Making the most of citation data: The integration of Thomson Reuters' Web of Science and UWA's research management system, Socrates

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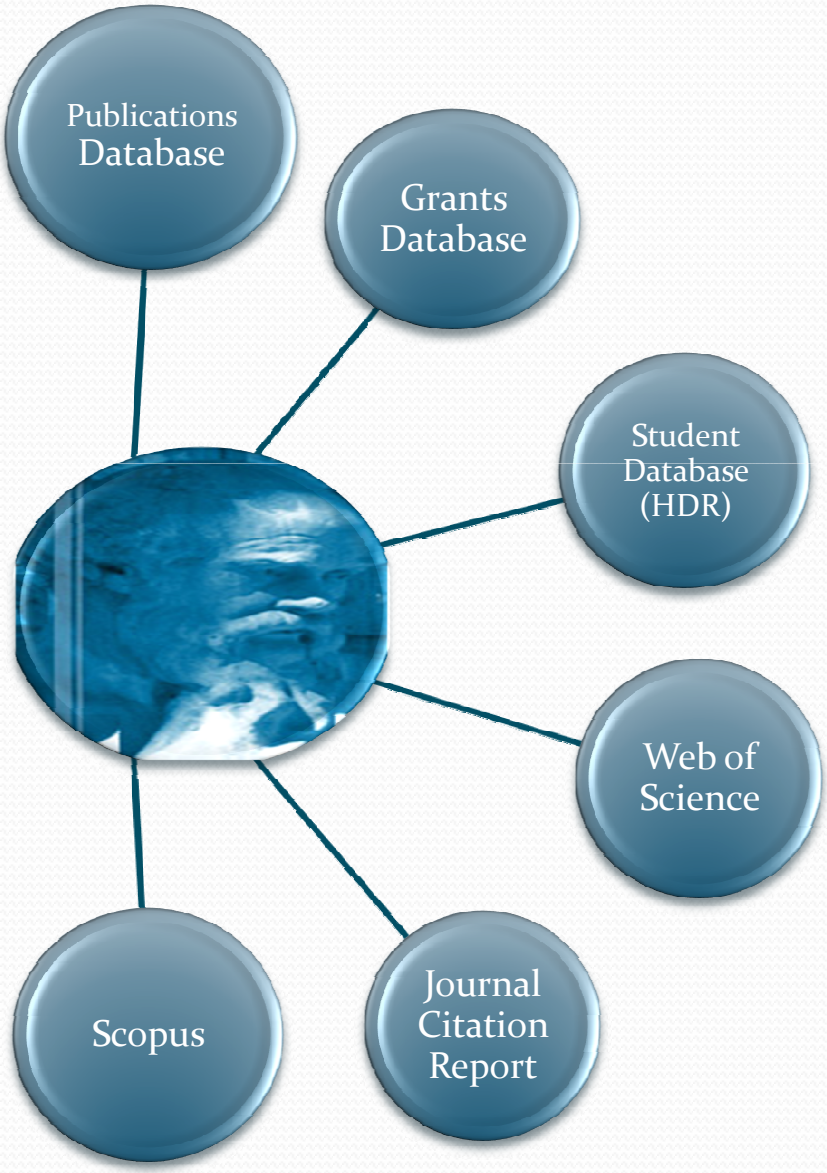
Presented by
Robyn Owens

What is Socrates?

- In late 2006 the University of Western Australia (UWA) launched Socrates, an online application designed to draw data from key research information systems, in order for the University to prepare portfolios for the Research Quality Framework (RQF).

