

**Fourth Advanced Arab Astrophysics School (Arab Adv_4)
KottamiaAstronomicalObservatory, Egypt
October 18 -24, 2024**

Arrival Friday, Oct. 18, Excursion or Departure Thursday, Oct. 24

Scientific Program



المدرسة العربية المتقدمة الرابعة في
الفيزياء الفلكية
18 - 24 أكتوبر 2024
مرصد القطامية الفلكي - جمهورية مصر العربية

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Time		DAY 1 Saturday 19 October	
8:00 - 9:00	Breakfast & Logistics		
9:00- 11:00	Registration		
11:00 – 12:00	Opening Ceremony: Chair: Hadia Selim Prof. Taha Rabeh - NRIAG President Prof. Ashraf Shaker - Astronomy Department Chair Dr. Fouad Sefyani – ArAS SfA Delegate Director Prof. Hadia Selim – SSAS Director, SOC/ LOC Chair		
12:00 – 12:30	<i>Coffee Break</i>		
<i>Chair: Prof. Priya Hasan</i>			
12:30 – 13:30	Dynamics of Star Clusters: Theory	Prof. Priya Hasan	
13:30 - 14:30	Dynamics of Star Clusters: Lab session with nbody6	Prof. Priya Hasan	
14:30 – 16:00	<i>Lunch</i>		
16:00 – 17:00	Introduction to Supernova events	Dr. Massimo Della Valle	
17:00 - 18:00	Classical Novae astrophysics	Dr. Luca Izzo	
18:00 – 19:00	Introduction to long-slit spectroscopy	Dr. Luca Izzo	
19:00 – 20:00	Dinner		
20:00 – 23:00	Observations using Kottamia telescope	Team: Dr. Luca Izzo or/ & Dr. Massimo or/ & Prof. Priya Hasan	

Time	DAY 2 Sunday 20 October	
8:00 – 9:00	Breakfast	
<i>Chair: Dr. Fouad Sefyani</i>		
9:00 – 10:00	Supernova classification	Dr. Massimo Della Valle
10:00 - 11:00	Spectroscopy of supernovae	Dr. Luca Izzo
11:00 – 12:30	Star Clusters in the Gaia Era	Prof. Priya Hasan
12:30 – 13:00	<i>Coffee Break</i>	
13:00 - 14:30	Photometry of Star Clusters: Lab Session with Python	Prof. Priya Hasan
14:30 – 16:00	<i>Lunch</i>	
16:00 – 17:00	Gamma-ray burst-supernova connection	Dr. Massimo Della Valle
17:00 – 19:00	Analysis of supernova spectra	Dr. Luca Izzo
19:00 – 20:30	<i>Dinner</i>	
20:30 – 23:00	Group Work	Dr. Luca Izzo or/& Dr. Massimo

Time	DAY 3 Monday 21 October	
8:00 – 9:00	Breakfast	
Chair: Dr. Fouad Sefyani		
9:00 – 10:00	Stellar Evolution	Prof. Priya Hasan
10:00 – 11:00	Photometry of Star Clusters: Theory	Prof. Priya Hasan
11:00 – 11:30	Coffee Break	
11:300 – 13:00	From Pre-main Sequence Delta Scutito Giant Cepheids Stars There are Ambiguity in The Evolutionary Stage A. Rezk	Prof. Mohamed A.
13:00 – 14:30	Numerical Experiments in Stellar Structure and Nucleosynthesis	Prof. M. Nouh
14:30 – 16:00	Lunch	
16:00 – 17:00	Introduction to cosmological concepts I	Prof. David Valls-Gabaud
17:00 – 18:00	Tutorial on cosmological calculations using python - Photometry, luminosities, spectra, distances to galaxies	Prof. David Valls-Gabaud
18:00 – 19:00	Introduction to cosmological concepts II	Prof. David Valls-Gabaud
19:00 – 20:30	Dinner	
20:30 – 23:00	Observations using Kottamia telescope	Prof. David Valls-Gabaud

Time	DAY 4 Tuesday 22 October	
8:00 – 9:00	Breakfast	
<i>Chair: Prof. David Valls-Gabaud</i>		
09:00 – 10:00	Interacting Galaxies	Prof. Yasser Hassan
10:00 – 11:00	Practical Session: Interacting Galaxies	Prof. Yasser Hassan
11:00 – 11:30	<i>Coffee Break</i>	
11:30 – 12:30	Studying Eclipsing Binary Stars	Dr. Ahmed Shokry
12:30 – 14:30	Practical Session: Analysis of Eclipsing Binary system using Observation of Kottamia Telescope	Dr. Ahmed Shokry
14:30 - 16:00	<i>Lunch</i>	
16:00 – 17:00	Tutorial on PHOEBE and eclipsing binary systems	Prof. David Valls-Gabaud
17:00 – 18:00	Radio Telescope and Spectroscopic Telescope	Dr. Fouad Sefyani
18:00 – 19:00	Tutorial on radioastronomy (here I plan that students use several antennas and they will observe themselves atomic gas at 21 cm in our Galaxy)	Prof. David Valls-Gabaud
19:00 – 20:00	<i>Dinner</i>	
20:00 – 23:00	Work Groups	Prof. David Valls-Gabaud

Time	DAY 5 Wednesday 23 October	
8:00 – 9:00	Breakfast	
<i>Chair: Prof. David Valls- Gabaud</i>		
10:00 – 11:00	Practical Session: Numerical Experiments in Stellar Structure and Nucleosynthesis	Prof. M. Nouh
11:00 – 11:30	<i>Coffee Break</i>	
11:30 – 12:30	Instrumentation of Kottamia Astronomical Observatory and its current Capabilities	Dr. Mohammed Ismael
12:30 – 14:30	Practical Session: Gabaud	Prof. David Valls-
14:30 – 16:00	<i>Lunch</i>	
16:00 – 18:00	Poster Session : How to present your results in a scientific paper	
18:00 – 21:00	Closing Ceremony and <i>Dinner</i>	

Thursday 24 October

Excursion or Departure