

## 구두발표초록

## 초청강연

**[초 IT-01] Uncovering galaxy individuality with multiplexed integral field spectroscopy.**Scott Croom<sup>1</sup> and Julia Bryant<sup>2</sup><sup>1</sup>*Univ. Sydney*<sup>2</sup>*Univ. of Sydney and AAO*

There is a rich diversity of galaxy properties and we are starting to understand some of the drivers for differences between galaxies. Much progress has been made in the last decade, thanks in large part to massively multiplexed surveys using single fibres, but we still lack a complete picture of how galaxies are built. I will discuss how large-scale integral field surveys can address a number of the outstanding questions in the field, starting with the current SAMI Galaxy Survey, and then looking towards the Hector instrument that will carry out integral field surveys of order 50,000-100,000 galaxies. With SAMI we can start to address how mass and environment influence galaxy structure and history, and I will discuss examples such as the environmental quenching of star formation and the distribution of angular momentum. With larger samples afforded by Hector we can go beyond simply mass and environment, to separate galaxies based on their merger or accretion history, as well as their larger-scale environment.

**[초 IT-02] LIGO-India: Beyond discovery of Gravitational waves.**

Tarun Souradeep

*Inter-University Centre for Astronomy and Astrophysics*

The historic discovery of gravitational waves through direct detection by the LIGO observatories in the USA, in principle, opens up a new window for astronomy. In practice, however, the true launch of gravitational-wave astronomy will await the global array of LIGO like observatories including the planned LIGO-India observatory recently flagged off by the Union cabinet of India. I will review the momentous discovery, the potential of gravitational-wave astronomy and the promise

of LIGO-India.

**[초 IT-03] The realm of the ultra-low surface brightness universe**

David Valls-Gabaud

*CNRS, Observatoire de Paris; Churchill College, University of Cambridge*

One of the major discoveries in extragalactic astrophysics made over the past few years is the detection of ultra-diffuse galaxies, a new type of galaxies which appear to be far more numerous than normal galaxies, and which are giants in terms of size, yet dwarfs in terms of luminosity. These galaxies point to the huge discovery potential of the last niche that remains to be explored in observational parameter space: the sky at extremely low surface brightness. Implications for objects in the Solar System, stellar physics, the interstellar medium, galaxies and cosmology will be addressed, along with the major challenges for pushing the frontiers in ground- and space-based observations.

**[초 IT-04] Observational Evidence for the Coevolution between Supermassive Black Holes and Host Galaxies**Minjin Kim<sup>1,2</sup><sup>1</sup>*Korea Astronomy and Space science Institute*<sup>2</sup>*University of Science and Technology*

(1) The correlation between the mass of supermassive black holes (SMBHs) and the properties of their host galaxies suggests that SMBHs and host galaxies are closely linked in their formation and evolution. While the exact origin of their relationship is still under debate, theoretical models often invoke feedback from active galactic nuclei as a crucial mechanism for establishing the BH-host correlation. In the first part of my talk, I will present possible observational biases in the BH-host relation, and methods to overcome these biases. I will also report our efforts to find observational sign of the AGN feedback in high-*z* young luminous AGNs. (2) While intermediate-mass black hole (IMBH) is thought to be cosmologically important class to understand the link between stellar mass black holes and SMBHs, it is extremely rare in the present-day Universe. In the second part of this talk, I will report a Gemini/GMOS-N IFU study of an ultraluminous X-ray source in NGC 5252, which is a possible candidate of an off-nuclear non-stellar black hole.