Tähtitieteen seminaari / Astrophysics seminar

This is the homepage of the Astrophysics seminar series at the University of Helsinki.

Friday, 18.09, 10:15, Zoom Meeting Room ID 311 392 2021 Passcode: 206265

Shihong Liao: The story of ultra-diffuse galaxies in the Auriga simulations

Abstract:

Ultra-diffuse galaxies (UDGs) are a large sample of mysterious low surface brightness galaxies whose sizes are as large as L* galaxies while whose luminosities are as faint as dwarf galaxies. Their formation mechanism is still a puzzle. In this talk, I will discuss the formation of UDGs using the Auriga high-resolution cosmological magnetohydrodynamical simulations of Milky Way-sized galaxies. We identify a sample of 92 UDGs in the simulations that match a wide range of observables such as sizes, central surface brightness, Sérsic indices, colours, spatial distribution, and abundance. Auriga UDGs have dynamical masses similar to normal dwarfs. In the field, the key to their origin is a strong correlation present in low-mass dark matter haloes between galaxy size and halo spin parameter. Field UDGs form in dark matter haloes with larger spins compared to normal dwarfs in the field, in agreement with previous semi-analytical models. Satellite UDGs, on the other hand, have two different origins: ~55 per cent of them formed as field UDGs before they were accreted; the remaining ~45 per cent were normal field dwarfs that subsequently turned into UDGs as a result of tidal interactions.

Due to University policies that have been enacted to mitigate the spread of COVID-19 the Astrophysics Seminars will take place virtually through the Zoom conferencing application (https://helsinki.zoom.us). The Seminar room can be accessed by using the following room ID 311 392 2021 (click to be automatically directed).

The seminars are usually held on Fridays at 10:15 in Physicum Room A315 (3rd floor, HIP corridor). Please see announcements below for any departures from the regular schedule. The Helsinki Astrophysics Seminars are also part of the departmental doctoral teaching programme (course code PAPU-001). Papu doctoral students wishing to give a seminar may contact Eric MacLennan (eric.maclennan@helsinki.fi).

Current Program Fall 2020

- 18.9 Shihong Liao (University of Helsinki): The story of ultra-diffuse galaxies in the Auriga simulations
- 23.10 Mika Juvela: Modelling of Interstellar Medium
- 30.10 Antti Penttilä
- 6.11 Joonas Uusitalo
- 13.11
- 20.11
- 27.11 John Regan (Maynooth University, Ireland) at 14:15
- 4.12 TBD
The Helsinki Astrophysics Seminars are organised by Alexis Finoguenov, Karri Muinonen, Peter Johansson and Eric MacLennan. If you are interested in giving a seminar or for any other enquiries, please contact Eric MacLennan (eric.maclennan@helsinki.fi).

Alexis Finoguenov:
- Observational cosmology.
- Large-scale structure of the Universe.
- Halo occupation statistics.
- Environmental effects in galaxy formation.
- Extragalactic Surveys.
- Physics of intracluster medium.
- Missing baryons at low redshifts.

Karri Muinonen:
- Light scattering by cosmic dust.
- Cometary activity in the main belt of asteroids (main-belt comets).
- Planetary rings.
- Dynamical evolution of the Solar System (Nice model).
- Dynamical evolution of extrasolar planetary systems.
- Sample return missions to asteroids and comets.
- Near-Earth object impact hazard.

Peter Johansson:
- Where are the missing cosmic metals in the Universe?
- Dark matter and structure formation in the Universe.
- The Gunn-Peterson effect and cosmic reionization.
- The formation and evolution of supermassive black holes.
- The formation of the first galaxies in the Universe.
- Simulating galaxy mergers.

Till Sawala:
- Galaxy formation and evolution
- Small-scale tests of cosmological models
- Cosmological hydrodynamic simulations
- Interaction between dark matter and baryons
- The formation and evolution of the Local Group

Past Program Spring 2020
- 10.1 Ulrich Steinwandel (LMU Munich): Resolving ISM-physics in galactic scale simulations
- 17.1 Athanasia Toliou (Luleå University of Technology): Dynamical evolution of the Main Asteroid Belt in the primordial Solar System
- 31.1 Stuart McAlpine (University of Helsinki): Galaxy mergers in EAGLE do not induce a significant amount of black hole growth yet do increase the rate of luminous AGN
- 7.2 Till Sawala (University of Helsinki): Setting the Stage: Structure formation from Gaussian Random Fields
- 21.2 Joonas Herranen (University of Helsinki): Too plausible to be true? Centrifugal explosions of cometary dust by sunlight VS a zoo of observations
- 28.2 Eric MacLennan (University of Helsinki): Deciphering Space Weathering on Asteroids using Meteorite Analogs
- 13.3 Natalia Lahen (University of Helsinki): Simulating the formation of star clusters in a dwarf galaxy starburst resolved with individual massive stars
- 20.3 Neha Sharma (Kyung-Her University): Triggered star formation in molecular clouds
- 3.4 Tomas Kohout (University of Helsinki): Spectral Shock Darkening During Asteroid Collisions
- 15.5 Timo Väisänen (University of Helsinki): Light scattering in dense particulate media

