DEAKIN UNIVERSITY

FACULTY OF SCIENCE, ENGINEERING AND BUILT ENVIRONMENT

Research Development Workshop Series **Workshop 3 2014**

"Developing your research career"

Wednesday 24 September via video conference

Notes and documents following the workshop

Chair: David Cahill. Associate Dean (Research)

Invited speakers for this workshop

- Professor Graeme Hays, Alfred Deakin Professor and Chair in Marine Science, School of Life and Environmental Sciences.
- Associate Professor Bernard Rolfe, Associate Head of School (Research) School of Engineering.
- Associate Professor Yong Xiang, Associate Head of School (Research) School of Information Technology

Secretary: Teresa Treffry

…Contents…

The remaining workshops in this series are as follows, each will last for 2 hours and will be by VMP across all campuses. In each case the format allows for discussion and questions following presentations from invited speakers.

Faculty Research Development Workshops		
Workshop 4	Dealing with the ARC	Friday October 31
Workshop 5	Leading by example: Future Fellows & DECRAs	November 20

Introduction …… *Chair David Cahill*

This is the third in a series of five workshops that have been directed particularly at early and mid-career researchers. The aim of this series, was to have a forum to enable us to discuss more openly issues surrounding research at this stage.

Previous workshops have looked at 'Pathways for women in research' and have given valuable advice on the questions to be considered when 'Engaging with industry'. The need to build capacity is very clear, if we are to sustain our research capability and enthusiasm in these days of tightened research income.

We are fortunate today to have three eminent speakers who will offer their own insights on the topic of 'Developing your research career'

Guest speakers for this session are:

- **Professor Graeme Hays**, *Alfred Deakin Professor and Chair in Marine Science, with an impressive publication record and having also served on several editorial boards, most noticeably for 9 years as Executive Editor of The Journal of Animal Ecology." Graeme speaks of the experience of being a researcher in the UK and the importance of publishing in research career development.*

- **Associate Professor Bernard Rolfe**, *Associate Head of School (Research) School of Engineering has been a part of twelve successful competitive research grants, totaling over $9 million in awarded funds. His current research focus is the forming of light weight structures, which includes the development of better material models for metal forming. Currently, he is the theme leader for the AutoCRC's lightweighting theme.*

- **Associate Professor Yong Xiang**, *Associate Head of School (Research), School of Information Technology is also the Editor/Guest Editor of several international journals. He has been invited to give keynote speeches and chair committees at a number of international conferences and is the co-inventor of two US patents. Dr Xiang is a senior member of the IEEE (Institute of Electrical and Electronic Engineers)*

Overview and notes from workshop…….. *Secretary: Teresa Treffry*

Presentation 1

Professor Graeme Hays joined Deakin University in 2013 in the position of Chair in Marine Science in the School of Life and Environmental Sciences; for 10 years previously he held a Chair in Marine Biology at Swansea University in the UK and has particular research interests in the physiological and behavioural ecology of a range of species including jellyfish, plankton and sea turtles.

A search on Google Scholar indicates that Professor Hays has an H index of 56, i10-index (the number of publications with at least 10 citations) of 184, and his publications have received over 9,900 citations to date.

The REF (Research Excellence Framework) in the UK places great emphasis on producing high quality publications. Research publications considered to be Excellent (3*) or Exceptional (4*) have a fair to high earning power. Research publications rated as Good (1*) or Very good (2*) earn nothing. The equivalent in Australia is ERA (Excellence Research Australia) and although the overall emphasis at present is slightly different, this may not always be the case.

The presentation takes an in depth look at the importance of publishing for those seeking employment in an academic environment and considers the following questions.

- *Why is it important to publish good papers?*
- *How do you identify good papers and why it is important to do so?*
- *What makes a good paper and how can you improve excellence?*

In addition the following insights are offered.

- Better papers tend to cover broad areas, straddle disciplines and have unique high quality data sets, so consider collaboration. Papers often have a section acknowledging contribution, make sure that your intellectual contribution is acknowledged.
- Do market research; in the way that science is assessed now, for career progression, publishing must include at least one area of high impact work. Try to have a mixed portfolio.
- Regarding the relative importance of the journal itself. It is true that with search engines available today, work will have impact whatever the journal. However publication in a lower ranked journal means that it will take some time for citations to build up, a high ranking journal such as 'Nature' brings instant recognition.
- Never stop learning.

The full slide presentation from **Professor Graeme Hays** follows.

Research career development:

The importance of publishing

Graeme Hays

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- Why is it important to publish good papers ?

- Why is it important to know how to identify good papers ?

- What makes a good paper ?

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Worldly

Why is it important to publish good papers ?

Why is it important to publish good papers ?

* know you've done good science
* CV/career progression
* university standing
* university income (ERA, REF etc. etc.)

Good papers = $$$$$$


Trends in Ecology & Evolution
The jellyfish joyride
Unicolonial ants
Gene tree discordance
Human sex roles
Cell Press


nature climate change
APRIL 2012 VOL 2 NO 4
www.nature.com/naturedimatechange
Algal community shift
PYROLYSIS
Fuel from waste
BRIDGING THE GA
Old and new emissions scenari
MORAL MISF
tical challenges of climate cha


ELSEVIER
TRENDS in Ecology & Evolution
Climate change and marine plankton
Bumper book review special issue
Network thinking in evolution and ecology
Genome duplication and vertebrate evolution
SCIENCE DIRECT
www.sciencedirect.com

Papers help make yourself employable … for universities good papers = $$$$

REF 2013 (Research Excellence Framework)

QR income

	Earning power
4*	Exceptional
3*	Excellent
2*	Very good
1*	Good
0	Unclassified

Papers help make yourself employable … for universities good papers = $$$$

REF 2013 (Research Excellence Framework)

QR income

		Earning power
4*	Exceptional	
3*	Excellent	
2*	Very good	Nil
1*	Good	Nil
0	Unclassified	Nil

Papers help make yourself employable … for universities good papers = $$$$

REF 2013 (Research Excellence Framework)

QR income

		Earning power
4*	Exceptional	High
3*	Excellent	Fair
2*	Very good	Nil
1*	Good	Nil
0	Unclassified	Nil

Someone with 3* and 4* papers is worth many £ £ £ £ £ £

Papers help make yours r universities good papers = $$$$

REF 2013 (Re

QR incom

4*
3* Excel
2* Very good
1* Good
0 Unclassified

Someone with 3* and 4* papers is worth many £ £ £ £ £ £

- Why is it important to publish good papers ?

- Why is it important to know how to identify good papers ?

- What makes a good paper ?

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There are lots of papers out there !

Web of Knowledge [v.5.4] - Web of Science Results - Windows Internet Explorer

http://apps.webofknowledge.com/summary.do?SID=S2ioMdpfckH2efBG4jM&product=WOS&qid=6&search_mode=GeneralSearch

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Web of Knowledge [v.5.4] - Web of Science Results

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All Databases | Select a Database | Web of Science | Additional Resources

Search | Author Finder | Cited Reference Search | Advanced Search | Search History

Web of Science℠

Results Topic=(animal AND migration)
Timespan=All Years. Databases=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH.
Lemmatization=On

Scientific WebPlus BETA View Web Results >>

Note: Alternative forms of your search term (for example, tooth and teeth) may have been applied, in particular for Topic or Title searches that do not contain quotation marks around the terms. To find only exact matches for your terms, turn off the "Lemmatization" option on the search page.

