

ScholarBank@NUS:

Bank deposits that grow constantly, building knowledge for the future

23 Aug 2013

Toh Kim Kee Stephanie Ng

NUS Libraries



Outline

• Introduction and content of ScholarBank@NUS

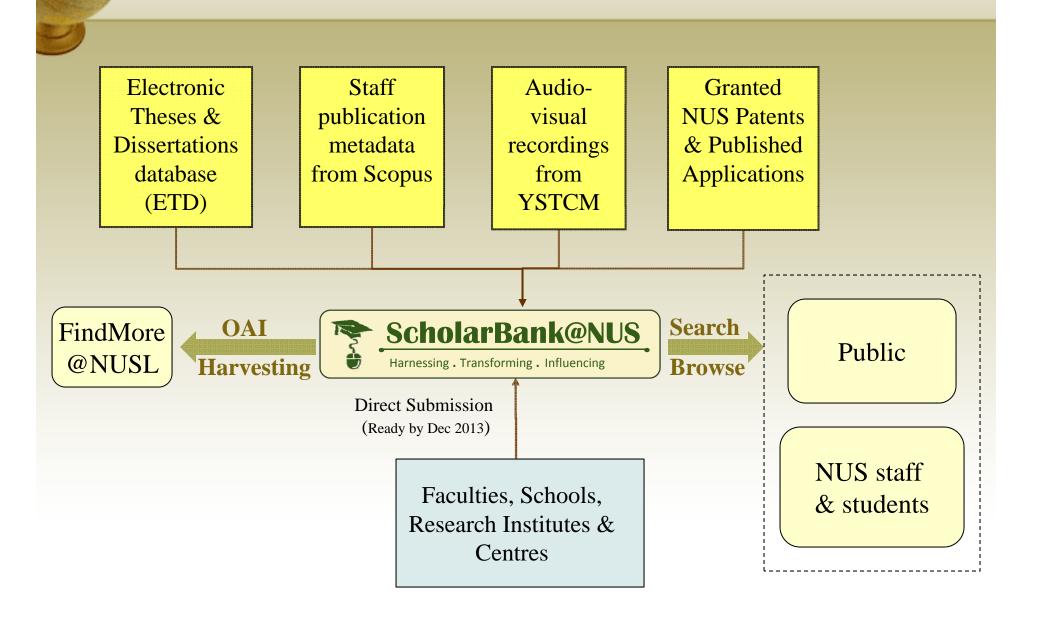
- Enablers
 - Content is shared globally
 - OAI harvesting is enabled
- Challenges
 - Harvesting of staff publications metadata



What is ScholarBank@NUS?

- Institutional repository of NUS
- Collects, stores and preserves NUS scholarly output for knowledge sharing among NUS as well as global community
- A collaborative project between NUS Libraries and Computer Centre
- University-level project with contributions from various faculties, schools and departments