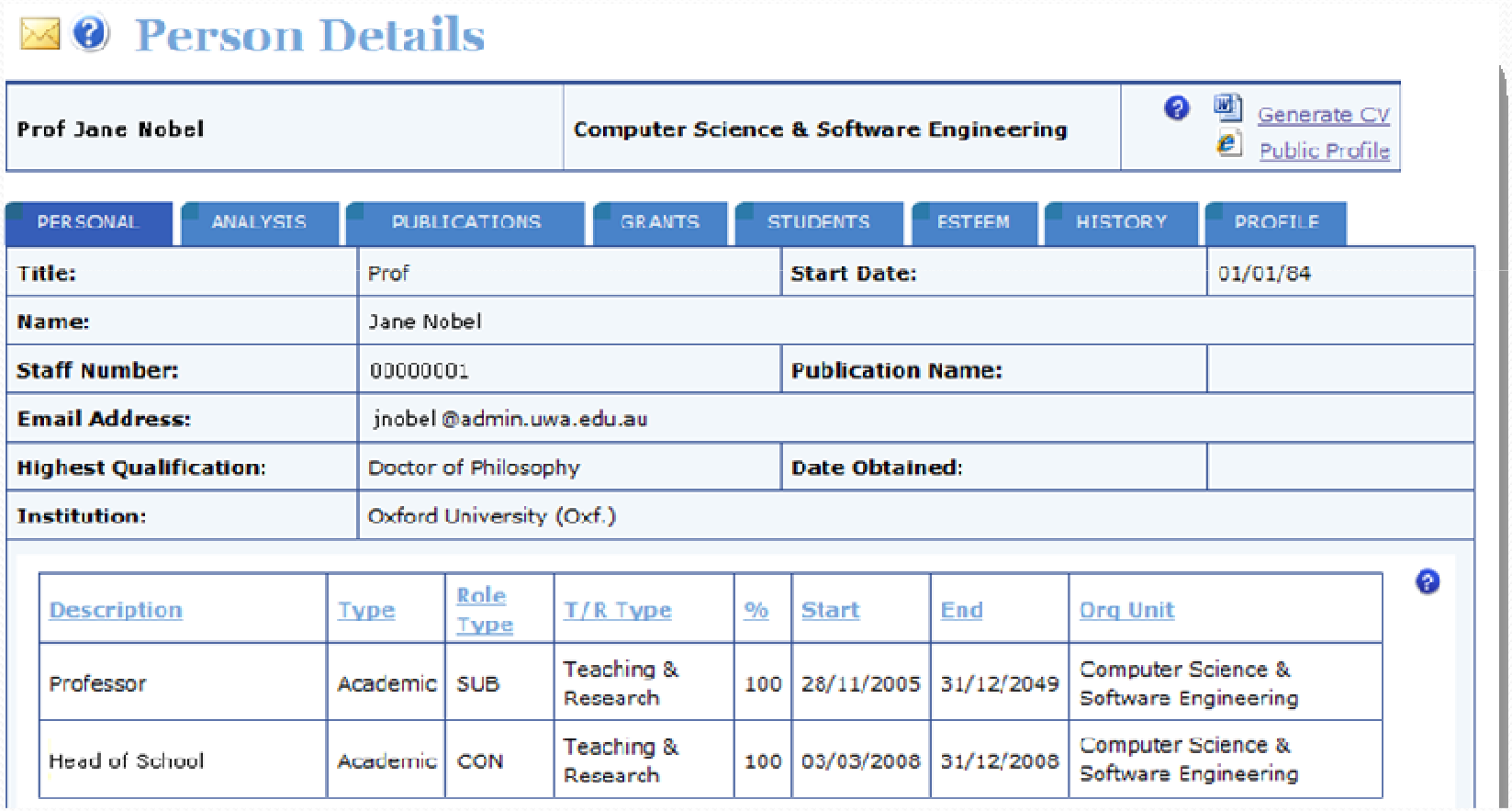
What does Socrates do?



- The system draws data from a number of core UWA databases, as well as two ISI databases and Scopus.

- Socrates is then able to collate data for individual staff members to create a detailed research profile, showing an individual's publications, citations, grant income and HDR load.

Individual's Profile in Socrates



Person Details

Prof Jane Nobel	Computer Science & Software Engineering	Generate CV Public Profile

PERSONAL | ANALYSIS | PUBLICATIONS | GRANTS | STUDENTS | ESTEEM | HISTORY | PROFILE

Title:	Prof	**Start Date:**	01/01/84
Name:	Jane Nobel		
Staff Number:	00000001	**Publication Name:**	
Email Address:	jnobel@admin.uwa.edu.au		
Highest Qualification:	Doctor of Philosophy	**Date Obtained:**	
Institution:	Oxford University (Oxf.)		

