

The Square Kilometre Array SKA
Exploring the Universe with the world's largest radio telescope

The Square Kilometre Array (SKA) is a project aimed to build revolutionary radio telescopes with global involvement and unprecedented capacity, and technical ambition. The SKA will be made of thousands of antennas that together cover an area the size of a football field. The first observations from the first SKA observatory, going 10 times the sensitivity and 1,000 times the survey speed of the best current day radio telescope. The SKA will be located in the most remote and pristine landscape and the best radio observatory site in the world.

The SKA will address the fundamental unanswered questions about the Universe in which we live:

- How were the first black holes and stars formed?**
The SKA will look back to the Dark Ages, a time before the Universe lit up. It will provide detailed pictures of the cosmic web of neutral gas to discover how the very first black holes and stars were formed. *Artist: J. F. Bland*
- How do galaxies evolve and what is dark energy?**
Mysterious dark energy is thought to cause the increasing rate of expansion of the Universe. The SKA will investigate this expansion by mapping the cosmic distribution of hydrogen. The map will track young galaxies and help to identify the nature of dark energy. *Artist: H. J. Richards*
- What generates giant magnetic fields in space?**
By measuring the radio emissions of millions of distant galaxies, the SKA will create three-dimensional maps of cosmic magnets throughout the Universe and reveal the role in its evolution. *Artist: X. Zhou*
- Are we alone?**
The SKA will be able to detect extremely weak extraterrestrial signals and may even spot other planets capable of supporting life. Astrobiologists will use the SKA to search for amino acids, the building blocks of life, by identifying spectral lines at specific frequencies. *Artist: M. S. Jones*
- Was Einstein right?**
The SKA will investigate the nature of gravity and challenge the theory of general relativity. Binary, the collapsed spinning cores of dead stars, will be monitored to study gravitational waves and black holes. *Artist: D. Chapman, M. Kramer*

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- 2024 ●●●●● Full operation
- 2019 ●●●●● First astronomical observations
- 2016 ●●●●● Initial construction
- 2013-2015 ●●●●● Detailed design and production engineering
- 2012 ●●●●● Site decision
- 2008-2012 ●●●●● System design and costing
- 2006 ●●●●● Shortlisting of suitable sites
- 1991 ●●●●● SKA concept

For further information please contact: Enquiries@skatelescope.org Or visit: www.skatelescope.org



SKA

SQUARE KILOMETRE ARRAY

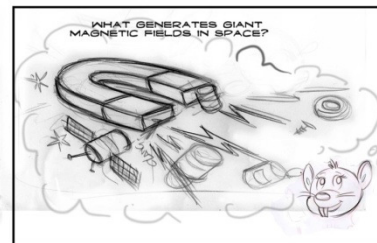
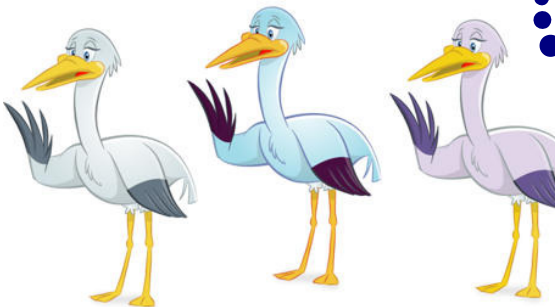
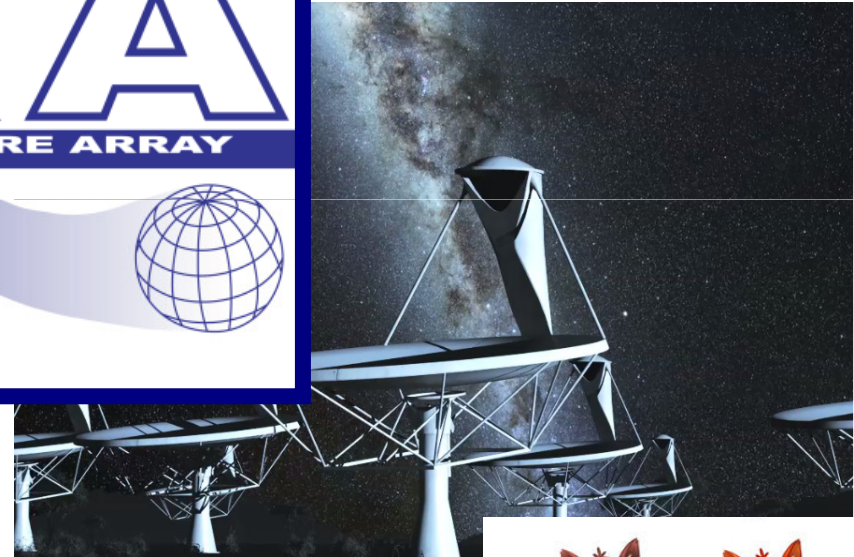
Outreach

Jo Bowler

The Square Kilometre Array SKA
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- **Aims of SKA outreach and target audiences:**
 - **The approach for each audience:**
 - **The future:**

But first...



