The Big Picture

Warrick Couch (CAS, Swinburne)

4 Degrees With 0% Unemployment

Money

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College grads who majored in actuarial science or astrophysics have a practically nonexistent unemployment rate.

Actuary job in hand, before the degree



Bette Wiebke

Majored in Actuarial Science, Class of `12 Drake University

Why become an actuary? My parents kind of planted the idea in my head from an early age, because math was always my favorite subject in school. Plus, they knew it would be a lucrative profession.

An actuary is basically supposed to predict the future, estimating future risks and costs. Being able to do that well is so valuable to a company.

This weekend, I graduated with my bachelor's in actuarial science. I've already had a job lined up since September, and I would say the same is true for the majority of my

Big Picture = think "Career"

What is a career?

A career is the sequence and variety of occupations (paid and unpaid) which one undertakes throughout a lifetime. More broadly, 'career' includes life roles, leisure activities, learning and work.

A Lifelong Approach

- CAREER
 DEVELOPMENT is the process of managing life, learning and work over the lifespan.
- Careers are a journey, not a destination!



Career Drivers – What Motivates You?

You tell me!!

Career Drivers – What Motivates You?

• Material Rewards Seeking wealth and a high standard of living

• Power & influence Seeking to be in control of people & resources

• Search for meaning Seeking to do things valuable for their own sake

• Expertise Seeking a high level of accomplishment in a

specialized field

• **Creativity** Seeking to innovate and be identified with

original output

• **Affiliation** Seeking nourishing relationships with others at

work

• **Autonomy** Seeking to be independent and make key

decisions for oneself

Security Seeking a solid and predictable future

• **Status** Seeking to be recognised, admired, and

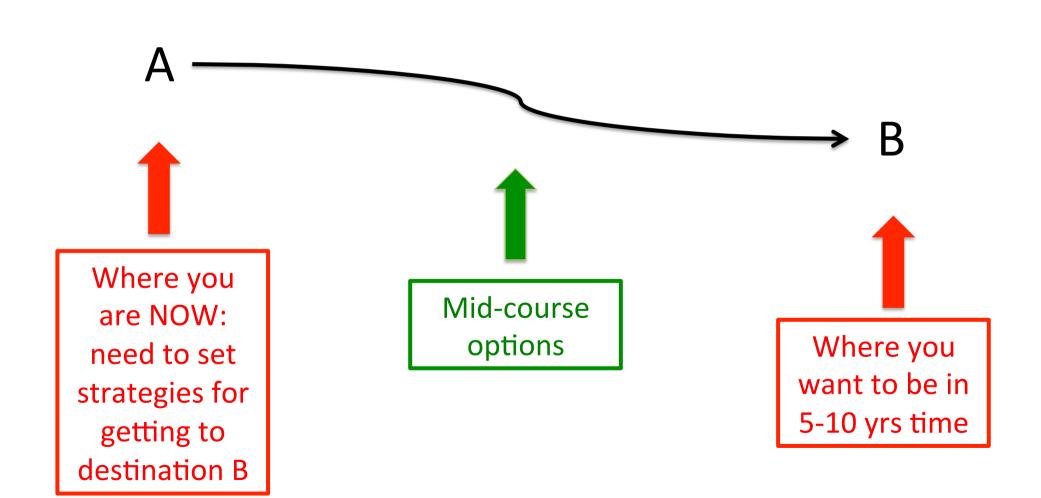
respected by the community at large

Managing your career successfully requires:

- Self awareness
- Opportunity awareness
- Decision making
- Implementation

Journey: going from Pt A to Pt B

You need a plan!!



Options for destination B:

 University sector – research-only, research/ teaching, teaching-only



freedom/autonomy, student/learning culture



research time reduced by teaching

 Observatory, govt research organization – research-only, research/observatory duties, support role



invaluable experience with telescope/instrumentation



research time reduced by observatory duties; not all jobs ongoing

Career outside astronomy

A: Career strategies – getting to where you want to be!

I. Create your 'mark' in research

Do all you can to become well known for the research you do and your specific area of expertise.