Past Program Fall 2019
- 30.8. Hamid Mehdipour (Lahijan University): Cluster analysis of the solar system objects
- 6.9. Lauri Haikala (Universidad de Atacama): A mysterious dusty object in the Sa galaxy NGC3269
- 13.9. Antti Rantala (University of Helsinki): Galactic-scale N-body simulations with resolved small-scale gravitational dynamics: recent progress and future challenges
- 20.9. Mattias Mannerkoski (University of Helsinki): Gravitational Waves from the Inspiral of Supermassive Black Holes in Galactic-scale Simulations
- 27.9. Peter Roelfsema (SRON): SPICA - a joint infrared space observatory
- 4.10. Peter Johansson (University of Helsinki): Post-Newtonian dynamical modelling of super-massive black holes in global large-scale simulations
- 11.10. Karri Muinonen (University of Helsinki): Asteroid lightcurve inversion using Bayesian inference
• 18.10. Teemu Willamo (University of Helsinki): Shapes of stellar activity cycles
• 1.11. Moses Mogotsi (South African Astronomical Observatory): Multi-wavelength Feedback studies in the Nearby Universe, featuring IRAS18293-3413 and friends
• 8.11. Alex Ho (University of Agder): The Extended N-Body Problem
• 15.11. Matthew Holman (Harvard-Smithsonian Center for Astrophysics): A Pan-STARRS and TESS Search for Distant Planets
• 22.11. Alberto Cellino (INAF Osservatorio Astrofisico di Torino): Asteroid Polariometry: State of the art and Recent Achievements
• 29.11. Alexie Finoguenov (University of Helsinki): Largest spectroscopic catalog of X-ray galaxy clusters from SDSS-IV
• 19.12. Anne Virkki (Arecibo Observatory): Arecibo Observatory planetary radar program

Past Program Spring 2019

• 22.1. Johan Compat (MPE): Cosmology with eROSITA's active galactic nuclei
• 25.1. Jacob Idar Chitham (MPE): Optical follow-up of CODEX galaxy clusters with SPIDERS and Pan-STARRS
• 1.2. Ghassem Ghasem (University of Helsinki): BGG science in deep surveys vs. simulations
• 8.2. Hannu Kurki-Suonio (University of Helsinki): Euclid Cosmology Mission
• 15.2. Florian Käfer (MPE): Towards a characterization of X-ray galaxy clusters for cosmology
• 21.2. Miikka Väisäla (TIARA/ASIAA, Taiwan): Observational Signatures of Misaligned Magnetic Fields in Early Disk Formation and Their Time Evolution
• 25.2. Oleksiy Goloubov (V. N. Karazin Kharkiv National University and University of Colorado Boulder): Light pressure forces on asteroids and YORP equilibria
• 1.3. Clotilde Laigle (University of Oxford): Observing the multi-scale cosmic web at high redshift and quantifying its impact on galaxy assembly
• 15.3. Oliver Müller (University of Strasbourg): Testing cosmological models with dwarf galaxies
• 22.3. Roberto De Propris (University of Turku): The Ultraviolet Upturn in Elliptical Galaxies
• 29.3. Guangling Xu (University of Helsinki): A quick introduction to spherical wavelets and two relevant applications
• 5.4. John Regan (Dublin City University): Black Hole Formation in the Early Universe
• 10.4. Lankeswar Dey (University of Turku): The Nascent Field of Nanohertz Gravitational Wave Astronomy
• 12.4. Julia Martikainen (University of Helsinki): Asteroid surface composition by modelling light scattering
• 26.4. Griegor Fedorets (University of Helsinki): Discovering minimoons with LSST
• 3.5. Yirui Zheng (University of St. Andrews): Comparison of stellar populations of simulated and real post-starburst galaxies in ManNGA
• 6.5. Richard Ellis (University College London): The First Galaxies and Cosmic Reionisation
• 7.5. Richard Ellis (University College London): The Assembly History of Elliptical Galaxies
• 10.5. Jeanas Herranen (University of Helsinki): Well-behaving dust and other small particles – an overview to scattering dynamics
• 15.5. Jürgen Blum (I/GeP, TU Braunschweig): What comets can tell us about planetesimal formation
• 24.5. Tuomas Savolainen (Aalto University): First M87 Event Horizon Telescope Results: Imaging the Shadow of the supermassive black hole
• 28.5. Eric MacLennan (University of Helsinki): Asteroid Surfaces in the Thermal Infrared
• 18.6. Matthieu Schaller (Leiden University): Towards exa-scale for cosmological hydro simulations: Challenges and (some) solutions in the SWIFT code