Description	Type	Role Type	T/R Type	%	Start	End	Org Unit
Professor	Academic	SUB	Teaching & Research	100	28/11/2005	31/12/2049	Computer Science & Software Engineering
Head of School	Academic	CON	Teaching & Research	100	03/03/2008	31/12/2008	Computer Science & Software Engineering

How does Socrates measure research Performance?

- Having established a profile for individual researchers, it was then necessary to provide a measure, whereby the research performance of staff could be judged.

- A Socratic Index was introduced to help the University gauge the level of research productivity for its staff.

The Socratic Index

- The SI is made up of three indicators over the years 2003-2007:

- Grants Points
  - > $5000 and < $50,000 1 point
  - $50,00 and < $500,000 2 points
  - > $500,000 3 points
  - DEEWR Category 1 Grants points multiplied by 2

- Higher Degree by Research Completions
  - PhD completion 2 points
  - Masters completion 1 point
  - Completions for PhD and Masters are divided by % role of supervisor at the time of completion

- Publication Points

Publications Points Formula

- The publication points are heavily influenced by the Shanghai Jiao Tong University ranking.

- The points formula also relies upon data drawn from the Web of Science to determine the value of articles indexed by Thomson Reuters.

Publication points are calculated as follows

Nature & Science papers	5 points
Books	5 points
Journal Papers	1 point
Social Sciences Indexed	4 points
Social Sciences Index & Science Index	3 points
Science Index	2 points
Conference paper	0.5 points

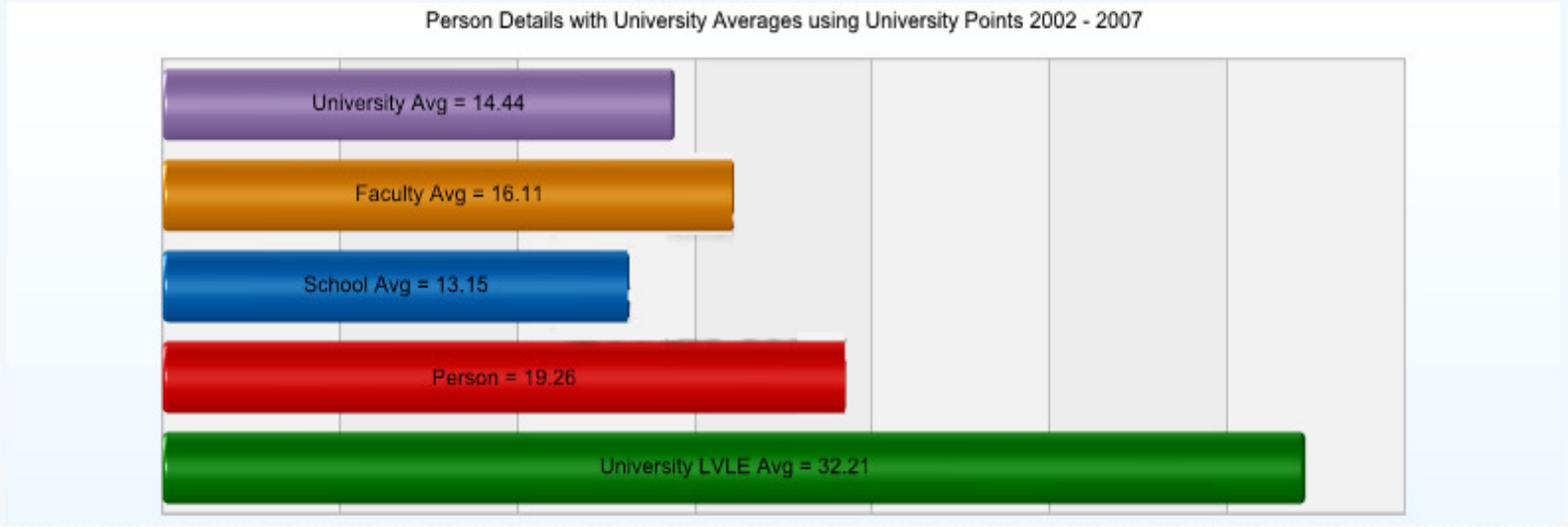
- All other points (e.g. architectural drawings, patents etc. as determined by the annual UWA publication collection, with a maximum of 5 pts per item)

Charting Research Performance

PERSONAL | ANALYSIS | PUBLICATIONS | GRANTS | STUDENTS | ESTEEM | HISTORY | PROFILE

SI: 19.26
SI U % Range: 70 - 80%
SI U Avg LVLE = 32.21
ROP: 12.81
RIP: 3.45
HDRC: 3.00
SI S Avg: 13.15
SI F Avg: 16.11
SI U Avg: 14.44
Supervising: 2.00
Supervising FTEL: 0.60

Socratic Index



Integrating the WOS with Socrates

- Socrates uses the web services interface (ESTI Soap API)from the WOS to gather citation data for publications.

