

## **SFML PROGRAM**

### **Day 1.**

**Monday, 13 May**

*9:00-10:00 Registration with coffee*

10:00-10:15 Partl, Alexandra Petra

(Ministry of Foreign Affairs and Trade, Dep.for Space Policy and Space Activities)

10:15-10:30 Kiss, László (CSFK DG)

10:30-10:45 LOC, important information

### **Session I. - Young stars, young clusters, galactic structure**

**10:45-11:20 Invited speaker** – Hunt, Emily (Universität Heidelberg)  
IMPROVING THE CENSUS OF OPEN CLUSTERS WITH GAIA DATA AND  
MACHINE LEARNING

11:20-11:45 Zari, Eleonora  
THE RECENT STAR FORMATION HISTORY OF THE GALACTIC DISC

11:45-12:10 Wilson, Andrew  
STAR FORMATION STRUCTURES IN THE NEARBY MILKY WAY

12:10-12:35 Szilágyi, Máté  
REVISITING LACERTA USING GAIA DR3

*12:35-14:00 Lunch break (should be arranged individually)*

14:00-14:25 Vioque, Miguel  
CLUSTERING PROPERTIES OF INTERMEDIATE AND HIGH-MASS YOUNG  
STELLAR OBJECTS - **remote**

14:25-14:50 Shah, Priya  
A STUDY OF YSOS IN THE PERSEUS MOLECULAR CLOUD - **remote**

14:50-15:15 Cromptvoets, Breanna  
CLASSIFYING YSOS IN THE COSMIC CLIFFS JWST DATA USING A  
PROBABILISTIC RANDOM FOREST

*15:15-15:45 Coffee break*

**15:45-16:20 Invited speaker** – Cantat-Gaudin, Tristan (MPIA Heidelberg)  
THE STRUCTURE AND HISTORY OF THE MILKY WAY DISC TOLD BY ITS  
STAR CLUSTERS – **remote**

16:20 – 16:45 Iglesias Navarro, Patricia  
DERIVING STAR FORMATION HISTORIES OF GALAXIES FROM SPECTRA  
WITH SIMULATION-BASED INFERENCE) – **remote**

*16:45-18:00 Welcome drinks and snacks at the venue*

**Day 2.**  
**Tuesday, 14 May**

**Session I. - Young stars, young clusters, galactic structure**

9:30-9:55 Posch, Laura  
STELLAR FEEDBACK IS DRIVING SEQUENTIAL STAR FORMATION IN  
THE SCORPIUS CENTAURUS OB ASSOCIATION

9:55-10:20 Rottensteiner, Alena  
SIGMA ANALYSIS OF YOUNG STELLAR POPULATIONS IN ORION

10:20-10:45 Jose, Jessy  
ROLE OF ENVIRONMENT ON THE EXTREME LOW-MASS END OF STAR  
FORMATION – **remote**

**Poster flash talk:**

Simon-Zsók, Anett  
BENCHMARKING GAIA GLOBULAR CLUSTER AGES AGAINST PAST RESULTS

*10:45-11:15 Coffee break*

11:15-11:40 Joó, András Péter  
PRE- AND PROTOSTELLAR CORES IN THE 200 BRIGHTEST PLANCK  
COMPACT SOURCES

11:40-12:05 Salim, Diane  
SETTING ANALYTIC PRESCRIPTIONS ABLAZE: MACHINE-LEARNT STAR-  
FORMATION LAWS WITH FIRE-2

*12:05-13:30 Lunch break (should be arranged individually)*

**Session II. Variability, time domain**

**13:30-14:05 Invited speaker** – Cody, Ann Marie (SETI Institute)  
YOUNG STARS IN THE TIME DOMAIN: CIRCUMSTELLAR DUST  
DYNAMICS - **remote**

**14:05 – 14:40 Invited speaker** – Venuti, Laura (SETI Institute)  
YOUNG STARS IN THE TIME DOMAIN: MULTIBAND SIGNATURES OF  
ACCRETION

14:40-15:05 Nagy, Zsófia  
ACCRETION VARIABILITY IN YOUNG STELLAR OBJECTS: RESULTS  
FROM THE GAIA PHOTOMETRIC SCIENCE ALERTS

15:05-15:30 Siwak, Michal  
GAIA20BDK AND GAIA21BTY, LIKELY NEW FU ORI-TYPE STARS

15:30-15:55 Roquette, Julia  
GENERALISING THE ASYMMETRY AND PERIODICITY METRICS FOR  
YOUNG STELLAR OBJECTS OBSERVED WITH SPARSELY SAMPLE  
MULTI-EPOCH SURVEYS

*15:55-16:20 Coffee break*

### **Session III. Surveys, data types**

**16:20-16:55 Invited speaker** – Kuhn, Michael UK (University of Hertfordshire)  
TRACING GALACTIC STAR FORMATION WITH SURVEYS

16:55-17:20 Marton, Gábor  
THE NEW HERSCHEL/PACS POINT SOURCE CATALOGUE

17:20-17:45 Madarász, Máté  
EFFICIENT COMPACT SOURCE REMOVAL AND BACKGROUND  
ESTIMATION USING MACHINE LEARNING ON HERSCHEL SPACE  
OBSERVATORY DATA