Past Program Autumn 2018

• 8.8. Colin Snodgrass (Open University, UK): It came from outer space: Interstellar visitor 1I/‘Oumuamua
• 15.8. Moses Mogotsi (South African Astronomical Observatory): The Kinematics of SUNBIRD LIRGS
• 24.8. Lauri Haikala (Universidad de Atacama): ALMA observations of globulettes: formation sites of free floating planets?
• 4.9. Xiaobin Wang (Yunnan Observatories, Chinese Academy of Sciences): Physical studies of near-Earth asteroid (3200) Phaethon
• 5.9. Shenghong Gu (Yunnan Observatories, Chinese Academy of Sciences): Yunnan-Hong Kong wide field transit survey
• 14.9. Ellie Sansom (Curtin University): The Desert Fireball Network - Fireballs, Orbits and Meteoroites
• 15.9. Stuart McAlpine (University of Helsinki): Growing black holes in the EAGLE simulation
• 22.9. Yermilov M. (University of Helsinki): The host galaxy of the BL Lacertae object OJ287
• 22.9. Tuomo Salmi (University of Helsinki): A quick introduction to spherical wavelets and two relevant applications
• 19.10. Jorma Harju (University of Helsinki): ALMA observations of a de-icing zone around a prestellar core
• 26.10. (teaching break)
• 1.11. Tuomo Salmi (University of Turku): Mass and radius constraints for neutron stars from X-ray timing, spectral and polarization observations
• 11.1. Pauli Pihajoki (University of Helsinki): Barycentric interpolation on Riemannian manifolds
• 14.11. Jan-Willem den Herder (SRON): High spectral resolution X-ray imaging with Athena: a new window on the hot and energetic Universe
• 30.11. Nico Krieger (MPIA): Zooming into the starburst environment of NGC253 and the Galactic Center
• 7.12. Mika Saajasto (University of Helsinki): A stellar cluster in formation: cloud G074.11+00.11
• 14.12. Thomas Hackman (University of Helsinki): Long-term monitoring of stellar spot activity

Past Program Spring 2018

• 5.1. (teaching break)
• 12.1. (teaching break)
• 19.1. Marius Cautun (University of Durham): Revealing Local Group mysteries using dwarf galaxies
• 26.1. Mauri Valttonen (University of Turku): The host galaxy of the BL Lacertae object OJ287
• 2.2. Antton Luoma (University of Helsinki): Parametric studies of galaxy structure and morphology using GALFIT
• 9.2. Till Sawala (University of Helsinki): The Local Group in Eight Figures
• 16.2. Göran Macconi (University of Helsinki): Experimental light scattering by small particles: orientation-controlled 4 levitating scatterometer
• 23.2. Karri Muinonen (University of Helsinki): Light scattering in dense random media of cosmic dust using incoherent interactions
• 2.3. Johannes Markkanen (University of Helsinki): Numerical solutions for light scattering by cosmic dust and planetary regolith
• 9.3. (teaching break)
• 16.3. Mika Juvela (University of Helsinki): Polarisation observations of an infrared dark cloud
• 23.3. Rudy Wijnands (University of Amsterdam): Probing dense matter physics using the cooling of accretion-heated neutron-star crusts
• 28.3. Lankeswar Dey (University of Turku): Calculating hereditary contribution to gravitational radiation from eccentric binary black hole in blazar OJ287
• 30.3. (good Friday)
• 6.4 Antti Penttilä (University of Helsinki): Multiple scattering modeling approach for spectroscopy, polarimetry, and photometry
• 12.4 David Buckley (South African Astronomical Observatory): "Observing Transients at SAAO and SALT"
• 13.4 Florent Leclercq (Imperial College London): Bayesian large-scale structure inference, likelihood-based and likelihood-free approaches
• 20.4. Jukka Nevalainen (Tartu Observatory): Finding the missing baryons
• 27.4. Jussi Ahoranta (University of Helsinki): FUV Guided X-ray studies of WHIM: The evidence in the sight-line towards the quasar 3C273
• 4.5. Till Sawala (University of Helsinki): The next 8 billion years of the Local Group
• 11.5. (teaching break)
• 25.5. Kirsil Lehto (University of Turku): Current topics in astrobiology
• 8.6. Jesús Escobar-Cerezo (University of Helsinki): Light scattering: an experimental and computational study of a lunar regolith analog
• 15.6. Guilhem Lavaux (IA Paris): Non-linear bayesian inference of cosmic fields in SDSS3 and 2M++ and their applications to nearby cosmology
• 20.6. Thorsten Naab (MPA Garching): High resolution galaxy evolution models with feedback from individual stars