Results: **9,560** Page 1 of 956 Go Sort by: Publication Date -- newest to oldest

Hide Refine

Refine Results

Search within results for Search

Web of Science Categories Refine
- NEUROSCIENCES (931)
- IMMUNOLOGY (802)
- CELL BIOLOGY (791)
- ECOLOGY (747)
- BIOCHEMISTRY MOLECULAR BIOLOGY (669)

more options / values...

Document Types Refine
- ARTICLE (8,387)
- REVIEW (868)
- PROCEEDINGS PAPER (807)
- EDITORIAL MATERIAL (52)
- BOOK CHAPTER (32)

more options / values...

Subject Areas

Authors

(0) Save to: EndNote Web EndNote ResearcherID more options Analyze Results Create Citation Report

1. Title: **Intercontinental dispersal of giant thermophilic ants across the Arctic during early Eocene hyperthermals**
Author(s): Archibald S. Bruce; Johnson Kirk R.; Mathewes Rolf W.; et al.
Source: PROCEEDINGS OF THE ROYAL SOCIETY B-BIOLOGICAL SCIENCES Volume: **278** Issue: **1725** Pages: **3679-3686** DOI: **10.1098/rspb.2011.0729** Published: **DEC 22 2011**
Times Cited: **1** (from Web of Science)
Swansea University Prifysgol Abertawe [View abstract]

2. Title: **Urban habituation, ecological connectivity and epidemic dampening: the emergence of Hendra virus from flying foxes (Pteropus spp.)**
Author(s): Plowright Raina K.; Foley Patrick; Field Hume E.; et al.
Source: PROCEEDINGS OF THE ROYAL SOCIETY B-BIOLOGICAL SCIENCES Volume: **278** Issue: **1725** Pages: **3703-3712** DOI: **10.1098/rspb.2011.0522** Published: **DEC 22 2011**
Times Cited: **1** (from Web of Science)
Swansea University Prifysgol Abertawe [View abstract]

3. Title: **Vesicular Stomatitis Virus Oncolytic Treatment Interferes with Tumor-Associated Dendritic Cell Functions and Abrogates Tumor Antigen Presentation**
Author(s): Leveille Simon; Goulet Marie-Line; Lichty Brian D.; et al.
Source: JOURNAL OF VIROLOGY Volume: **85** Issue: **23** Pages: **12160-12169** DOI: **10.1128/JVI.05703-11** Published: **DEC 2011**
Times Cited: **0** (from Web of Science)
Swansea University

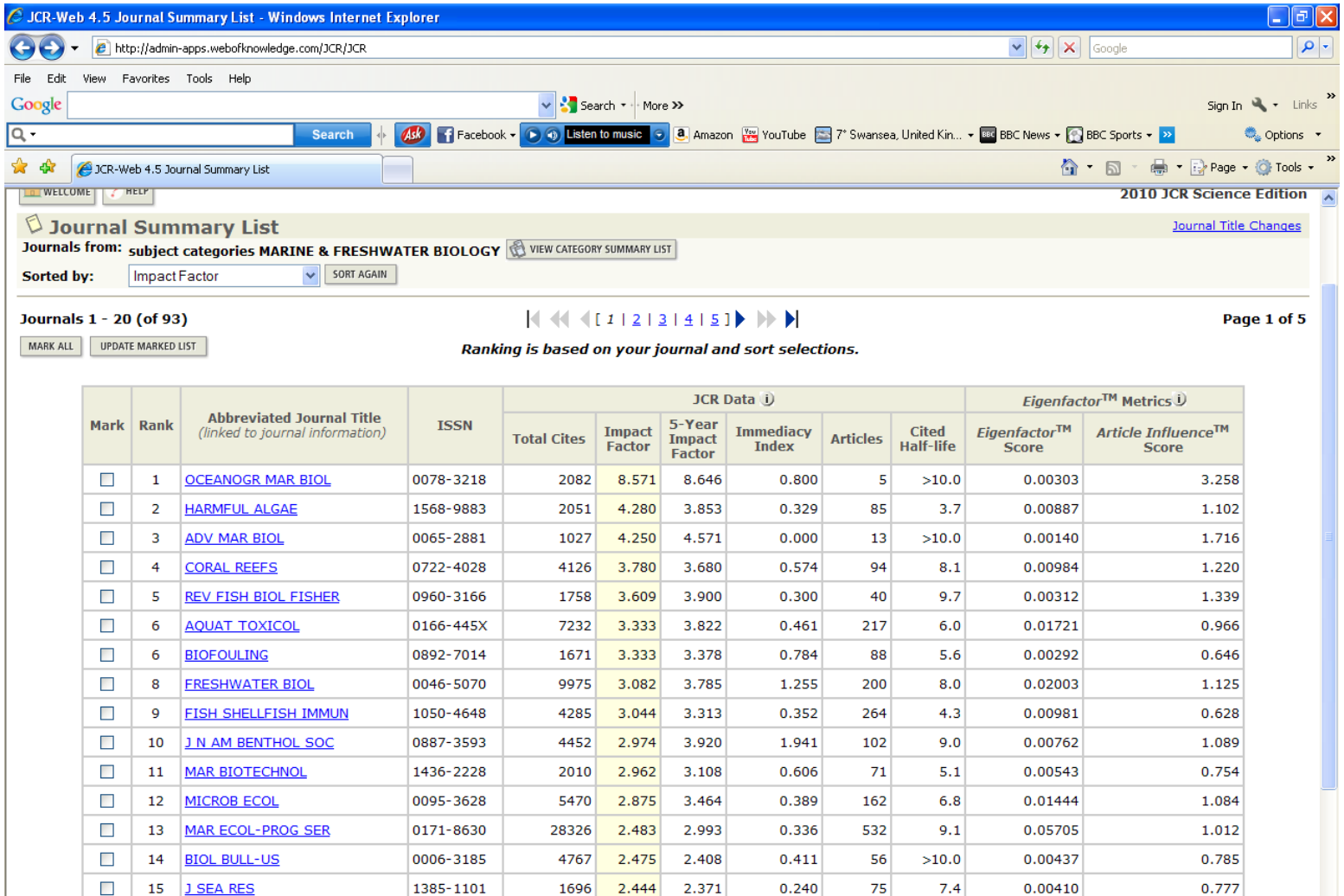
Web of Science search "animal" and "migration" 9,560 papers

Identifying the best papers (1)

Journal

Impact factor (Journal Citation Reports on WoK)

Best in area ?



JCR-Web 4.5 Journal Summary List - Windows Internet Explorer

http://admin-apps.webofknowledge.com/JCR/JCR

File Edit View Favorites Tools Help

JCR-Web 4.5 Journal Summary List

WELCOME HELP

2010 JCR Science Edition

Journal Summary List

Journal Title Changes

Journals from: subject categories MARINE & FRESHWATER BIOLOGY VIEW CATEGORY SUMMARY LIST

Sorted by: Impact Factor SORT AGAIN

Journals 1 - 20 (of 93) [1 | 2 | 3 | 4 | 5] Page 1 of 5

MARK ALL UPDATE MARKED LIST

Ranking is based on your journal and sort selections.