The Square Kilometre Array

SWINBURNE ASTRONOMY PRODUCTIONS

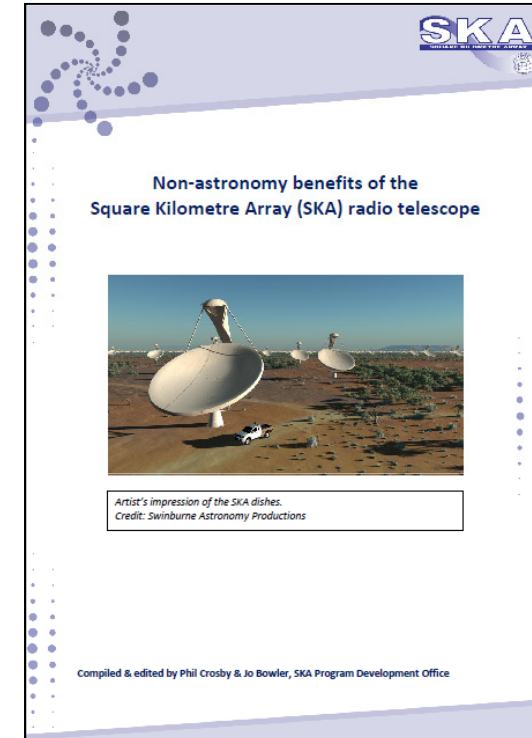
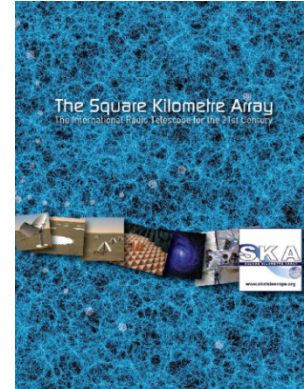


Aims and audiences

- To increase awareness of the SKA to **funding bodies and government.**
- To raise awareness of the scientific objectives and progress towards completion of the SKA to the **international astronomy community.**
- To assist in the presentation of the requirements of the SKA to **industry.**
- To raise awareness of the SKA in the **international media.**
- To raise awareness of the SKA amongst the **general public.**
- To provide **educational material.**

Funding bodies and governments

- SKA animation
- Factsheets
- Brochure
- Flyer
- Conferences and events
 - International SKA Forum
- Non-science benefits report



Communication of the non-science benefits

- Advances in the information and communication technology (ICT) sector;
- Renewable energy;
- Global science-industry-government linkages;
- Human capital development and employment;
- Status



International astronomy community

- E-newsletter
- Scientist and engineers factsheet
- Conference presentations and displays
- Posters (science, general, timeline)
- Postcard



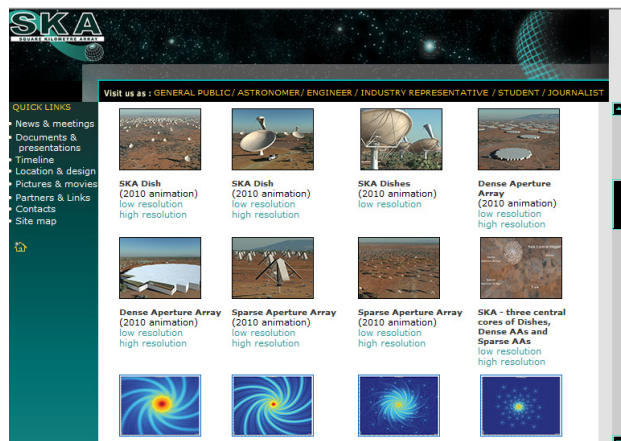
- Industry factsheet
- Involve professional organisations (IET)
- Online discussions (LinkedIn, IET Forum)
- Conferences





International print and broadcast media

- Journalist factsheet
- Press releases to targeted contact list
- News updates on website
- Responding to journalist enquiries
- Journalist visits
- Provision of animation
- Image library





General public

- Wikipedia
- Facebook
- Podcast (Naked astronomy, 365 days of astronomy)
- SKA Animation
- Website development



facebook Home Pro

Square Kilometre Array

Wall Info Links Photos Video Discussions >> +

What's on your mind?

Attach: Options

Square Kilometre Array <http://www.youtube.com/watch?v=nRST0Qt0lBE>

Optic Canarvon
www.youtube.com
Optic 1 and it's involvement with the SKA MeerKAT project in Canarvon. Optic 1 was awarded the tender to construct the power line to the SKA site near Canarvon.