Past Program Autumn 2017
• 22.8. Stefano Borgani (INAF - Astronomical Observatory of Trieste): Understanding Galaxy Clusters with Simulations
• 1.9. Joop Schaye (University of Leiden): Simulating the formation of galaxies
• 8.9. Christopher Haines (Osservatorio Astronomico di Brera): VIPERS: The decline and fall of the most massive star-forming galaxies since z ~ 1
• 15.9. Klaudia Kowalczyn (Nicolaus Copernicus Astronomical Center, Warsaw): Modelling dwarf spheroidals with Schwarzschild methods
• 29.9. Urs Ganse (University of Helsinki): Vlasiaor: Simulating the entire Earth's Magnetosphere in Kinetic Physics
• 6.10. Jorma Sakari Harju and Kimmo Lehtinen (University of Helsinki): Asteroid occultations of radio galaxies
• 13.10. Lucile Turc (University of Helsinki): The outer regions of the near-Earth's space and their role during solar storms
• 20.10. Joonas Nättiäli (University of Turku): Probing the nuclear physics of neutron stars with astrophysics
• 24.10. Roberto De Propris (University of Turku): The New Bulge
• 27.10. Lauri Silltala (University of Helsinki): Asteroid mass estimation with Markov-chain Monte Carlo
• 2.11. Mordecai Mark Mac Low (Columbia University): Formation and Evolution of Giant Molecular Clouds: Gravity or Turbulence?
• 10.11. Lasse Liljedahl (University of Helsinki): The Effects of Supernova Feedback on Disk Galaxy Formation
• 17.11. Joachim Janz (University of Oulu / FINCA): On the mass-size diagram of early-type galaxies and clues about the origins of low-mass early types
• 24.11. Antti Ascaso (Laboratoire Astroparticule & Cosmologie, Paris): Cluster cosmology with Euclid, LSST and J-PAS
• 15.12. Anni Järvenpää (University of Helsinki): Mass Estimates of the Local Group

Past Program Spring 2017
• 27.1. Jimit Sanghvi (University of Turku): Evolution of low-mass quasars and environments of QSO pairs
• 3.2. Guilhem Lavaux (Institut d’Astrophysique de Paris): Cosmology with the Nearby Universe through full statistical reconstruction of wide galaxy surveys
• 10.2. Ronald Läsker (University of Turku): New aspects of the Black Hole scaling relations
• 17.2. Mikael Granvik (University of Helsinki): Near-Earth asteroids: from sources to sinks
• 24.2. David Martinez-Delgado (ARI Heidelberg): Stellar Tidal Streams in the halos of nearby spiral galaxies
• 3.3. Akke Viitanen (University of Helsinki): The Clustering of Active Galactic Nuclei in the COSMOS field
• 17.3. Minna Myllys (University of Helsinki): Solar Wind-Magnetosphere Coupling Efficiency and Polar Cap Potential Saturation
• 24.3. Pauli Pihajoki (University of Helsinki): Ray-tracing and polarized radiative transfer in General Relativity
• 31.3. Teemu Willamo (University of Helsinki): Magnetic activity of V889 Herculis
• 7.4. Peter Johansson (University of Helsinki): Rapid formation of supermassive black holes in close proximity to embryonic protogalaxies
• 21.4. Lucien Kuiper (SRON - Netherlands Institute for Space Research): The high-energy twilight zone of magnetars and rotation-powered pulsars
• 28.4. Claudia Maraston (University of Portsmouth): Stellar population models: from galaxy formation to cosmology
• 5.5. Wara Chamani (Aalto University): Turbulent gas accretion between supermassive black holes and star-forming rings in the circumnuclear disk
• 12.5. Olivier Ilbert (Laboratoire d’Astrophysique de Marseille): Galaxy stellar mass assembly from deep imaging surveys
• 2.6. Lauri Jentsu (University of Helsinki): General Model for Light Curves of Chromospherically Active Binary Stars
• 19.6. Xiaoyan Zhou (Earth, Planetary and Space Science, University of California, Los Angeles): Effects of Interplanetary Shocks on the Lunar Wake