Mark	Rank	Abbreviated Journal Title (linked to journal information)	ISSN	JCR Data						*Eigenfactor*™ Metrics	
				Total Cites	Impact Factor	5-Year Impact Factor	Immediacy Index	Articles	Cited Half-life	*Eigenfactor*™ Score	*Article Influence*™ Score
☐	1	OCEANOGR MAR BIOL	0078-3218	2082	8.571	8.646	0.800	5	>10.0	0.00303	3.258
☐	2	HARMFUL ALGAE	1568-9883	2051	4.280	3.853	0.329	85	3.7	0.00887	1.102
☐	3	ADV MAR BIOL	0065-2881	1027	4.250	4.571	0.000	13	>10.0	0.00140	1.716
☐	4	CORAL REEFS	0722-4028	4126	3.780	3.680	0.574	94	8.1	0.00984	1.220
☐	5	REV FISH BIOL FISHER	0960-3166	1758	3.609	3.900	0.300	40	9.7	0.00312	1.339
☐	6	AQUAT TOXICOL	0166-445X	7232	3.333	3.822	0.461	217	6.0	0.01721	0.966
☐	6	BIOFOULING	0892-7014	1671	3.333	3.378	0.784	88	5.6	0.00292	0.646
☐	8	FRESHWATER BIOL	0046-5070	9975	3.082	3.785	1.255	200	8.0	0.02003	1.125
☐	9	FISH SHELLFISH IMMUN	1050-4648	4285	3.044	3.313	0.352	264	4.3	0.00981	0.628
☐	10	J N AM BENTHOL SOC	0887-3593	4452	2.974	3.920	1.941	102	9.0	0.00762	1.089
☐	11	MAR BIOTECHNOL	1436-2228	2010	2.962	3.108	0.606	71	5.1	0.00543	0.754
☐	12	MICROB ECOL	0095-3628	5470	2.875	3.464	0.389	162	6.8	0.01444	1.084
☐	13	MAR ECOL-PROG SER	0171-8630	28326	2.483	2.993	0.336	532	9.1	0.05705	1.012
☐	14	BIOL BULL-US	0006-3185	4767	2.475	2.408	0.411	56	>10.0	0.00437	0.785
☐	15	J SEA RES	1385-1101	1696	2.444	2.371	0.240	75	7.4	0.00410	0.777

Impact factor higher - for reviews
- less specific journals (broader impact)

JOURNAL OF CONCHOLOGY 0.135

Impact factor higher - for reviews
- less specific journals (broader impact)

JOURNAL OF CONCHOLOGY	0.135
JOURNAL OF PLANKTON RESEARCH	1.749
MARINE BIOLOGY	2.011
MARINE ECOLOGY-PROGRESS SERIES	2.483

Impact factor higher - for reviews
- less specific journals (broader impact)

JOURNAL OF CONCHOLOGY	0.135
JOURNAL OF PLANKTON RESEARCH	1.749
MARINE BIOLOGY	2.011
MARINE ECOLOGY-PROGRESS SERIES	2.483
P ROY SOC B-BIOL SCI	5.064
ECOLOGY	5.073
GLOBAL CHANGE BIOLOGY	6.346

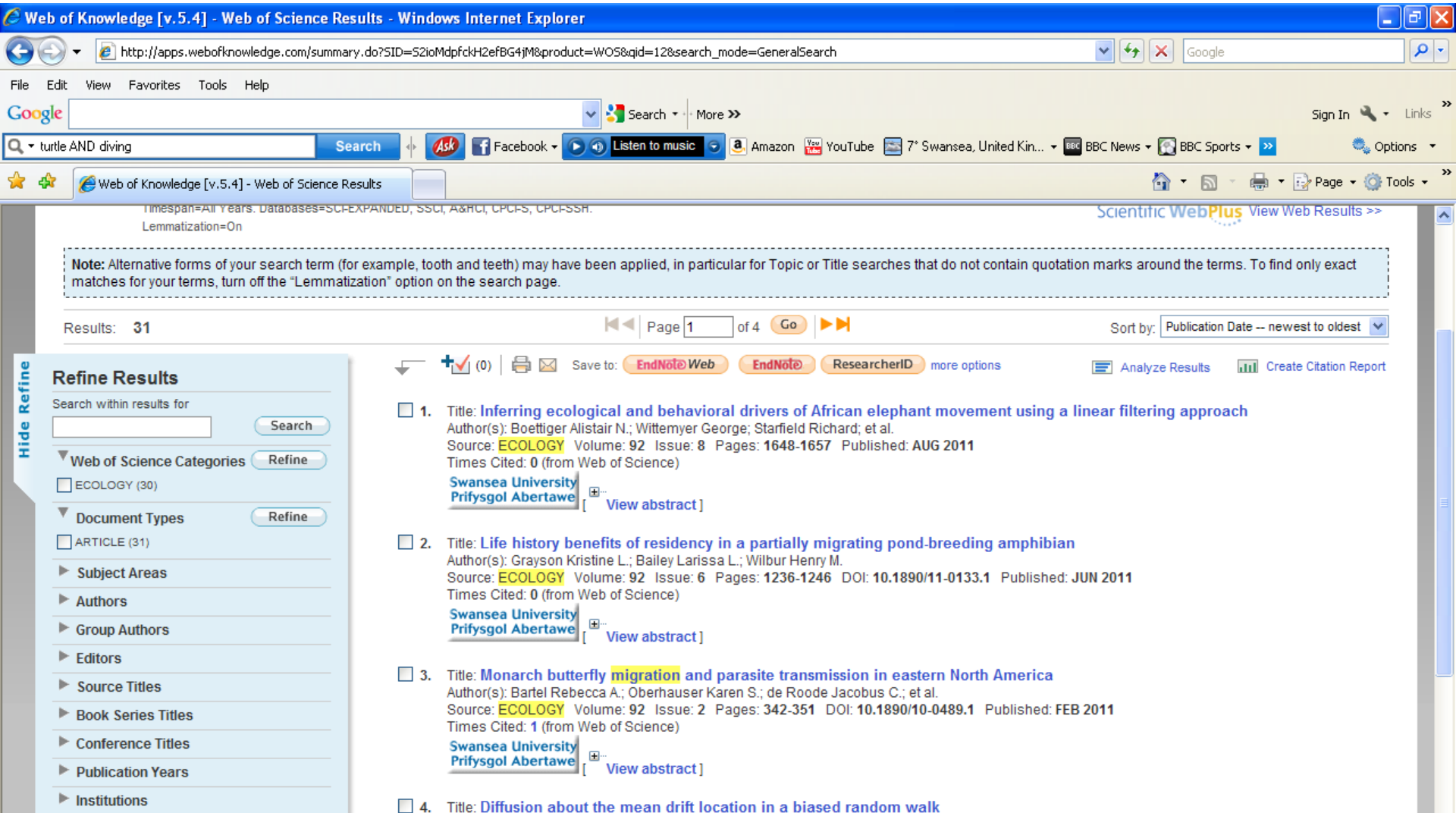
Impact factor higher - for reviews
- less specific journals (broader impact)

JOURNAL OF CONCHOLOGY	0.135
JOURNAL OF PLANKTON RESEARCH	1.749
MARINE BIOLOGY	2.011
MARINE ECOLOGY-PROGRESS SERIES	2.483
P ROY SOC B-BIOL SCI	5.064
ECOLOGY	5.073
GLOBAL CHANGE BIOLOGY	6.346
SCIENCE	31.377
NATURE	36.104

