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UCT authors on KAT-7 results available for expert comment and interviews

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Photos of Dr Armstrong and Associate Professor Patrick Woudt attached

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UCT astronomer Dr Richard Armstrong is the first author of a scientific paper based on KAT-7 results

The first author of a scientific paper based on observations performed with South Africa's new KAT-7 radio telescope is Dr Richard Armstrong, an SKA (Square Kilometre Array) SA Fellow at the University of Cape Town. The paper, "A return to strong radio flaring by Circinus X-1 observed with the Karoo Array Telescope test array KAT-7", has just been accepted by the prestigious journal, *Monthly Notices of the Royal Astronomy Society (MNRAS)*. This follows a thorough peer review and referee process. Two of Dr Armstrong's co-authors are Professor Rob Fender, Head of the Astronomy Group at the University of Southampton (UK) and an SKA visiting professor at UCT; and Associate Professor Patrick Woudt, Deputy Head of the Astronomy Department at UCT.

UCT researchers lead four MeerKAT Key Science Projects

South Africa is currently constructing MeerKAT, the 64-dish radio interferometer that serves as a precursor to the SKA. UCT researchers are leading four of the approved MeerKAT Key Science Projects, representing a quarter of MeerKAT time. One of these surveys is the 3,000-hour ThunderKAT survey for astrophysical transients. Dr Armstrong has been working on the design of this survey together with Professor Fender and Associate Professor Woudt, the leaders of the ThunderKAT project,

which will search for all types of radio bursts and flashes in KAT-7 and MeerKAT data on timescales from seconds to years.

A growing UCT astronomy community: 'Cape Town is the hottest place to be in radio astronomy in the world at the moment'

Dr Armstrong left the United Kingdom a year and a half ago to join a steadily growing UCT radio astronomy group as an SKA SA Fellow. UCT and the Western Cape have become a preferred education destination for astronomers, drawing postdoctoral students and researchers from around the world. "With the SKA and MeerKAT being developed on our doorstep, Cape Town is the hottest place to be in radio astronomy in the world at the moment," says Dr Armstrong.

UCT is rapidly becoming a hub for astronomical and astrophysics research in Africa, channeling resources and outreaches to neighbouring countries. It is a partner in research projects involving eight other African countries, and it led research outreaches to Mozambique and Ethiopia in recent years. The university's goal is to train future leaders in radio astronomy. A degree in astronomy and astrophysics is also useful for careers in other branches of science, as well as engineering, technology, instrumentation design, software development, digital processing, computer science, telecoms, digital processing, teaching, finance and other fields.

More on Dr Richard Armstrong

Dr Armstrong obtained his B.Sc. Hons. in Electrical and Computer Engineering at UCT in 2006, after which he worked as a software developer at a large computer company in the UK. Although engineering research in and of itself was fine, he felt that having a specific and exciting end goal in sight was much more motivating. He went on to obtain a D.Phil. in Astrophysics through a Dorothy Hodgkin Postgraduate Fellowship at the University of Oxford in 2011. Publishing on this particular area of research for the first time, 29-year-old Dr Armstrong says it is a great opportunity and honour to be working on a South African scientific instrument, and to be involved at such an early stage. Loving Cape Town's outdoor life, he is a keen trail runner, and spends as much time as possible on Table Mountain. And yes, he did like stars as a child.

More on Associate Professor Patrick Woudt

Born in the Netherlands, Associate Professor Woudt obtained his PhD in Astronomy at UCT in 1998 and up till now published 74 peer-reviewed journal articles, of which 27 as first author. His teaching and research career at UCT spans over twelve years and includes supervising various BSc Honours, MSc and PhD students. A member of the International Astronomical Union (IAU), Commission 19 (Astrophysics) of the International Union of Pure and Applied Physics (IUPAP) and the council of the South African Institute of Physics, Professor Woudt is the co-Principal Investigator of ThunderKAT.

More on Professor Rob Fender

A member of the IAU, Royal Astronomical Society and the UK Institute of Physics, Professor Fender has been involved in undergraduate and graduate teaching for over 15 years, including successfully supervising more than ten PhD students. He currently chairs the SKA Transients Science Working Group.

Studying astronomy at UCT

UCT's Astronomy Department is the only dedicated, independent university department focused on astronomy in South Africa, with strong ties and joint positions with the SA Astronomical Observatory and direct links with the SKA SA project office. UCT is also the only South African university to include an astrophysics major in its undergraduate programme and it is attracting a steadily increasing number of students.

In the last eight years, the number of staff, students and postdoctoral students in astronomy at UCT has more than quadrupled. In 2005, UCT had two astronomy staff and three to five postgrad students; in 2013, the department has eight staff (including two resident SARChI Chairs); 12 postdoctoral fellows (predominantly specialised in radio astronomy); and 30 postgraduate research students (mostly South African but also from other African countries such as Madagascar, Mauritius, Ethiopia and Uganda). Half of the staff are women (including the Head of Department) and half are South African, including three young astronomers who were signed on in recent years.

ENDS

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