Past Program Autumn 2016
• 9.9. Joonas Herranen (University of Helsinki): Dynamics of Interstellar Dust Particles in Electromagnetic Radiation Fields
• 16.9. Timo Väisänen (University of Helsinki): Towards a new kind of radiative transfer
• 23.9. Chris Collins (Liverpool John Moores University, UK): The properties and evolution of Brightest Cluster Galaxies
• 30.9. Maria Grishevich (University of Helsinki): The recovery of the Annama meteorite and the Finnish Fireball Network
• 7.10. Mika Juvela (University of Helsinki): Graphic details of interstellar medium
• 14.10. Till Sawala (University of Helsinki): Shaken and Stirred: The Milky Way’s Dark Substructures
• 21.10 Mike West (Lowell Observatory): Galaxy Birth, Death and Reincarnation
• 28.10 Mika Sajasto (University of Helsinki): Correlation of gas dynamics and dust in the Herschel field G82.65-02.00
• 4.11 Jorma Harju (University of Helsinki): Nuclear spin ratios as clues to the origin of deuterated ammonia in dense interstellar clouds
• 11.11 Ghassam Gozalñiasl (University of Helsinki): Evolution of the central galaxies in X-ray galaxy groups over 9 billion years
• 18.11 Thomas Hackman (University of Helsinki): Observing Stellar Dynamos in Action
• 25.11 Antti Rantala (University of Helsinki): KETJU: Post-Newtonian supermassive black hole dynamics in galaxy simulations
• 2.12 Natalia Lahén (University of Helsinki): Simulating the fate of the Antennae galaxies
• 9.12 Antti Penttilä (University of Helsinki): Asteroid phase curve analysis with the H,G1,G2 photometric phase function
• 16.12 Viola Allevato (University of Helsinki): Clustering properties of AGN at different redshifts, scales and luminosities
• 20.12 Extraordinary Seminar Evgeniya Petrova (Ural Federal University, Ekaterinburg, Russia): Texture of Cheyabinsk L55 meteorite

Past Program Spring 2016

• 11.1 Extraordinary Seminar Daniel Mackowski (Auburn University, Alabama): Electromagnetic scattering by discretely inhomogeneous, plane parallel media: direct simulation strategies using high performance computing
• 15.1 Extraordinary Seminar Bryce Bolin (Observatoire de la Cote d’Azur, Nice, France): Identifying asteroid family Yarkovsky V-shape
• 22.1 Jyril Lehtinen (University of Helsinki): Activity of young solar-type stars
• 29.1 Violeta Gonzalez (University of Durham): Issues with making galaxies in the computer relatively fast
• 5.2 Pauli Piha-Johki (University of Helsinki): Black hole accretion disc impacts
• 12.2 Graham Smith (University of Birmingham, UK): Weak-lensing mass calibration of LoCuSS galaxy clusters and implications for “Planck Cosmology”
• 19.2 Mikael Granvik (University of Helsinki): Super-catastrophic disruption of asteroids at small perihelion distances
• 26.2 Peter Johansson (University of Helsinki): The formation of the first supermassive black holes in the Universe
• 4.3 Johannes Markkanen (University of Helsinki): Fast solution for electromagnetic scattering by multiple targets
• 11.3 Teaching Break
• 18.3 Tomas Kohout (University of Helsinki): ASPECT CubeSat mission to a binary asteroid Didymos
• 25.3 Easter Break
• 1.4 Lauri Jetsu (University of Helsinki): Shifting Milestones of Natural Sciences: The Ancient Egyptian Discovery of Algol’s Period Confirmed
• 8.4 Elisabetta Micelotta (University of Helsinki): Dust Destruction by the Reverse Shock in the Cassiopeia A Supernova Remnant
• 15.4 Lauri Siltala (University of Helsinki): Asteroid mass estimation using Markov Chain Monte Carlo techniques
• 22.4 Guilhem Lavaux (Institut d’Astrophysique de Paris): New statistical methods in the analysis of the dynamics of Large Scale Structures
• 29.4 Julien Moreau (University of Paris): Shock-darkening in ordinary chondrites: Insight to numerical modelling and what it can tell us
• 6.5 Ascension Day Break
• 13.5 Jesus Escobar-Cerezo (Instituto de Astrofisica de Andalucia, Granada, Spain): Light scattered by dust particles in the solar system: an experimental and computational approach
• 1.6 Noelia Jimenez (University of St. Andrews, UK): Why galaxies care about Supernovae Type Ia?
• 3.6 Deborah Domingue Lorin (Planetary Science Institute, Tucson): Photometry of Mercury’s surface: Perspectives from the Camera and Spectrometer on Board MESSENGER