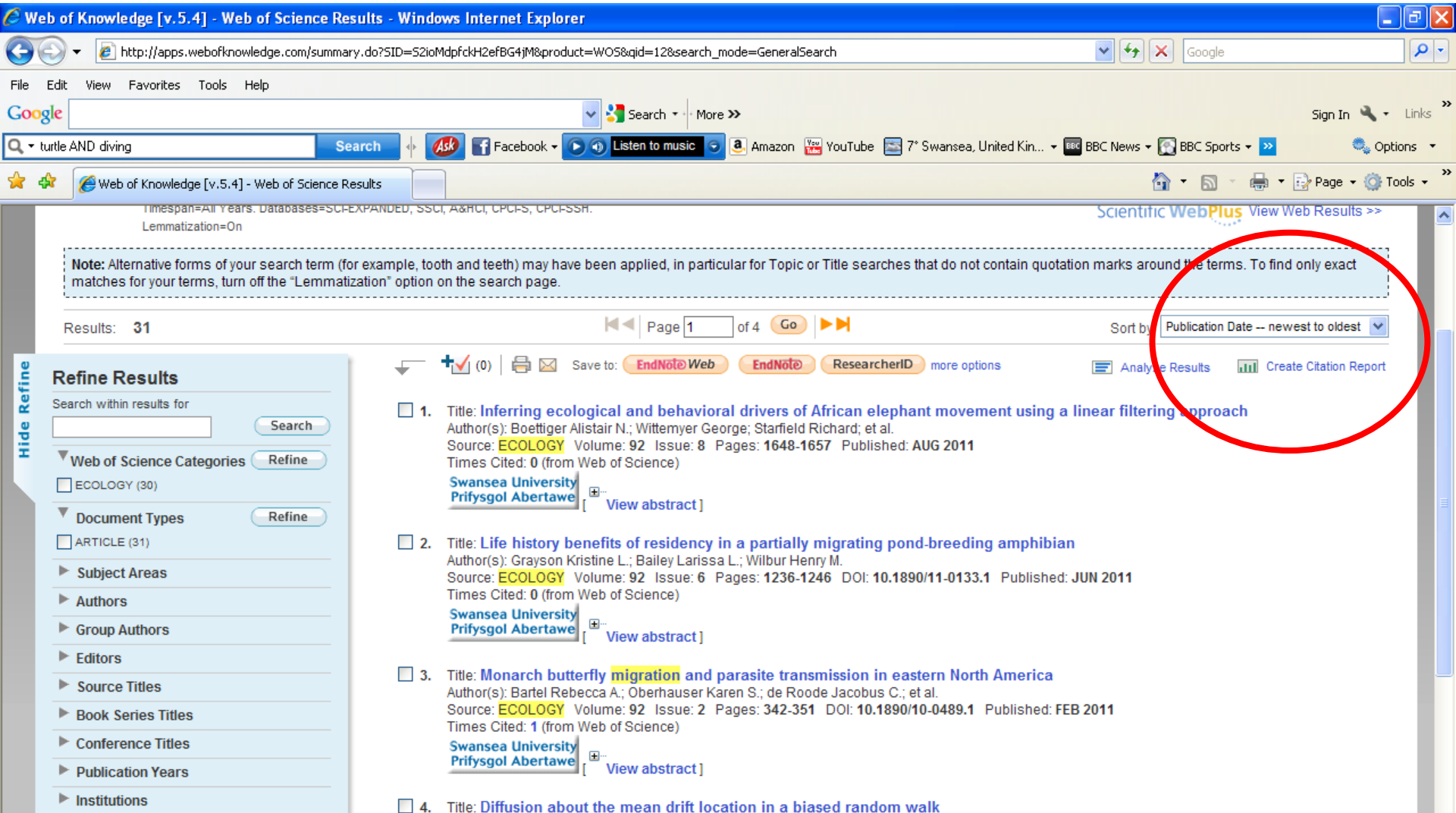
So look for material in the better journals

Topic: “animal” and “migration”

Publication name: “Ecology”

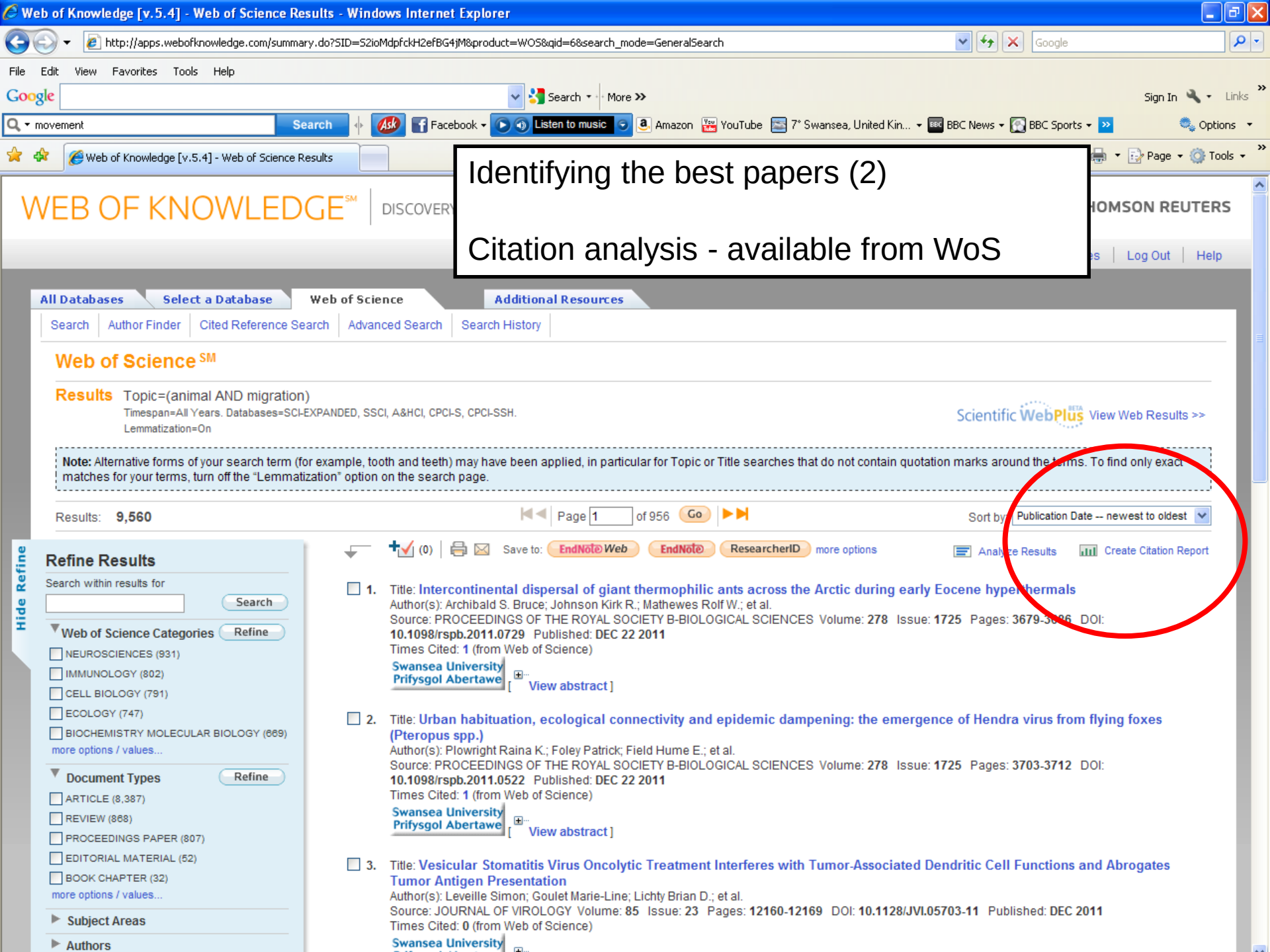


Identifying the best papers (2)
Citation analysis - available from WoS



Identifying the best papers (2)

