett
13:30 Can we infer the merger histories of galaxies from IFU data using ML trained on simulations?	Erini	Angeloudi
13:50 Lunch Break		
14:50 ESA datalabs: addressing big data challenges in space science	Sandor	Kruk
15:25 Super-resolution and denoising of XMM-Newton images with machine learning	Ivan	Valtchanov
15:45 Uncertainly-labelled galaxies for robust uncertainty measures in ML classification	Fiona	Porter
16:05 Flash Talks (*)		
16:15 Coffee Break		
16:45 Round Table on ML challenges in galaxy classification. Chair: Helena Domínguez		
17:45 Wrap-up words		
18:05 End of Conference		

(*)	Flash Talks:		
	A search for dark matter among Fermi-LAT unidentified sources with systematic features in Machine Learning	Viviana	Gammaldi
	Refining the bimodality of galaxies with GAMA Survey and Machine Learning	Cécilia	Beissière-Thygesen