Past Program Autumn 2015

• 4.9 Craig Sarazin (University of Virginia): Mergers, Shocks, and the Dynamical State of Clusters of Galaxies
• 11.9 Jussi Välimäki (University of Helsinki): Does dark energy decay to dark matter?
• 16.9 Extraordinary Seminar Seshadri Nadathur (University of Helsinki): The nature of voids: simulations, theory, and use in cosmology
• 18.9 Astronomy Seminar moved to 16.10
• 25.9 Seppo Mikkola (University of Turku): Regularisation of Few-Body Dynamics
• 21.10 Takayuki Tamura (ISAS/JAXA, Japan): X-ray spectroscopy of galaxy clusters with Suzaku and future ASTRO-H
• 9.10 Bo Reipurth (University of Hawaii): The Dynamical Evolution of Newborn Triple Systems
• 16.10 Karri Muinonen (University of Helsinki): Asteroid light curve inversion with Lommel-Seeliger ellipsoids
• 23.10 Adam Muzzin (University of Cambridge): The Formation of Galaxy Clusters and the Evolution of Their Galaxies at 0 < z < 2
• 30.10 No Astronomy Seminar
• 6.11 Niigul Olspernt (Aalto University): Time series analysis of solar and stellar data. Case study: young solar analogue LQ Hya
• 11.11 Mika Juvela (University of Helsinki): Dust in the Milky Way
• 20.11 Brian Mazur (University of Toledo): Star Formation in Orion: Wide, Young Binaries
• 27.11 Mika Saajasto (University of Helsinki): Studentships at the Nordic Optical Telescope
• 4.12 Till Sawala (University of Helsinki): The APOSTLE simulations: solutions to the Local Group’s cosmic puzzles
• 8.12 Extraordinary seminar Massimiliano Bonamente: Detection of a possible WHIM filament towards PG 1116+215 with Chandra and HST
• 11.12 Joonas Uusitalo (University of Helsinki): The AD 775 radiocarbon anomaly - Caused by a solar flare

Past Program Spring 2015

• 16.1 Olli Wilkman: Lightcurve simulations for non-convex asteroids
• 23.1 Aleksi Vuorinen: Constraining neutron star matter with QCD
• 30.1 John Regan: Simulations of the Universe
• 6.2 Elizabeth Cole: Magnetic Activity of LQ Hya
• 13.2 Ghassam Gozalñiasl: Evolution of the central galaxies in X-ray galaxy groups
• 20.2 Takayuki Tamura: Metsähovi Radio Observatory: Magnetic fields in blazar jets
• 26.2 Extraordinary Seminar Martin Pessah: On the Dynamics of Helium in the Dilute Intracluster Medium
• 27.2 Ronan Rochford: DYMHPNA3D: An introduction into the world of Pulsars
• 6.3 Teaching Break
• 20.3 Jussi Välimäki: Planck satellite and its cosmology results CANCELLED
• 26.3 Extraordinary Seminar Till Sawala: Local Group Galaxies Emerge from the Dark
• 27.3 Sebastien Muller: PKS1830-211: the molecular absorption at z=0.89 and the background background
• 3.4 Easter Break
• 10.4 Jussi Ahoranta: High resolution X-ray analysis of ICM at core regions of NGC 4636 galaxy group
• 17.4 Erik Palmerio: Fine Structures in Coronal Mass Ejection-driven Sheath Regions
• 24.4 Natalia Lahén: Equal-mass Galaxy Mergers: Initial Conditions and Sub-resolution Astrophysics
• 29.4 Daniel Mege: The Planetary Highland Terrain Hopper: An all-terrain fractionated Solar System explorer
Past Program Autumn 2014

- 9.9 Ciro Pinto: Turbulence in clusters of galaxies as revealed by X-ray spectroscopy
- 12.9 Felicia Ziparo: The role of the environment in the evolution of star formation
- 17.9 Karel Net: Drawing the Unimaginable, COSMOS
- 17.9 Mika Juvela: Star forming clouds in the Milky Way - observations from near-infrared to millimetre wavelengths.
- 28.9 Thomas Hackman: Stellar spot activity - methods and results
- 3.10 Jan Snellman: Relaxation-type second-order closure models in astrophysical hydrodynamics
- 10.10 Cliff Kirkpatrick: Hot Outflows in Galaxy Clusters
- 17.10 Julia Martikainen: Meteorite spectrometry using the University of Helsinki Vis-SWIR spectrometer
- 31.10 Simon Karl: Accurate dynamics around supermassive black holes with the hybrid tree-code "rVine"
- 4.11 Petri Väisänen (note Tuesday): SUNBIRD/SALT: Young massive star clusters and supernovae in strongly star-forming galaxies
- 14.11 Paull Piipajoki: Simulating the orbital dynamics of multiple black hole systems
- 21.11 Kimmo Kettula: Weak lensing mass calibration of galaxy groups and low mass clusters in the COSMOS and CFHTLS fields
- 28.11 Karri Muinonen: Coherent Backscattering by Particulate Media of Nonspherical Particles
- 5.12 No Seminar: Graduate school event
- 12.12 Olli Sipilä: H2D+ observations give an age of at least one million years for a cloud core forming Sun-like stars