- The interface is used in two ways:

1) The straight importation of publications with a UWA by-line.

- After a trial in 2008, the auto importation will be used to reduce the administrative load of the annual HERDC publication collection.
- 71% of UWA's 2007 C1 journal articles were indexed in the WOS.

2) Matching citation data to articles imported into Socrates from the UWA Publications Database.

How we match the data

- There are two types of publications stored within the UWA publications database:

- Publications with a UWA by-line
- Publications without a UWA by-line

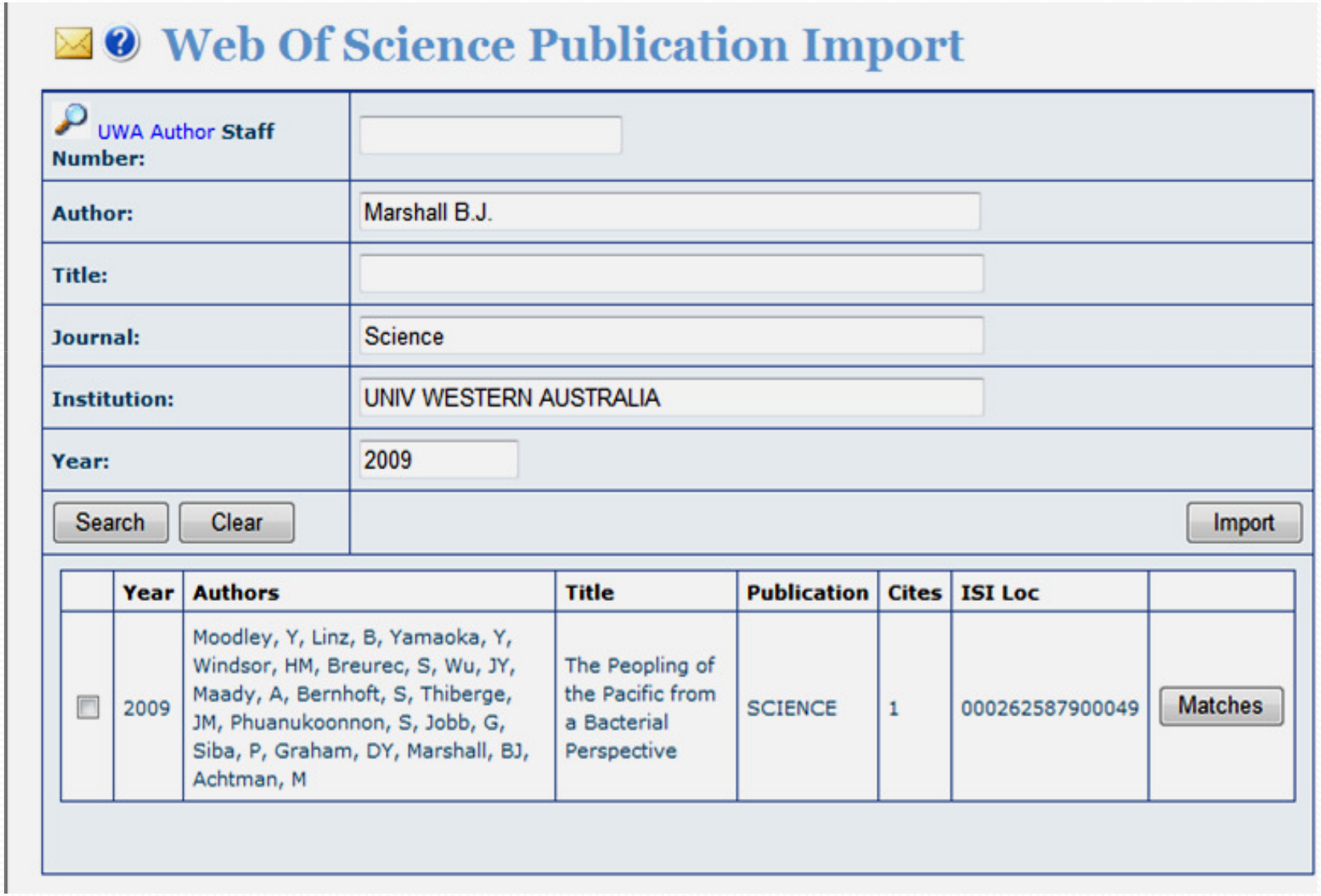
- All UWA by-line publications are imported and matched by individual and journal title
- All other articles are matched by individual and journal title