Citation analysis - available from WoS



Results: **31** Page 1 of 4 Go Sort by: Times Cited -- highest to lowest

Use the checkboxes to remove individual items from this Citation Report
or restrict to items published between 1970 and 2012 Go

		2008	2009	2010	2011	2012	Total	Average Citations per Year
		157	185	206	189	0	1225	72.06
1.	Title: **Seed dispersal near and far: Patterns across temperate and tropical forests** Author(s): Clark JS; Silman M; Kern R; et al. Source: ECOLOGY Volume: **80** Issue: **5** Pages: **1475-1494** DOI: **10.1890/0012-9658(1999)080[1475:SDNAFP]2.0.CO;2** Published: **JUL 1999**	38	35	29	33	0	326	25.08
2.	Title: **TRADE-OFFS IN DIEL VERTICAL MIGRATION BY ZOOPLANKTON - THE COSTS OF PREDATOR AVOIDANCE** Author(s): LOOSE CJ; DAWIDOWICZ P Source: ECOLOGY Volume: **75** Issue: **8** Pages: **2255-2263** DOI: **10.2307/1940881** Published: **DEC 1994**	10	8	11	12	0	165	9.17
3.	Title: **Growth compensation in juvenile Atlantic salmon: Responses to depressed temperature and food availability** Author(s): Nicieza AG; Metcalfe NB Source: ECOLOGY Volume: **78** Issue: **8** Pages: **2385-2400** DOI: **10.1890/0012-9658(1997)078[2385:GCIJAS]2.0.CO;2** Published: **DEC 1997**	10	11	13	17	0	128	8.53
4.	Title: **Robust state-space modeling of animal movement data** Author(s): Jonsen ID; Flenming JM; Myers RA Source: ECOLOGY Volume: **86** Issue: **11** Pages: **2874-2880** DOI: **10.1890/04-1852** Published: **NOV 2005**	16	14	17	15	0	70	10.00
5.	Title: **Migrating birds stop over longer than usually thought: An improved capture-recapture analysis** Author(s): Schaub M; Pradel R; Jenni L; et al. Source: ECOLOGY Volume: **82** Issue: **3** Pages: **852-859** DOI: **10.1890/0012-9658(2001)082[0852:MBSOLT]2.0.CO;2** Published: **MAR 2001**	8	7	10	6	0	69	6.27
6.	Title: **Meta-analysis of animal movement using state-space models** Author(s): Jonsen ID; Myers RA; Flemming JM Source: ECOLOGY Volume: **84** Issue: **11** Pages: **3055-3063** DOI: **10.1890/02-0670** Published: **NOV 2003**	14	14	16	5	0	66	7.33
7.	Title: **Incorporating animal behavior into seed dispersal models: Implications for seed shadows** Author(s): Russo Sabrina E.; Portnoy Stephen; Augspurger Carol K. Source: ECOLOGY Volume: **87** Issue: **12** Pages: **3160-3174** DOI: **10.1890/0012-9658(2006)87[3160:IABISD]2.0.CO;2** Published: **DEC 2006**	14	11	17	21	0	65	10.83
8.	Title: **Flexible foraging movements of leatherback turtles across the north Atlantic Ocean** Author(s): Hays Graeme C.; Hobson Victoria J.; Metcalfe Julian D.; et al. Source: ECOLOGY Volume: **87** Issue: **10** Pages: **2647-2656** DOI: **10.1890/0012-9658(2006)87[2647:FFMOLT]2.0.CO;2** Published: **OCT 2006**	18	18	13	7	0	61	10.17

- Why is it important to publish good papers ?

- Why is it important to know how to identify good papers ?

- What makes a good paper ?

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Worldly

Better papers tend to:

1. Tackle broad cross cutting big questions
   climate change, species extinction, overfishing,
   ecosystem changes, physics/maths/biology/environment

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1. Tackle broad cross cutting big questions
climate change, species extinction, overfishing,
ecosystem changes, physics/maths/biology/environment

GOOD:
“Many free-ranging predators have to make foraging decisions with little, if any, knowledge of present resource distribution and availability. The optimal search strategy they should use to maximize encounter rates with prey in heterogeneous natural environments remains a largely unresolved issue in ecology”

BAD:
“Little is known about the movement of leatherback turtles close the island of Grenada in the Caribbean, so here we document the movements of several individuals”.

Better papers tend to:

1. Tackle broad cross cutting big questions
   climate change, species extinction, overfishing,
   ecosystem changes, physics/maths/biology/environment

2. Have big/unique/high quality data-sets
   data collected on the back of grants
   data from collaborations - draw in the best lab data, field data,
   modelling from different researchers

Better papers tend to:

1. Tackle broad cross cutting big questions
   climate change, species extinction, overfishing,
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2. Have big/unique/high quality data-sets
   data collected on the back of grants
   data from collaborations - draw in the best lab data, field data,
   modelling from different researchers
3. The spin
   check out journal content … cite recent papers there.
   avoid single species / parochial papers
   title/abstract. Get these right. Identify target audience

Papers help make yourself employable … universities good papers = $$$$

REF 2013 (Research Excelle

QR income

4*	Exceptional
3*	Excellent
2*	Very good
1*	Good
0	Unclassified

Someone with 3* and 4* papers is worth m £ £

nature Vol 451|28 February 2008|doi:10.1038/nature06518

LETTERS

Scaling laws of marine predator search behaviour

David W. Sims[1,2], Emily J. Southall[1], Nicolas E. Humphries[1], Graeme C. Hays[4], Corey J. A. Bradshaw[5]†, Jonathan W. Pitchford[6], Alex James[6,7], Mohammed Z. Ahmed[3], Andrew S. Brierley[8], Mark A. Hindell[9], David Morritt[10], Michael K. Musyl[11], David Righton[12], Emily L. C. Shepard[4], Victoria J. Wearmouth[1], Rory P. Wilson[4], Matthew J. Witt[13] & Julian D. Metcalfe[12]