Past Program Spring 2014

- 17.1 Anton Baush: The real and apparent convergence of N-body simulations of the dark matter structures: is the Navarro-Frenk-White profile real?
- 31.1 Anne Virkk: Planetary radar research at the Arecibo Observatory
- 7.2 Grigori Fedorets: Spin and shape analyses for the slowly rotating asteroid (39420) 2084 T-2
- 14.2 Mika Juvela: C3PO strikes back - progress report on the project Galactic Cold Cores
- 21.2 Jyri Lehtinen: Time series observations of active stars
- 28.2 Mika Saajasto: Probing the properties of interstellar dust with infrared light scattering
- 7.3 Extraordinary Seminar Alberto Cellino: Physical properties of Asteroids
- 14.3 Murray Brightman: Compton thick AGN in the distant Universe
- 21.3 Antti Rantal: Cosmological Zoom-in Initial Conditions and the Formation of Galaxies
- 28.3 Artem Kupri: Strong lensing as a test of the vacuum energy density in the Lambda-CDM model
- 4.4 Kimmo Kiljäri: Simulating Planck data - CMB timeline-to-map Monte Carlo simulations and beam window functions
- 11.4 Johanna Malinen: Interstellar medium and initial stages of star formation: comparing simulations and observations
- 18.4 Easter break -- No seminar
- 25.4 Jussi Aaltonen: Searching for dark matter in clusters of galaxies
- 30.4 Bodo Ziegler: The busy life of the cluster complex RXJ1347-11

Past Program Autumn 2013

- 6.9 Peter Johansson: Modelling supermassive black holes in galaxy simulations
- 13.9 Jorma Harju: Observations and models of the evolution of prestellar cores
- 20.9 Kimmo Kettula: Weak lensing calibration of scaling relations in galaxy groups.
- 27.9 Oskari Miettinen: A MALT90 study of the properties of the extremely red IRDC clumps
- 4.10 Jörn Warnecke: Bipolar magnetic structures driven by stratified turbulence with a coronal envelope
- 11.10 Emilia Järvelä: Multifrequency study of radio-loud Narrow-line Seyfert 1 galaxies: A search for spirals launching relativistic jets
- 18.10 Ghassem Gouzalis: Evolution of the luminosity gap in X-ray galaxy groups from CFHTLS-XMM field
- 25.10 Bidya Binay Karak: Role of meridional circulation in modeling the solar cycle using the flux transport dynamo model
- 1.11 Lauri Jetis: Did the ancient Egyptians record the period of the eclipsing binary Algol - The raging one?
- 8.11 Emily Freeland: Intergalactic Gas in Groups of Galaxies: Implications for Dwarf Spheroidal Formation and The Missing Baryons Problem
- 15.11 Anne Lähteenmäki: Multifrequency studies of active galactic nuclei
- 22.11 Mikael Granvik: Life and death of the Chelyabinsk asteroid
- 29.11 Karri Muinonen: Gaia - an ultraprecise survey of our Galaxy
- 6.12 Finnish Independence Day -- No seminar
- 13.12 Miljka Väisälä: High-resolution ammonia mapping of the very young protostellar core Chamaeleon-MMS1
- 18.12 Tom Millar: Complex Molecule Formation in Protoplanetary Disks

Past Program Spring 2013

- 18.1 Petri Käpylä: United approach to investigating stellar magnetic activity
- 25.1 Francesco Miniati: Generation of Magnetic Field in Cosmic Structure
- 1.2 Lauri Haikala: The European Extremely Large Telescope (E-ELT)
- 7.2 Ana Rivera: Searching for Clues in High-Mass Star Formation (Note Thursday)
- 15.2 Mikael Granvik: Constraints for the formation and evolution of planetary systems with the Large Synoptic Survey Telescope
- 28.2 Patricia Spinelli: Weak lensing analysis of galaxy systems (Note Thursday)
- 7.3 Masayuki Tanaka: High redshift groups of galaxies (Note Thursday)
- 8.3 Eva Schinnerer: The relation between ISM and star formation on cloud-scales - New insights from the Whirlpool galaxy
- 22.3 Olli Sipilä: HD depletion in starless cores
- 26.3 Toshifumi Futamase: A new approximation for the non-linear DM power spectrum beyond BAO scales (Note Tuesday)
- 29.3 Easter break -- No seminar
- 5.4 Sébastien Comerón: A deeper look on thick discs using data from the Spitzer Survey of Stellar Structure in Galaxies (S4G)
- 12.4 Hanna Pentikäinen: Laboratory spectrometry of meteorite samples at visible to near-infrared wavelengths
• 19.4 Kyösti Ryynänen: Life out of chaos
• 26.4 Viola Allevato: Halo occupation of X-ray AGN in the COSMOS field
• 3.5 Shaun Hotchkiss: The (misbehaving) integrated Sachs Wolfe effect from "superstructures"