- Keep your research focused, maximizing output in one or two areas.
- Work in areas that are globally relevant.
- Use every opportunity to tell people about your research – brown-bag talks, seminars, conference talks, public lectures, media releases (within reason)

II. Publish, publish, publish!!

Whether you like it or not, your publication track record carries enormous weight in assessing how good a researcher you are!

- Quality/impact is as important as quantity
- Typical output of successful ARC Future Fellows in astronomy:
 - > 5.6 papers per year
 - > 35% first author
 - > m index = 1.8 [h index = m x N(yrs since PhD)]

5-15 yrs

III. Grow your links/connections

Networking and collaborations extremely important for research, learning, and creating new opportunities

- Increasing value placed on international linkages and collaborations by government and funding agencies
- Working in teams provides an effective way of maintaining research output through job interruptions
- AVOID becoming just a second-string 'bit player' in collaborations and nothing more!

IV. Get some teaching experience

While research excellence still remains paramount, don't underestimate value of teaching experience within your skill set!

- Some teaching experience is considered good, no matter how small.
- Research supervision of students also counts!
- Additional opportunity to hone your communication skills – so important to research.

V. Get yourself a mentor (or two)

A mentor is someone who sees more talent and ability within you, than you see in yourself, and helps bring it out of you - it is not just a person who has more experience than you!

- Seek a mentor IN ADDITION to your line manager!
- Your institution should be willing to help you find a mentor/establish mentoring schemes. Be proactive!

VI. Set yourself goals & targets

Performance is best motivated and measured by the individual setting themselves goals & targets and regularly evaluating themselves against them.

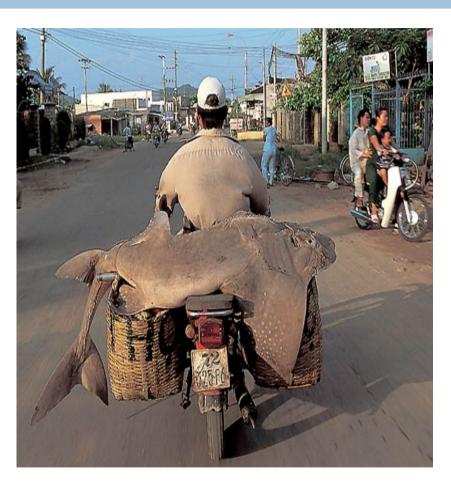
- Strongly recommend this is done on an annual basis with reference to a plan that sets out goals and targets (checking on progress mid-year).
- Set yourself some 'stretch' goals, but be prepared that you might not achieve everything!

VII. Be professional about job-seeking

The importance of having a well-organised & professional-looking CV and learning good interview skills are too often overlooked!

- A CV should be a clear and well organized statement of the experience and key skills you would bring to a job [See me if you would like some examples]
- Your mentors, senior colleagues, and PD units can all help with developing job interview skills.

How employable are you?



- Communication
- Teamwork
- Problem-solving
- Self- Management
- Planning and organizing
- Technology
- Life-long Learning
- Initiative and Enterprise
- Personal Attributes

Summary of key strategies

- Create your 'mark' in research
- Publish, publish, publish!!
- Grow your links/connections
- Get some teaching experience
- Get yourself a mentor or two
- Set yourself goals & targets plan!!
- Be professional about job-seeking

Mid-course Options

Working Overseas

- •There has been a very strong expectation in Australian astronomy that PhD students should go overseas for at least their 1st postdoc for the good of their career prospects, and being competitive for a 'permanent' job back in Aus in the longer term.
- Much less pressure to do this now. Many examples of young researchers pursuing successful astronomy careers without going o/s!

Still a valuable thing to do if you have the opportunity - broadening horizons!

Obtaining a Fellowship

- Having a fellowship for 3-5 years which allows you to devote 100% of your time to research and have your salary (generally) paid by a funding body is a win-win option for you (prestige and boost in research productivity) and your existing or potential employer.
- In Australian astronomy, main options are:
 - ARC (DECRAs & Future Fellowships)
 - University schemes (e.g. VC-scholarships)

Finally, many thanks to my 'careers guru' – my wife, who has made an enormous contribution to my successful career in astronomy!



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