22 October at 11:45 · Comment · Like · Share · Promote · Flag

10 people like this.

Winy Stephany Giglione Cruz GOOD.....
22 October at 21:44 · Like · Flag

Write a comment...

Square Kilometre Array

- Cartoon
- Website development





The future

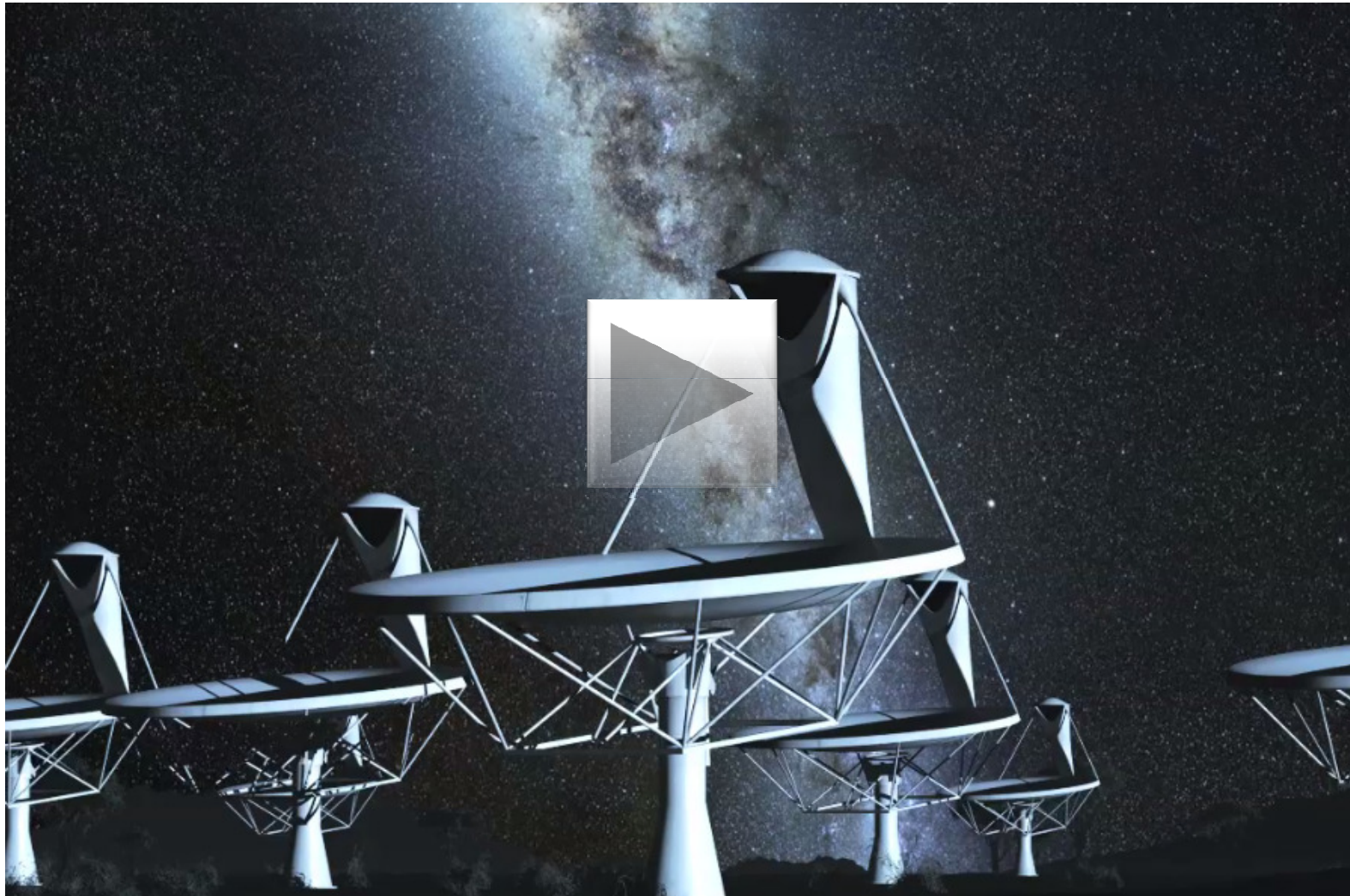
- Travelling radio astronomy exhibition for museums and science centres.
- Online astronomy education resource centre on the SKA website.
 - polls/have your say/fun explanations
 - lesson plans
 - classroom activities
 - student study aids
- **New media:**
 - Twitter
 - Flickr
 - YouTube channel
- Non-science benefits brochure.
- 'For the public' sections of website.
- Science animation and images.

The challenge: Funding and staff time.