Past Program: Autumn 2012
• 7.9 Maarit Mantere: Solar and stellar cycles: observations and MHD modelling
• 14.9 Heidi Yli-Kankahila: Formation of Early-type Galaxies through mergers of gas-rich disk galaxies
• 21.9 Elizabeth Cole: Doppler Imaging of LQ Hydrae
• 28.9 Karri Muinonen: Scattering of electromagnetic waves by Solar System objects: from the first principles to the new asteroid magnitude system
• 5.10 Olli Wilkman: Asteroid lightcurve phase shift from rough-surface shadowing
• 12.10 Mika Juvola: Update on the project Galactic Cold Cores
• 19.10 John Regan: Simulations of the Formation and Evolution of Super Massive Black Holes
• 26.10 Teaching break -- No seminar
• 1.11 Alexis Finoguenov: COnstrain Dark Energy with X-ray (CODEX) clusters. Colloquium talk, note the unusual time.
• 9.11 Minja Mäkelä: Structure and star formation in cometary globules; NIR observations of CG1 and CG2
• 16.11 Jorma Harju: Observational tests for the chemistry and dynamical evolution of prestellar cores
• 23.11 Tuomas Lunttila: Radiative transfer modelling of interstellar clouds
• 30.11 Andi Hektor: Dark side of the Universe: enlightenment through gamma-rays
• 7.12 Thursday (6.12) is Finnish Independence Day -- No seminar
• 14.12 Ghassem Gozaliasl: Understanding the evolution of structure in the Universe with help of galaxy groups

Past Program: Spring 2012
• 16.1 Karri Muinonen: Asteroid orbital inversion using a virtual-observation Markov-chain Monte Carlo method
• 20.1 Maarit Mantere: "Alternative interpretation of starspots"
• 23.1 Hannakaisa Lindeqvist: Stereophotogrammetry: a new way of modeling light scattering by mineral dust
• 27.1 Mika Juvola: “Herschel observations of cold interstellar clouds detected by Planck”
• 30.1 Mikael Granvik: Building near-Earth-object population models with data from CSS and NEOSat
• 3.2 Julien Montillaud: "Between molecules and solid state: Interstellar PAHs and Very Small Grains"
• 6.2 Tomas Kohout: Magnetic susceptibility meter for asteroid regolith composition studies
• 10.2 Matts Roos: "Some recent astrophysics issues"
• 13.2 Victor Solea: An MC-MC approach to periodicity determination of variable stars
• 17.2 Thomas Hackman: "Stellar spot activity - some recent results"
• 24.2 Roberto De Propris: "Galaxy Mergers"
• 27.2 Lauri Pesonen: Meteorite Impact Cratering - Geophysical Aspects
• 2.3 Oskari Miettinen: "Infrared dark clouds - A case study of the filamentary IRDC G304.74+01.32"
• 5.3 Dagmara Oszkiewicz: Differentiated asteroid families - the missing link to the history of our Solar System
• 9.3 Teaching break -- No seminar
• 12.3 Jani Tyynelä: Applicability of the Rayleigh-Gans approximation for snowflakes at microwave frequencies
• 16.3 Jan Snellman: Some new results on hydrodynamical closure models
• 19.3 Anne Virkki: Circular polarization ratio for aggregates of spherical particles
• 23.3 Olli Sipilä: Chemical and physical modeling of prestellar cores
• 29.3. Mark Rawlings: "The current status of ALMA” (13:15 in D116)
• 30.3 Tuomas Lunttila: "Dust radiative transfer using hierarchical grids"
• 6.4 Easter break: No seminar
• 13.4 Paula Kyyrö: "The density profile and fragmentation of Taurus Molecular Cloud-1"
• 16.4 Evgenij Zubko: Light scattering by cometary dust: Large-particle contribution
• 20.4 Anna Parikka: “The physical and chemical state of cold dust cores mapped with Herschel”
• 23.4 Maria Gritsevich: How to catch a shooting star: Fireballs producing meteorites
• 27.4 Victor Solea: "Long-term photometric analysis of a chromospherically active variable star"
• 4.5 Hannu Kurki-Suonio: "Euclid - the next cosmology mission"
• 30.5. Douglas Whittet: "Methanol in interstellar ices"
• 30.5 Emily Hardegree-Ullman: "Chemical and Physical Conditions of the core SL42 in the Corona Australis Molecular Cloud"
• 1.6. Thorsten Naab: "Modelling the Antennae Galaxies"