

# Second Chilean Workshop on Theoretical and Numerical Astrophysics

## Monday, 14.11.2016

9:30: Welcome

*1st session: Modeling tools and fundamental processes*

9:35 Graeme Candlish: Modified gravity simulations

9:50 Matias Ignacio Garate Silva: Blender as a visualization tool for astrophysical simulations

10:05 Germán Gómez-Vargas: Bayesian inference of underlying point sources in photon count maps

10:20 Francisco Ley: Electron-Positron pair acceleration by Kinetic Microturbulence in Astrophysical Plasmas

10:35 Astor Sandoval: Electron heating in collisionless accretion flows

10:50 – 11:20 Coffee break

*2<sup>nd</sup> session: Stars and planetary nebulae*

11:20 Felipe Zepeda: Calculations of the maximum mass of neutron stars

11:35 Javier Arenas: Can pulsar glitches be explained as "starquakes"?

11:50 Francisco Castillo Andahur: Magnetic field evolution in neutron stars

12:05 Luis Rodriguez: Thermal evolution of old neutron stars

12:20 Daniela Barria Díaz: Evolution of Planetary Nebulae: analysis and numerical models

12:35 – 14:30 Lunch break

*3<sup>rd</sup> session: Star formation, ISM*

14:30 Rafeel Riaz: Fragmentation leading to formation of very low mass protostars via molecular core collapse

14:45 Diego Calderón Espinoza: Clump formation through colliding stellar winds in the galactic center

15:00 Stefano Bovino: Chemical modelling of astrophysical environments

15:15 Nicolás Cuello: Dusty spirals in protoplanetary disks

15:30 – 16:00 Coffee break

16:00 – 17:00 **Pedro Marronetti: LIGO and numerical simulations in General Relativity**

**Special talk sponsored by Associated Universities Inc.; Red de Alta Dirección; Centro de Modelamiento Matemático U. Chile**

- 17:00 Raul Dominguez: Effects of the Initial Mass Function and Mass Segregation in the survival of Embedded Star Clusters
- 17:15 Tjarda Boekholt: Where are the lost siblings of the Sun?
- 17:30 – 18:00 Joint discussion

## **Tuesday, 15.11.2016**

### *4<sup>th</sup> session: Individual galaxies*

- 9:30 José Utreras: Unveiling the role of galactic rotation on star formation
- 9:45 Emanuel Sillero: The evolution of the metallicity gradient and the star formation activity in disc galaxies
- 10:00 Miao Li: Quantifying the Multiphase Galactic Outflows Driven by Supernovae
- 10:15 Bastian Reinoso: Formation and evolution of tidal tails: cuspy v/s cored dark matter halos
- 10:30 Camilo Fontecilla: Final evolution of the inner accretion disk around a supermassive black hole binary
- 10:45 – 11:15 Coffee break
- 11:15 Joaquín Prieto: Galaxy mergers
- 11:30 Juan Molina: Clumps formation in galaxy mergers

### *5<sup>th</sup> session: Galaxy evolution and cosmology*

- 11:45 Roberto González: Spin and cosmic web filaments in Horizon-AGN simulation
- 12:00 Sebastian Lopez & Nicolas Troncoso: The effect on inclination angles on the observed velocity function of galaxies
- 12:15 Enrique Paillas: Baryon effects on void statistics in the EAGLE simulation
- 12:30 – 14:30 Lunch break plus political discussion
- 14:30 George Privon: Constraining AGN Duty Cycles Using Hybrid N-body + test particle Merger Simulations
- 14:45 Yetli Rosas-Guevara: AGN binaries in cosmological simulations
- 15:00 Sergio Contreras: How does the angular momentum vector evolve in N-body simulations?
- 15:15 – 15:30 Coffee break
- 15:30 – 16:30 **PUC Colloquium Dominik Schleicher: The origin of magnetic fields**

16:30 – 16:45            Coffee break

16:45   Joaquín Armijo Torres: Properties of Cosmic Voids in Modified Gravity Model

17:00   Antonios Katsianis: The role of feedback and the evolution of  $z \sim 0-7$  galaxies

17:15   Lucas A. Bignone: Non-parametric Morphologies of Mergers in the Illustris Simulation

17:30 – 18:00            Joint discussion

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