Centralized Repository: ScholarBank@NUS



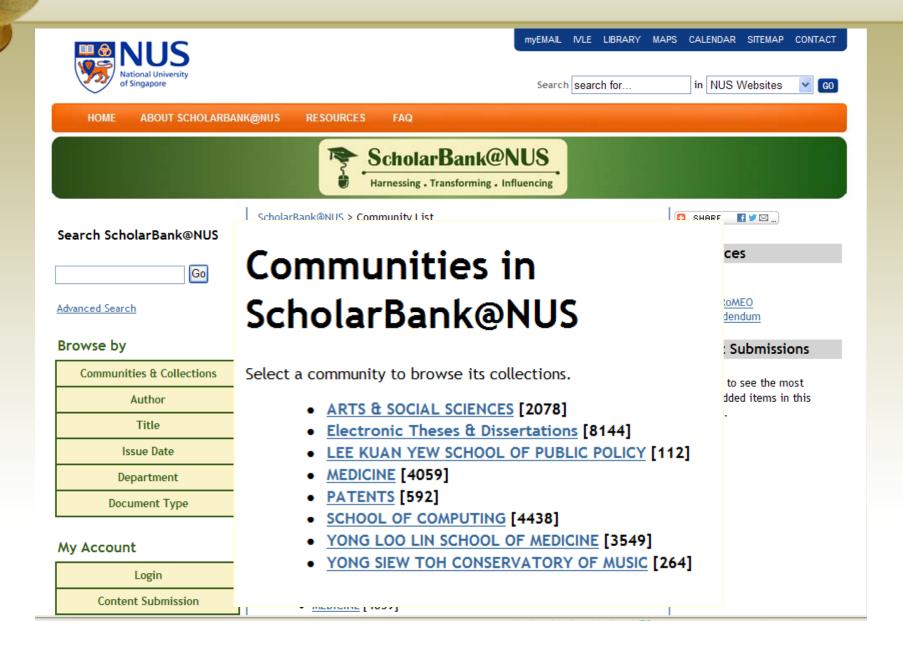


- o Electronic Theses & Dissertations [Apr 2010]
 - Master's (by research) and Ph.D theses from 2003 onwards
 - Metadata and full-text from ETD system
- Staff publications (journal articles, conference papers, reviews etc) [Feb 2011]
 - Metadata from Scopus (Abstract & Citation database)
 - DOI is provided in some of the records to link to full-text at publisher's site



- Yong Siew Toh Conservatory of Music recordings [Sep 2011]
 - Recent performance recordings from YSTCM
 - Audio and video streaming is available in ScholarBank@NUS
- o Patents [May 2012]
 - Metadata and full-text provided by PatSnap (Patent database)

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Enablers: Electronic Theses & Dissertations



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Transient Absorption Spectroscopy of Noble Metal Nanoparticles

Show full item record

Title:	Transient Absorption Spectroscopy of Noble Metal Nanoparticles
Authors:	YU KUAT
Supervisor:	XU QINGHUA; HONG MINGHUI
Keywords:	metal nanoparticles, pump-probe spectrosocpy, transient absorption, oscillation, damping, single-particle spectroscopy
Issue Date:	2013
Abstract:	In this thesis we have investigated the nonlinear optical properties of gold nanorods with both ensemble measurements and single-particle studies by using transient absorption spectroscopy and we have also investigated the nonlinear spectra changes of gold nanorods after coating with another silver shell. The observed experimental data are also theoretically calculated. We anticipate that the well understood nonlinear spectroscopy will help us to control the physical processes in ultra-short time scales with nano-objects.
Department:	NUS GRAD SCH FOR INTEGRATIVE SCI & ENGG
Degree Conferred:	DOCTOR OF PHILOSOPHY
Document Type:	Thesis

Files in this item

Files	Version	Access Type	View	View in browser
<u>YuKuai.pdf</u>	-	Open	View/Open	

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• Open (Ph.D Theses) [4022]



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Phenomena and mechanisms of photovoltaic effects in ferroelectric BiFeO3 thin films

Show full item record

Title:	Phenomena and mechanisms of photovoltaic effects in ferroelectric BiFeO3 thin films
Authors:	JI WEI
Supervisor:	LIANG YUNG CHII; YAO KUI
Keywords:	ferroelectric, BiFeO3, thin film, photovoltaic, epitaxial
Issue Date:	2012
Abstract:	In this study, high quality epitaxial ferroelectric BiFeO3 (BFO) films are fabricated by sputter deposition. The PV property of the BFO films and its mechanisms are systematically investigated. The results show that both depolarization field and the bulk photovoltaic effect (BPVE) contribute to the observed PV processes in BFO films with sandwich structures. The photocurrents from these two mechanisms in BFO are probably opposite to each other and partially cancel out. This could be one of the factors that limit the efficiency in these samples. The photoelectrolytic reaction of water splitting using BFO as the photoelectrode is investigated. Significant anodic photocurrents are observed. A possible monolithic water splitting cell based on BFO is proposed. The results from this study show that the PV effects in ferroelectric materials can be used to achieve unique functionalities in novel devices, and even possibly contribute to energy harvesting.
Department:	ELECTRICAL & COMPUTER ENGINEERING
Degree Conferred:	DOCTOR OF PHILOSOPHY
Document Type:	Thesis

Files in this item

Files	Version	Access Type	View	View in browser
Thesis final - Ji Wei -2013.pdf	-	Restricted	View/Open	

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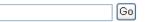
NUS Restricted (Ph.D Theses) [214]



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Title			
Issue Date			
Department			
Document Type			

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Spider Silk and Silkworm Silk Filaments: From Structure to Performance

Show full item record

Title:	Spider Silk and Silkworm Silk Filaments: From Structure to Performance
Authors:	XU GANGQIN
Supervisor:	LIU XIANG YANG
Keywords:	silk, mechanical properties, structure, property-structure relationship, multi-scale breaking mechanism, strain recovery
Issue Date:	2013
Department:	PHYSICS
Degree Conferred:	DOCTOR OF PHILOSOPHY
Document Type:	Thesis

Files in this item

Files	Size	Format	View
There are no files associ	ated with this item.		