Problems with the matching

- The biggest problem we face is trying to match around typographic errors, both within the UWA Publications Database and the WOS.

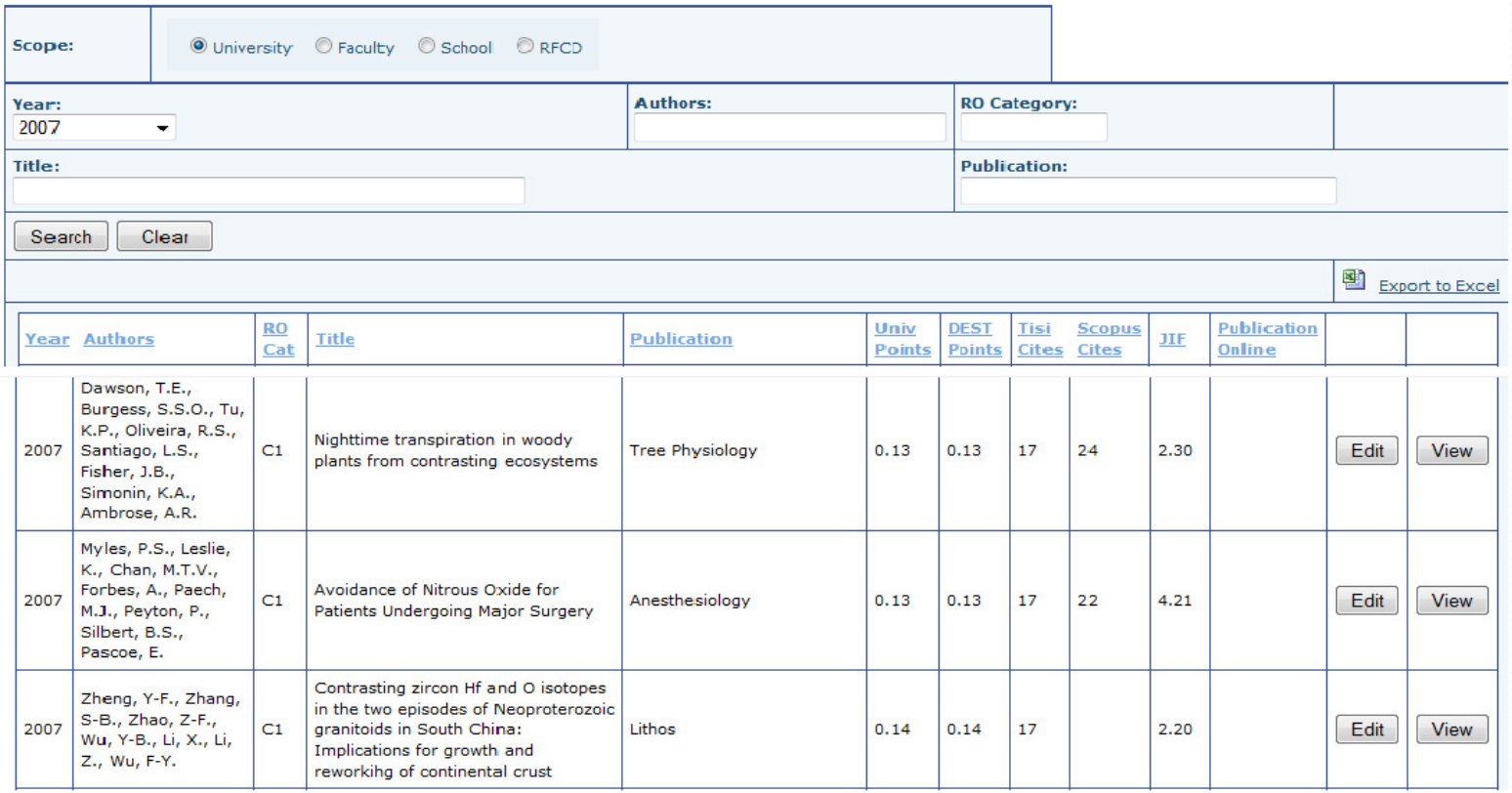
- We can use the imported JIF as a work around to identify possible manual matches.

