

TALL POPPY CAMPAIGN

Investing in Australia's Future

Young Tall Poppy Profile: Dr Ajay Narendra

Name: Ajay Narendra

Title (ie. Dr, Assoc Prof, etc): Dr

Research Field: Neuroethology

More Specifically: insect behaviour and sociobiology

In other words: NA

Abbreviated Qualifications: B.Sc (Environmental Science, Entomology & Genetics Honors), M.Sc (Remote Sensing & Cartography), Ph.D. (Biological Sciences)

Current position: ARC Centre for Excellence in Vision Science Postdoctoral Fellow

University/Institution: Visual Sciences, Research School of Biological Sciences, The Australian National University

What do you do? (in 100 easy-to-understand words or less)

Ajay's work addresses how insects navigate in their natural environment to locate places of significant interest. Since insects occupy different habitats it is crucial to understand what information present in the environment is used for navigation. The information available in an environment changes dramatically not only between habitats, but also within the same habitat from day to night. How animals cope with these changes and what visual adaptation are required to occupy such niches is the work he is involved in.

Why is this research important? How is it relevant to society at large?

Australia is rich in insect life with several insects being endemic to the continent. Some of these insects are primitive and are hence pivotal in helping us determine how specific structure or behaviour has evolved. Ajay's research provides an opportunity to understand Australian endemic fauna. Also salience dependent navigational strategies will be of great interest in the field of engineering and robotics.

What's difficult about it?

For over 100 years people have been interested in insect navigation. The manner of recording their movements since then has been restricted to an observer tracking movements using pen & paper. To increase the precision of tracking movements, Ajay as part a research team has recently begun using state of art GPS tools which would enable one to track insects in all three dimensions.

Why are you passionate about it?

With brain as small as 1 milligram it is truly remarkable how insects find their goals with stunning precision. Watching them perform stunning feats of navigation, often carrying food 100 times their own weight, makes me to wonder what kind of machinery they have to achieve this – and that drives me to work with tiny insects.

Why share your research with high school students?

Most insects, except butterflies, rarely capture attention of non-scientists. This considering that one has to try really hard to avoid seeing ants and other insects. I have been involved in several environmental awareness programs and regularly find that young students are usually unaware of the tiny world of insects but once introduced they are really enthusiastic about it and have numerous interesting questions. Hence I attempt to share and discuss my research with students.

Why study sciences?

If you are the curious one, wonder why the world around you is the way it is, then science offers you an opportunity to find this out for yourself. The ease with which you can move between different fields to learn new techniques is something unique to science and a great reason to go for a science career.

Is it what you've always wanted to do?

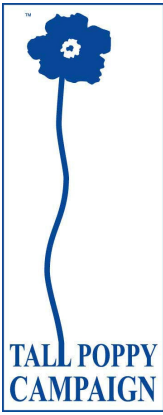
As a kid I had been drawn towards insects and I spent quite a lot of time watching them go about their day-day routine in a meticulous manner. The fact that their behaviour in most cases was predictable was what caught my attention. But never did I know that I could turn it into a career!

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PO Box 145, BALMAIN NSW 2041 Ph: +61 2 9810 5642 Fax: +61 2 9810 2406 email: info@aips.net.au Internet: www.tallpoppies.net.au

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What else are you into? (ie. What are your hobbies and interests when you're not researching)?
Table tennis, Volleyball, Photography

Public profile (Please list the science promotion activities you have taken part in – incl. University Open Day activities, community programs, talks etc and media articles featuring you/your research):
I use photography as a medium to educate and communicate my work to students & people unfamiliar with my work. I regularly lead 'ant tours' for kids, students & general public. I have also given several popular science lectures and presented posters during Open Day in the Universities. Apart from radio interviews, my research has been highlighted in the following media: Frontline [Jan-19-2008]; The Week [Aug-25-2007]; The Hindu [May-01-2007]; Kungumum [Mar-01-2007]; The Hindu [Dec-09-2006]; Sanctuary Asia [Dec-2006]; Times of India [Nov-13-2006]; Vijay Times [Nov-12-2006]; Vijay Karnataka [Nov-11-2006]; Deccan Herald [Oct-30-2005]; Metro Plus [Sep-28-2005]; The Hindu [Sep-26-2006]; Times of India [Sep-25-2005].

Your achievements - How did you get where you are today?

Your HSC subjects: Biology, Chemistry, Mathematics, Physics.

Degrees: Bachelor of Science (Environmental Science), Entomology & Genetics Honors, MSc (Remote sensing & Cartography), PhD (Biological Science).

Some of your previous position/s: Research Assistant, Centre for Ecological Sciences, Indian Institute of Science, Bangalore.

Current position: ARC Centre for Excellence in Vision Science Postdoctoral Fellow

Relevant awards and prizes you have received as part of your studies/research/work: Ajay was the recipient of the International Research Scholarship at Macquarie University to carry out his Ph.D. He received the best student talk award at the Australasian Society for the Study of Animal Behaviour conference. He has also received awards for securing highest marks in both his B.Sc and M.Sc. In addition his photographs have been selected for display (ex: Australian Museum) and have been published in several leading journals (ex: Nature).

Summary of published works: Ajay has coauthored a popular science book on ants (a world's first photographic field guide to ants) and has published 13 articles in International peer reviewed journals.

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