### **Day 3.**

**Wednesday, 15 May**

### **Session III. Surveys, data types**

**9:30-10:05 Invited speaker** – Sacco, Giuseppe (INAF–Arcetri Astronomical  
Observatory, Florence)  
UNDERSTANDING THE ORIGIN OF YOUNG STARS WITH LARGE  
SPECTROSCOPIC SURVEYS

10:05-10:30 Mahabal, Ashish  
MACHINE LEARNING WITH ZTF AND OTHER LARGE SURVEYS

*10:30-11:00 Coffee break*

11:00-11:25 Audard, Marc  
SURVEYING THE TIME-VARIABLE MILKY WAY WITH GAIA

11:25-11:50 Miller, Niall  
MACHINE LEARNING TECHNIQUES FOR MORE COMPLETE TIME  
DOMAIN ANALYSIS

11:50-12:15 Roquette, Julia  
GOTTA CATCH 'EM ALL! THE NEMESIS PROJECT EFFORTS TOWARDS A  
CENSUS OF THE YOUNG STELLAR OBJECTS AROUND US

12:15-12:40 Richardson, Theo  
EXTENDING A YSO MODELING FRAMEWORK WITH MACHINE LEARNING

12:40-13:05 Gezer, Ilknur  
SED FITTING OF YOUNG STELLAR OBJECTS IN THE ORION STAR  
FORMATION COMPLEX

*Free afternoon*

*18:00 – 20:00 Conference dinner on boat with river cruise (70 € / person)*

**Day 4.**

**Thursday, 16 May**

**Session IV. ML methods**

**9:30-10:05 Invited speaker** – Kounkel, Marina (University of North Florida, Jacksonville)

UNLOCKING THE POTENTIAL OF MACHINE LEARNING IN ANALYZING SPECTRA OF YOUNG STARS

10:05-10:30 Auddy, Sayantan

PLANET HUNTER: USING MACHINE LEARNING TO INFER PLANET MASS FROM OBSERVED PROTOPLANETARY DISKS

*10:30-11:00 Coffee break*

11:00-11:25 Hernandez, David

YSO EVOLUTION AND MORPHOLOGY WITH SELF-ORGANIZING MAPS

11:25-11:50 Di Francesco, James

CLOVER: CONVNET LINE-FITTING OF VELOCITIES IN EMISSION-LINE REGIONS

11:50-12:15 Candebat, Nils

INFERRING STELLAR PARAMETERS AND THEIR UNCERTAINTIES FROM HIGH-RESOLUTION SPECTROSCOPY USING CONDITIONAL INVERTIBLE NEURAL NETWORKS

*12:15-14:00 Lunch break (should be arranged individually)*

**14:00-14:35 Invited speaker** – Giannotis, Nikos (HITS, Heidelberg)

PROBABILISTIC FLUX VARIATION GRADIENT

14:35-15:00 Kang, Da Eun

SPECTRAL CLASSIFICATION OF YOUNG STARS IN TRUMPLER 14 USING CONDITIONAL INVERTIBLE NEURAL NETWORKS: COMPARISON OF DEEP LEARNING METHOD AND CLASSICAL METHOD

**Session V. Extragalactic**

**15:00-15:35 Invited speaker** - Kovács, András (Konkoly Observatory, Budapest)

COSMOLOGICAL SIMULATIONS IN THE MACHINE LEARNING ERA: FIRST DISCOVERIES AND FUTURE PROSPECTS

15:35-16:00 Pistis, Francesco

DETECTING OUTLIERS IN THE FUNDAMENTAL METALLICITY RELATION USING MACHINE LEARNING

*16:00-16:30 Coffee break*

16:30-16:55 Kovacic, Inja

EXTRACTING THE DISTRIBUTION OF PHYSICAL PARAMETERS IN NEARBY GALAXIES WITH MACHINE LEARNING

16:55 -17:20 Mohammed, Rashid  
INDICATION OF NON-THERMAL RADIO EMISSION FROM ORION  
NEBULA: COSMIC RAY ACCELERATION FROM STELLAR WIND?

*Optional program:*

Konkoly 125th Anniversary

Address: Konkoly Observatory, XII. district, Budapest, Konkoly-Thege Mikós str. 15-17. (Individual arrival at the venue)

**Day 5.**

**Friday, 17 May**

**Session V. Extragalactic**

9:30-9:55 Bernardini, Mauro  
EMBER: EMULATING BARYONS FROM DARK MATTER-ONLY  
SIMULATIONS OVER COSMIC TIME

9:55-10:20 Andreadis, Nick  
INFERRING GALAXY BARYONIC PROPERTIES FROM ILLUSTRATING  
DARK MATTER MERGER TREES WITH GRAPH NEURAL  
NETWORKS

**10:20-10:55 Invited speaker** – Joyce, Meridith (Konkoly Observatory,  
Budapest)  
DIVERSITY, EQUITY AND INCLUSION: CONSIDERATIONS FOR  
ARTIFICIAL INTELLIGENCE AND BEST PRACTICES IN THE REAL WORLD  
OF SCIENCE

*10:55-11:25 Coffee break*

11:25-12:00 Closing remarks