Manually Importing Publications



Additional benefits of importing WOS data

- We have discovered a number of UWA papers that were imported from the WOS, that were not recorded in the publications database. We even found a *Nature* paper!



Scope: (•) University ( ) Faculty ( ) School ( ) RFCD

Year: 2007 | Authors: | RO Category: | Title: | Publication:

Search | Clear | Export to Excel

Year	Authors	RO Cat	Title	Publication	Univ Points	DEST Points	Tisi Cites	Scopus Cites	JIF	Publication Online		
2007	Dawson, T.E., Burgess, S.S.O., Tu, K.P., Oliveira, R.S., Santiago, L.S., Fisher, J.B., Simonin, K.A., Ambrose, A.R.	C1	Nighttime transpiration in woody plants from contrasting ecosystems	Tree Physiology	0.13	0.13	17	24	2.30		Edit	View
2007	Myles, P.S., Leslie, K., Chan, M.T.V., Forbes, A., Paech, M.J., Peyton, P., Silbert, B.S., Pascoe, E.	C1	Avoidance of Nitrous Oxide for Patients Undergoing Major Surgery	Anesthesiology	0.13	0.13	17	22	4.21		Edit	View
2007	Zheng, Y-F., Zhang, S-B., Zhao, Z-F., Wu, Y-B., Li, X., Li, Z., Wu, F-Y.	C1	Contrasting zircon Hf and O isotopes in the two episodes of Neoproterozoic granitoids in South China: Implications for growth and reworkihg of continental crust	Lithos	0.14	0.14	17		2.20		Edit	View