The solution: Working together...



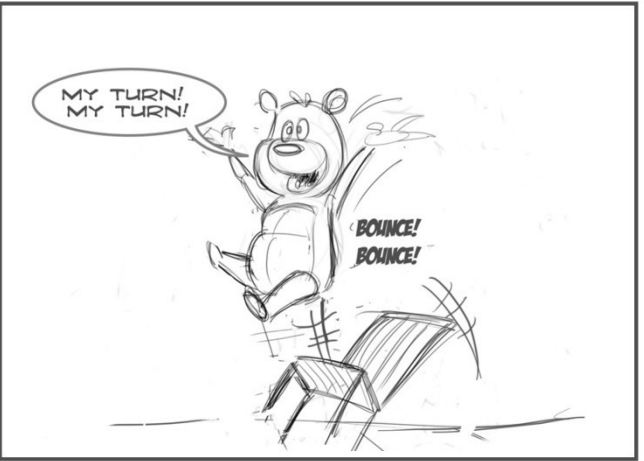
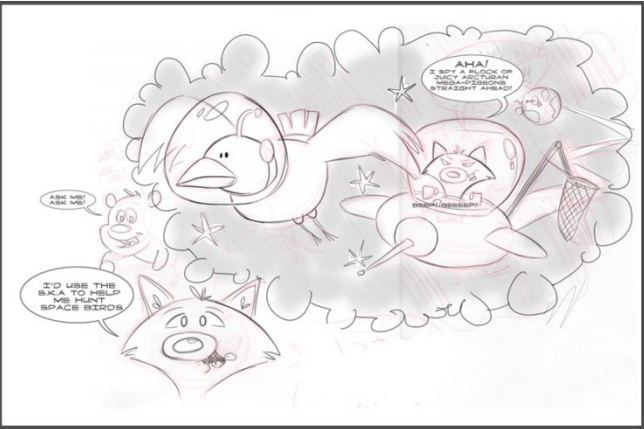
Coming soon! The SKA science animation



A SCHOOL SOMEWHERE
OUT IN THE DESERT



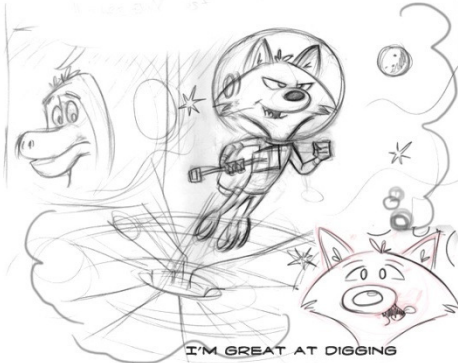
WHO KNOWS WHAT THE
SKA WILL DISCOVER?



THE S.K.A. WILL BE SO POWERFUL IT COULD DISCOVER THINGS WE CAN'T EVEN IMAGINE IT WILL EXPLORE THE UNKNOWN AND ANSWER 5 BIG QUESTIONS



HOW ARE BLACK HOLES FORMED?



I'M GREAT AT DIGGING

WHAT IS DARK ENERGY?

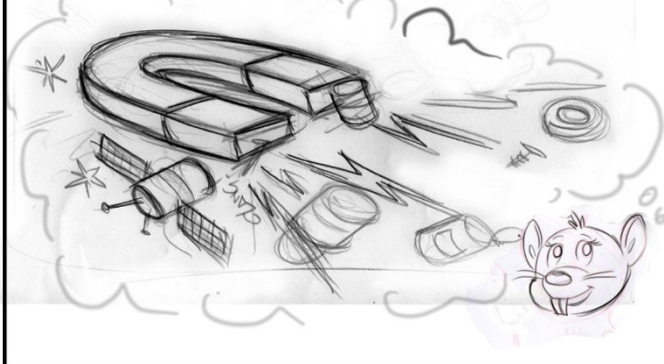
SOUNDS SCARY TO ME



DID EINSTEIN GET IT WRONG ABOUT GRAVITY?



WHAT GENERATES GIANT MAGNETIC FIELDS IN SPACE?



ARE WE ALONE IN THE UNIVERSE?



I WANT TO VISIT THE SITE I'M GOING TO GO AND HAVE A LOOK AT LUNCHTIME

I DON'T THINK SO MACY THE SKA WILL BE A GIANT SPIRAL MADE UP OF THOUSANDS OF RADIO TELESCOPES. AND OUR SCHOOL IS ABOUT 100KMS AWAY FROM THE CENTRE

THE ARMS OF THE SPIRAL STRETCH A HULLUGE DISTANCE AWAY ABOUT 3,000 KM FROM THE CENTRE OF THE SKA.

BUT NEVER MIND WE'LL GO ON A TRIP THERE SOON

