January 31st 2018 " The Cassini Mission to Saturn" Professor Carl Murray

February 28th 2018 " Stellar remnants" Roger O'Brien

March 28th 2018 " Chasing the Sun - Voyages to Totality" Mike Davies

April 25th 2018 " Juno Mission" Professor Emma Bunce Leicester University

May 30th 2018"Interstellar Flight" Kelvin F. Long , Institute for interstellar Studies (I4IS)

June 27th 2018" Mapping the evolution of galaxies across cosmic time Speaker Guido Roberts - Borsani

In this talk I will address and review two such issues: the first will be a description of the Epoch of Reionization, a period of the early Universe (~300,000 years after the Big Bang) in which the first galaxies formed and (re)ionised the neutral Hydrogen that surrounded them, giving way to the observable Universe that we see today. I will describe how these galaxies are found, what their main characteristics are, and how they likely influenced their surroundings.
The second half of my talk will take place ~13.5 billion years later to focus on a description of the local Universe and the long standing problem of how galaxies transit from "alive and star-forming" to "red and dead". The emphasis will be on massive jets of outflowing gas as a potential instigator, which observations have found to be ubiquitous at every epoch of galaxy evolution - such jets of gas are driven out of a galaxy by intense levels of star formation and may be able to remove the "fuel" (ie., Hydrogen gas) necessary for star-formation, thereby quenching the host galaxy.
Finally, I will provide a brief description of the next generation telescopes that will help push back the frontier of what we can currently observe, and how they are likely to impact galaxy evolution studies as a whole.

September 26th 2018 " Omaouma- the interstellar astromet" Speaker Roger O'Brien

October 31st 2018 " Star -core Zeus in depth " Rupert Holms.

The following introduction , below is by kind permission of Rupert Holms

" *The Sun's former companion star was a large magnetic star of about ten solar-masses. Four-point-six billion years ago, it exploded in an ultra-violent supernova explosion. Although this local supernova explosion disrupted our former close-binary star-system, star-core-zeus remained in orbit. We are still located in the centre of its great blast bubble, which is now many thousands of light-years across.*

The planets were formed from the supernova explosion debris of the obliterated companion star. Vast nickel-iron fragments from the shattered core of this large star attracted other matter and started the rapid accretion of the planets. The rapidity of planet formation has been revealed by the discovery in meteorites and interplanetary dust of the decayed remains of very short-lived radioactive isotopes.

When the hot magnetic star-core was first exposed, it was very hot and radiated UV-light. However, it was enveloped in vast clouds of debris blown-off from the dead companion star, which were rich in carbon, oxygen, nitrogen, and hydrogen. The supernova explosion not only made all the chemical elements and isotopes that formed Earth and the other planets; it was responsible for extra-terrestrial chemistry and molecular biology.

The radiation from the young star-core, included great jets of circular-polarized UV-light that emerged from its magnetised rotation poles. This energy beam catalyzed polymer chemistry in the cloud of supernova debris. It specifically enhanced the synthesis of left-handed amino-acid polymers and other macromolecules, which became the pre-fabricated starting-material of supernova-life on Earth.

The Sun and star-core Zeus are now the components of our binary star system. In contrast to the eight planets, star-core Zeus travels in a very-eccentric and steeply-inclined orbit. It flies away from the solar-system in the direction of Sirius, travelling five hundred times the distance of Earth from the Sun. Star-core Zeus then falls back towards the centre of gravity of our binary system and loops around the Sun. Star-core Zeus and the Sun have been orbiting their common centre of gravity, every four thousand years, since the birth of our solar system.

Star-core Zeus has been perturbing and sculpting our planet since it was formed. During fly-bys, its irresistible gravity has been regularly raising and lowering sea-levels to drown or expose land. On rare occasions star-core Zeus came so close to Earth, it pulled up whole mountain ranges and opened great gashes across our planet, which we now call rift-valleys and ocean-trenches.

On one terrible occasion, the force applied by star-core-zeus was so great, it ripped-off fifty per cent of the crust of the Earth and simultaneously gouged out the ocean basins. Pangaea, the remains of the old planetary surface of Earth, was shattered into huge fragments, which we now call the continents. The cataclysmic event caused The Great Permian Extinction and it marked the end of the Palaeozoic geological era.

The archaic 'super-continent' Pangaea was not a continent at all, it was the cracked hemispherical remains of the original surface, half of the Earth's old crust. We still teach that continental-drift is caused by the slow continuous motion of plate-tectonics: on the contrary the tidal forces of star-core Zeus, periodically lift and drag the continents across the surface of the Earth.

All the main lunar formation models have been refuted by new data that proves water on the Moon and lunar rocks are derived from the crust and upper mantle of the Earth.

I propose that about 250 million years ago, star-core Zeus almost collided with us. As it flew past our planet at only four-hundred-thousand kilometres, it was travelling at very high velocity. Its irresistible gravity ripped the moon out of mother-earth, and it was during this violent caesarean birth, that Pangaea was shattered. The crustal fragments were accelerated into orbit by Zeus and crumpled together like a ball of paper to form the moon. Rocks on the Moon have been radiometrically dated, but the result only records their date of formation on Earth. The Moon has 20x less dust thickness than would be predicted from studies of other solar system objects such as Phobos and Vesta. The surface of the Moon is only 250 million years old.

During recent work by astronomers at Caltech to find Planet 9, the perturber of the Kuiper Belt objects, the search of the sky has been narrowed to around Orion and Taurus near the Milky Way. I started my search for Zeus between Sirius and Orion near the Milky Way, based on ancient observations recorded in astro-mythology.

The best candidate object is a 22 micron WISE IR source that corresponds to radio source 3C161."

November 28th 2018 " Astronomy 2030" Ed Zanders