Many free-ranging predators have to make foraging decisions with little, if any, knowledge of present resource distribution and availability[1]. The optimal search strategy they should use to maximize encounter rates with prey in heterogeneous natural environments remains a largely unresolved issue in ecology[1–3]. Lévy walks[4] are specialized random walks giving rise to fractal movement trajectories that may represent an optimal solution for searching complex landscapes[5]. However, the adaptive significance of this putative strategy in response to natural prey distributions remains untested[6,7]. Here we analyse over a million movement displacements recorded from animal-attached electronic tags to show that diverse marine predators—sharks, bony fishes, sea turtles and penguins—exhibit Lévy-walk-like behaviour close to a theoretical optimum[2]. Prey density distributions also display Lévy-like fractal patterns, suggesting response movements by predators to prey distributions. Simulations show that predators have higher

move step lengths (distance moved per unit time) with longer re-orientation jumps between them. This pattern is repeated across all scales, with the resultant scale-invariant clusters creating trajectories with fractal patterns[3]. Lévy-walk move steps are drawn from a probability distribution with a power-law tail: $P(l_j) \sim l_j^{-\mu}$, with $1 < \mu \leq 3$, where l_j is the move-step length and μ is the power-law (Lévy) exponent (here '$\sim$' means 'distributed as'). Theoretical studies[2,3,16] show that Lévy walks and Lévy flights (the turning points in a Lévy walk[4]) across random prey distributions increase new-patch encounter probability compared with simple brownian motion, with an optimal search having an exponent $\mu \cong 2$. Recent studies[17–19] contend that Lévy walks or flights have been wrongly ascribed to some species through use of incorrect methods, while others indicate Lévy-like behaviour with optimal power-law exponents[3,20,21] for highest-efficiency searches, supporting the hypothesis that Lévy behaviour may represent an evolutionary optimal value of

the spectra against frequency in the dive time series was 0.8 in the low-frequency regime, also consistent with long-range correlations with natural prey fields if the search pattern emerges from the underlying pattern of food distribution[20], or if the strategy evolved to

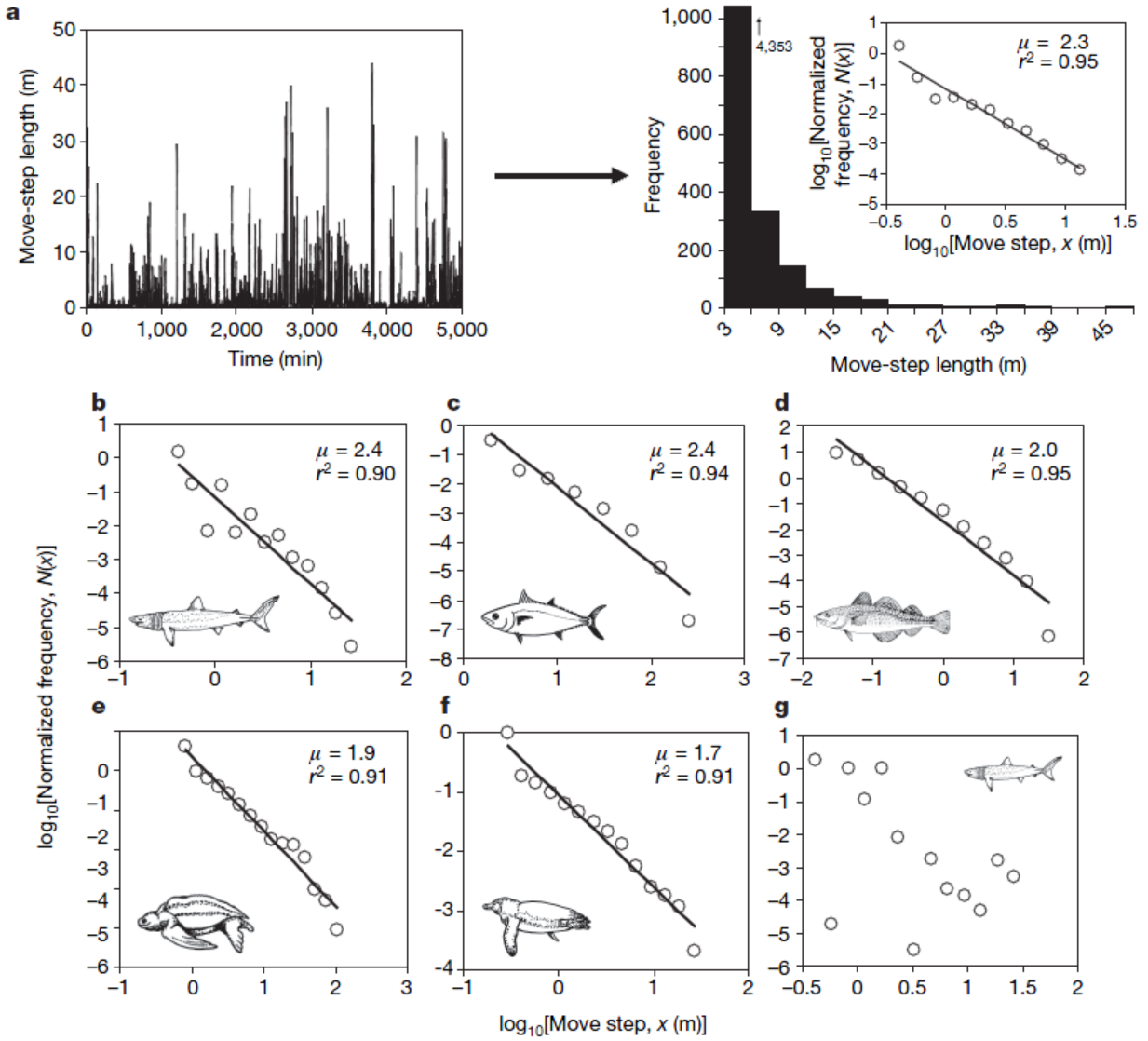

Figure 1 | Lévy-like scaling law among diverse marine vertebrates. frequency distributions for: **b**, sub-adult and adult basking shark

nature Vol 451|28 February 2008|doi:10.1038/nature06518

LETTERS

Scaling laws of marine predator search behaviour

David W. Sims[1,2], Emily J. Southall[1], Nicolas E. Humphries[1], Graeme C. Hays[4], Corey J. A. Bradshaw[5]†, Jonathan W. Pitchford[6], Alex James[6,7], Mohammed Z. Ahmed[3], Andrew S. Brierley[8], Mark A. Hindell[9], David Morritt[10], Michael K. Musyl[11], David Righton[12], Emily L. C. Shepard[4], Victoria J. Wearmouth[1], Rory P. Wilson[4], Matthew J. Witt[13] & Julian D. Metcalfe[12]

WoK, 287 cites
Circa 50 cites per year

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that Lévy behaviour may represent an evolutionary optimal value of

Arch. Molluskenkunde | 138 | (2) | 123–136 | 10 figs, 6 tabs | Frankfurt am Main, 18.12.2009

Taxonomic notes on Euro-Siberian snails, 4. Re-examination of *Limnaea psilia* Bourguignat 1862, with the description of *Radix parapsilia* n. sp.[1]

(Gastropoda: Pulmonata: Lymnaeidae)

Maxim V. Vinarski[2] & Peter Glöer

Abstract

The identity of the freshwater pulmonate species *Limnaea psilia* Bourguignat 1862 is discussed on the basis of examination of its type series along with museum materials from the largest malacological collections of Russia. Malacologists of the former USSR still consider *L. psilia* as a distinct species within Lymnaeidae following the opinion of Kruglov & Starobogatov (1989). It has been shown, however, that Bourguignat described juvenile shells of the common ear pond snail, *Radix auricularia* (Linnaeus 1758), under the name *Limnaea psilia*. As there are sound differences between *Radix auricularia* and *Lymnaea* (*Radix*) *psilia* sensu Kruglov & Starobogatov 1989), we describe here a new species, *Radix parapsilia* n. sp. *Limnaea psilia* Bourguignat is shown to be a junior synonym of *Helix auricularia* Linnaeus 1758. The distribution range of *Radix parapsilia* (= *Lymnaea psilia* sensu Kruglov & Starobogatov 1989) is outlined.