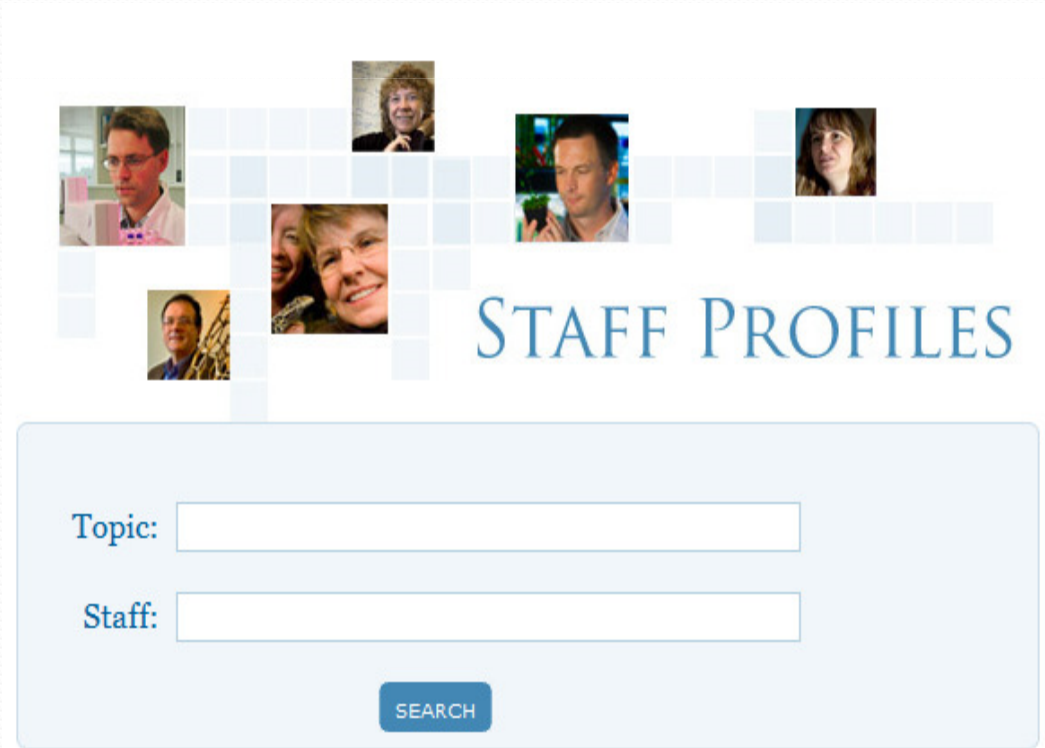
Influence of the WOS data in Socrates

- The introduction of the WOS data has lead to a change in publication behaviour.

Year	Indexed Articles	Percentage Increase	All Indexed Items	Percentage Increase
2008	1,687	106.2%	2,299	103.4%
2007	1,588	110.3%	2,224	107.3%
2006	1,440	108.8%	2,072	105.2%
2005	1,323	101.5%	1,970	103.9%
2004	1,304		1,896	

Additional uses of WOS data

- Socrates is able to group together researchers from across the University, by utilising a series of research tags. Including those imported from the WOS.

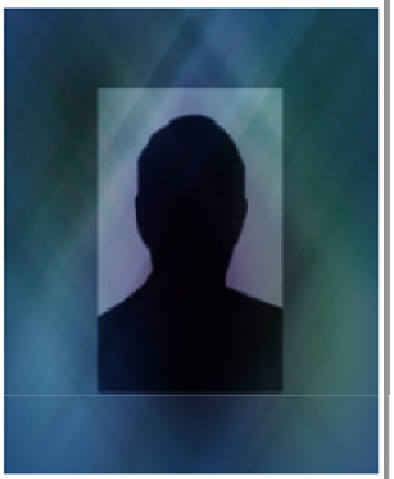


Staff Profiles

The WOS imported research tags appear in the researcher's staff profile.

ABOUT | PUBLICATIONS | GRANTS | STUDENTS

Email: jnobel@admin.uwa.edu.au Home Page
Phone: 00 000 0000



Jane P. Nobel obtained a BSc (Hons) in Mathematics at UWA in 1974 before going to Oxford to complete an MSc (1976) and a DPhil (1980), also in Mathematics. She then spent three years in Paris at l'Université de Paris-Sud, Orsay, continuing research in mathematical analysis before returning to UWA in 1982 to work as a research mathematician.

Since then, she has lectured in Mathematics and Computer Science at UWA, as well as for short periods at Berkeley, The University of Canterbury in Christchurch, and Prince Songkla University in Thailand. Her research has focussed on computer vision, including feature detection in images, 3D shape measurement, image understanding, and representation.

Jane P.A. Nobel is the Head of the School of Computer Science and Software Engineering.

Tags

Organisational Tags:

Computer Science & Software Engineering Engineering, Computing & Mathematics

Female LVLE PROF

Research Tags:

ARTIFICIAL INTELLIGENCE AND SIGNAL AND IMAGE PROCESSING Chemical

Engineering not elsewhere classified Computer Graphics COMPUTER SOFTWARE

Computer Vision Image Processing INFORMATION SYSTEMS Intelligent Robotics

Linguistic Processes (incl. Speech Production and Comprehension) OTHER

EDUCATION Pattern Recognition Speech Recognition Text Processing

User Defined Tags:

Academic writing blogging Computer vision eResearch Image processing

Next step within Socrates

- We are interested in mapping the performance of UWA publications against the expected citations for the journals they are published in.

- We also hope to able to display H Index information at the University, organisational unit and individual level.

Further integration with Thomson Reuters products

- We are also hoping to provide all UWA researchers with a Thomson Reuters' Researcher ID, to make the importation of older publication not currently recorded in the UWA publications database easier.

Benefits to Research Management

- The ability to compare the research productivity of staff is highly valuable.
- The University has been able to properly gauge areas of strength and weakness in its research performance
- We can identify research groups working well together.

Conclusion

- The importation of Web of WOS and JCR data has allowed us to evaluated the indexed publications produced by UWA staff

- More importantly, WOS data has helped Socrates to be an effective tool for the measurement of UWA's research performance at the University, organisational unit and individual level