Keywords: Lymnaeidae, *Radix*, Palaearctic, taxonomy, new species

Arch. Molluskenkunde | 138 | (2) | 123–136 | 10 figs, 6 tabs | Frankfurt am Main, 18.12.2009

Taxonomic notes on Euro-Siberian snails, 4. Re-examination of *Limnaea psilia* Bourguignat 1862, with the description of *Radix parapsilia* n. sp.[1]

(Gastropoda: Pulmonata: Lymnaeidae)

Maxim V. Vinarski[2] & Peter Glöer

IF=0.56
Cites=2 (one is a self cites)

Abstract

The identity of the freshwater pulmonate species *Limnaea psilia* Bourguignat 1862 is discussed on the basis of examination of its type series along with museum materials from the largest malacological collections of Russia. Malacologists of the former USSR still consider *L. psilia* as a distinct species within Lymnaeidae following the opinion of Kruglov & Starobogatov (1989). It has been shown, however, that Bourguignat described juvenile shells of the common ear pond snail, *Radix auricularia* (Linnaeus 1758), under the name *Limnaea psilia*. As there are sound differences between *Radix auricularia* and *Lymnaea* (*Radix*) *psilia* sensu Kruglov & Starobogatov 1989), we describe here a new species, *Radix parapsilia* n. sp. *Limnaea psilia* Bourguignat is shown to be a junior synonym of *Helix auricularia* Linnaeus 1758. The distribution range of *Radix parapsilia* (= *Lymnaea psilia* sensu Kruglov & Starobogatov 1989) is outlined.

Keywords: Lymnaeidae, *Radix*, Palaearctic, taxonomy, new species

It’s never too early to start …. some recent PhD students …

Jacques-Oliver Laloë

Nick Humphries

Stephanie Hinder

It’s frustrating ! Don’t give up !

Presentation 2

Associate Professor Bernard Rolfe worked for several years as a Business Systems consultant with Andersen Consulting (Accenture) before starting a PhD at the Australian National University (ANU). He completed his doctorate in 2002 researching novel methods for inverse modeling metal forming processes. This research included an IMechE award winning journal paper.

Currently, he is the Associate Head of School Research for the School of Engineering. He has been a part of over twelve successful competitive large research grants, totalling over AUD $9 million in awarded funds and has published over 100 refereed articles.

His current research focus is the forming of light weight structures, including the development of better material models for metal forming. In 2008 Bernard led the Deakin's successful project team for "Creating the Model-T for the 21st Century – a Global University Challenge". Currently, he is the theme leader for the Automotive Technology Cooperative Research Centre's lightweighting program ($15M worth of projects).

Whilst acknowledging the importance of publishing, this presentation is also aimed at those whose research is applied to industry and considers the issues relevant to this.

The following advice is offered.

- Find a good mentor – someone you can bounce ideas off and help identify your strengths
- Join an active group – better to have a small bit of something than a big bit of nothing. Consider how you may add value to the group.
- Develop your own identity, work out what you are good at- *Applied research? /Fundamental Research?*
- Work out early where the funding will come from, where can you source HDRs? Do you have the right equipment/resources? Do some market research.
- Make time for research, often this impacts on work/life balance. Make a plan
- Routinely review your strengths, weaknesses; what have you achieved this year?
- Routinely identify opportunities and threats; do you have a future vision?

Personal inspiration was taken from the comments of Sir John Monash regarding leadership in science/ engineering and the qualities needed.

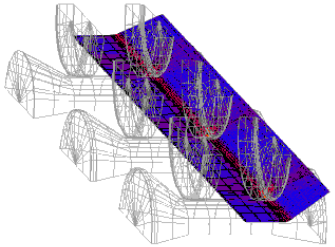
1. Total mastery of oneself.
2. Good technical knowledge of one's field.
3. Courage to formulate goals.
4. Imagination to see the impact of your views and actions on the minds of others – seize their minds and impress your views on them
5. Indifference to praise or blame. Do not play to the gallery or lose heart under criticism. Have confidence in your own ability

The full slide presentation from **Associate Professor Bernard Rolfe** follows.

DEVELOPING YOUR RESEARCH CAREER

A/Prof Bernard Rolfe
Associate Professor
School of Engineering
Deakin University
Geelong, Australia

bernard.rolfe@research.deakin.edu.au



My research career

1993 Summer – BHP Research Labs

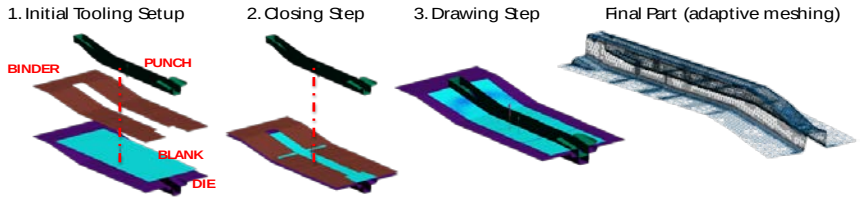
1997 Started a PhD in Advanced Manufacturing

2002 Started a Post-doc in Intelligent Manufacturing (Data mining and Manufacturing)

2005 Started as a Lecturer at Deakin

2012 Promoted to Associate Professor

Very applied research focus – forming lightweight structures



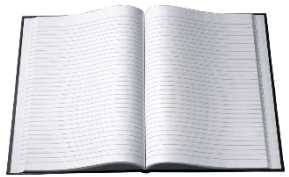
My research career

Grants:

- 2 Discovery projects
- 6 ARC Linkage projects
- 6 ARC LIEF projects (50% non-Deakin led)
- 5 large CRC projects
- 2 Ford Competitive University Research projects
- 1 International engineering design competition

Publications:

- 40 Journals and 60 conference papers
- Scopus: H-index – 8; Citations – 249



My research career

I am still developing my research career

Prof Graeme Hays
Scopus: 221 publications since 2010 – H-index of 46; Citations – 7600

Prof Yong Xiang
Scopus: 90 publications since 2010 – H-index of 12; Citations - 498

Aspiration

Sir John Monash – Comments on Leadership in Science/Engineering

1. Total mastery of oneself
2. Good technical knowledge of one's field
3. Courage to formulate goals
4. Imagination to see the impact of your views and actions on the minds of others – seize their minds and impress your views on them
5. Indifference to praise or blame. Do not play to the gallery or lose heart under criticism. Have confidence in your own ability

Mentors

Mentors provide the opportunity to talk openly about ideas and directions, provide experience knowledge, and **critical feedback**.

Good mentors are difficult to find.

Groups

Two main types of researcher extremes

1. Capacity builders – collaborates, brings in a lot of people and projects

2. Intensity drivers – small focused teams, more fundamental work

What are you?

Funding

Funding is essential for developing a research group.

How do you get funding? What schemes are open to you?

Determine what you are good at
Establish a plan for future funding

- Who are your competition?
- Who should you collaborate with?
- What benchmark do you need to achieve?
- What do successful proposals look like?
- How do you fund the strategic work?

Know the difference between Contract and Grant

HDRs and Equipment

Where are you going to get a good “supply” of HDR students?

- Academic quality – why should they come to you?
- How will they be funded?
- How do you make their experience the best it can be? (to attract more students)

What strategic equipment do you need to give you an advantage?

Can you build a research platform off this equipment?

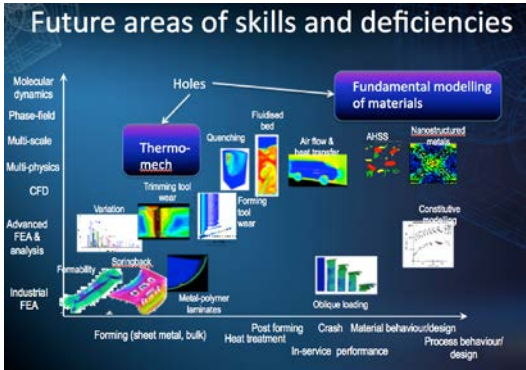
Reviews and Time

Making time for research – often this impacts your work/life balance

- Set aside time to do research
- Each week read a paper in your field
- Make a plan

Undertake regular critical reviews of progress

- What did you achieve this year?
- How are your citations going? Are you having much impact
- Conduct SWOT analyses
- Do you have a future vision?



Advice

- Find a good mentor – someone you can bounce ideas off
- Join an active group – better to have a small bit of something than a big bit of nothing
- Work out what you are good at
- Work out early where the funding will come from, where can you source HDRs, do you have the right equipment/resources, how can I make time
- Routinely review your strengths, weaknesses;
- Routinely identify opportunities and threats

Summary

Sir John Monash
– Paraphrased comments on Leadership in Science/Engineering

1. Know who you are and what you are good at
2. Be sure of your research fundamentals
3. Set goals and review them
4. Be ready to explain your work by understanding others motivations
5. Indifference to praise or blame. Have confidence in your our ability

Presentation 3

Associate Professor Yong Xiang received his B.E. and M.E. degrees from the University of Electronic Science and Technology of China, and his PhD degree from the University of Melbourne. Currently he is the Associate Head of School (Research) for the School of Information Technology and the Director of the Artificial Intelligence and Image Processing Research Cluster.

He has obtained a number of research grants (including four ARC Discovery and Linkage grants from the Australian Research Council) and published numerous research papers in refereed international journals and conference proceedings. He is the co-inventor of two U.S. patents and some of his research results have been commercialised.

Dr Xiang is the Editor/Guest Editor of several international journals. He has been invited to give keynote speeches and chair committees in a number of international conferences and is a senior member of the IEEE.

His current research interests include signal and system estimation, information and network security, wireless sensor networks, multimedia (speech/image/video) processing, compressed sensing, and biomedical signal processing.

An outline of the detailed presentation from Dr Xiang is as follows, it offers advice and covers the areas of

- Career planning, formulating a plan and choosing a mentor.
- Selecting research areas.
- Research collaboration and networking.
- Selling your research outcomes.
  In addition to publishing papers, researchers are now also being asked about the social benefits of their research so results should also be reported to society and industry. Deakin Commercial and the Faculty media office are useful resources.

Contact details for Deakin Commercial - research-partnerships-office@deakin.edu.au
phone +61 3 522 71135, or see following link Contact a Commercial Manager

The full slide presentation from **Associate Professor Yong Xiang** follows.

Developing Research Career: A Personal View

Yong Xiang

School of Information Technology
Deakin University
Australia

Email: yxiang@deakin.edu.au
Web: www.deakin.edu.au/~yxiang/

Outline

- Career planning and mentoring
- Select research areas
- Research collaboration and networking
- Sell your research outcomes
- Conclusion

Career planning and mentoring

- Research planning
  - Research environment is getting more competitive. It is difficult to survive in research by just holding a PhD and letting research career “drift”.
  - It is important to have a research plan.
  - Formulate a research plan:
    - Where do you want to be in 1, 5, 10 years?
    - Do you want to stay in the current research area or move to a different area?
    - Do you want focus more on fundamental research or applied research?
    - What is your strategy to achieve your goals?
    - Do you have necessary resources for your research?
    - Rationale behind answering the above questions.
    - Set challenging but realistic research goals.
  - Adjust your research plan over time to reflect the change of conditions.

Career planning and mentoring (cont.)

- Research Mentoring
  - Having a research mentor helps a lot!
    - Get insider's perspective on research career development and success factors.
    - Receive critical feedback and advice.
    - Learn specific skill and knowledge relevant to research goals.
    - Gain access to the mentor's contacts.
    - Help you to make decisions on your research career path.
  - How to choose a research mentor?
    - The most important factor is that the mentor can, and will, provide critical comments on your research career.
    - It is not necessary for the mentor to be in the same research discipline but she/he should have good understanding of the broader research environment.

Select research areas

- Most PhD graduates continue their research career in the same research area as their PhD program, due to various advantages.
- If the factors based on which you chose your PhD research area have changed or will change, then it is time to consider if you should shift to a different research area, and to what area?
- Major factor in selecting research area is that the research should be of great benefits to our society and interest to the broader research community and funding bodies.
- Once the research area is selected, stick to it and do deep research. Do not easily change it.
- For example, 70% of my research time was spent on two research themes: “Blind source separation” and “Digital watermarking”.

Select research areas (cont.)

- Example 1: Blind source separation (BSS)
  - Assume **C**=**A**·**B**, where **A**, **B** and **C** are matrices, and **C** is known.
  - BSS aims to recover **A** and **B** only from **C**.
  - BSS is a fundamental problem and is encountered in a wide range of applications.
  - In general, this is a ill-conditioned problem. However, if the matrices **A** and **B** satisfy certain conditions, they can be perfectly recovered from the matrix **C**.
  - So the research is how to relax the conditions on **A** and **B** such that BSS can be applied to real-world applications, especially some emerging applications.
  - Outcomes: 2 Discovery grants, 1 joint Linkage grant, 1 monograph, and many papers in top journals.

Select research areas (cont.)

- Example 2: Digital watermarking
  - Watermarking aims to hide watermark data into the multimedia object without affecting its normal usage.

Original image

Watermark

Watermarked image

Original music

Watermark

Watermarked music

Select research areas (cont.)

- When necessary, the authorized party (e.g., the owner or law enforcement agencies) can extract the watermark data by using a secret key.
  - Based on the extracted watermark data, we can trace the source of distribution of digital contents.
  - Thus watermarking can be used for different purposes, such as
    - Stop multimedia piracy
    - Prevent cyberbullying
    - Content filtering (incl. Blocking and Triggering of Actions)
    - Authentication of content and objects
    - Broadcast monitoring, etc.

Research collaboration and networking

- Research collaboration
  - Research collaboration may help you
    - improve research productivity and increase research outcomes,
    - learn new knowledge and skills,
    - extend research area,
    - raise research profiles, and so on.
  - Better to have a few very positive collaborations than many low-value ones.
  - Establish collaborations both with people in academia and industry.
- Networking
  - Attend conferences.
  - Serve on professional societies.
  - Even directly contact a person you would like to collaborate.

Sell your research achievements

- Having a long list of high-quality research outputs is important but not sufficient.
- Be more proactive in advertising and selling your research achievements.
  - Researchers usually focus on publishing papers to inform and impress peer researchers.
  - Nowadays, governments also ask researchers about the social benefits of their research.
  - So we should report our results to our society and industry.
    - This is a good way to gain publicity and raise profile, and create new research opportunities.
    - But do not oversell your achievements.
  - Deakin Commercial and Faculty Media Office are useful resources.

Conclusion

- Discussed career planning and mentoring.
- Showed my view and practice in selecting research areas.
- Discussed the importance of research collaboration and networking.
- Commented on the necessity of selling your research achievements.

DEAKIN UNIVERSITY AUSTRALIA

Thank you!

Questions?