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• Closed (Ph.D Theses) [241]

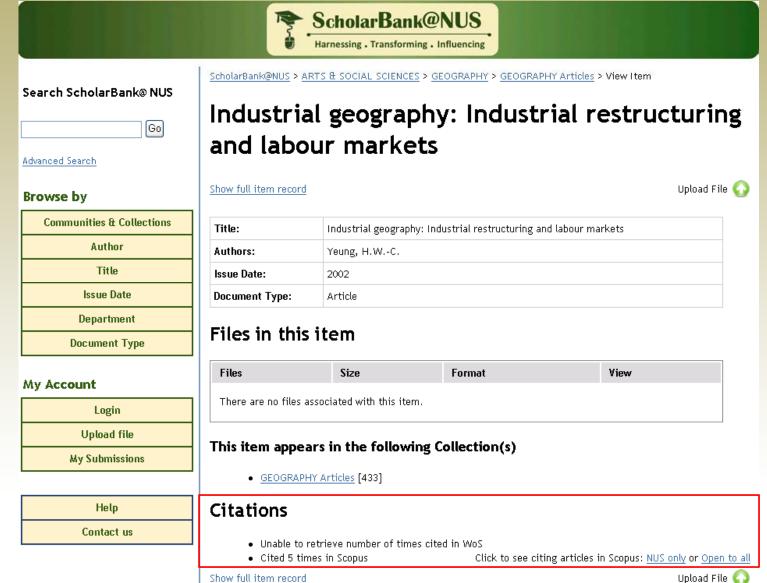


Electronic Theses & Dissertations

Collection	Contents/Requirements	Accessibility
Open	Citations (author, title, abstract, etc)Full-text	World-wide
Restricted	 Citations (author, title, abstract, etc) Full-text Login using NUSNET ID 	World-wide (citations only) NUS staff and students (citations & full-text)
Closed	Citations (author, title, etc)No abstractNo full-text	World-wide



Staff Publication – Scopus Data





Staff Publication – Scopus Data



3

367-380

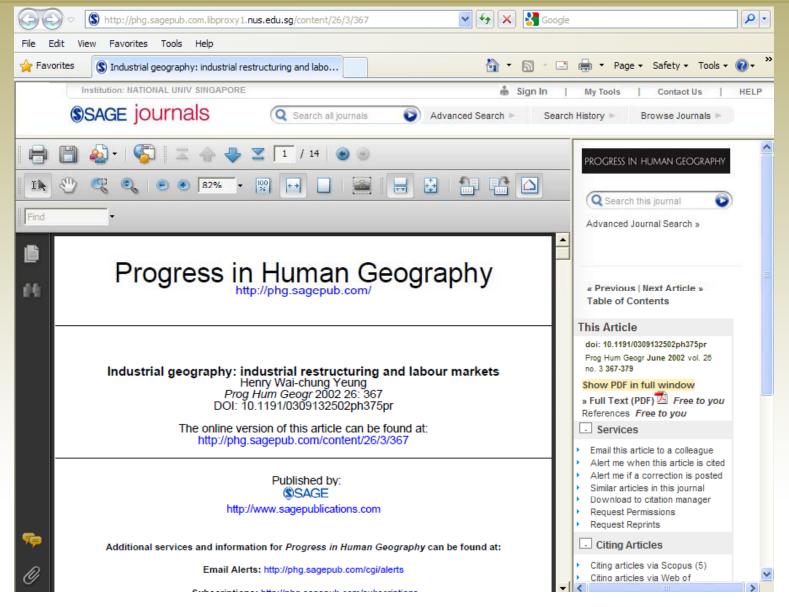
dc.description.issue

dc.description.page

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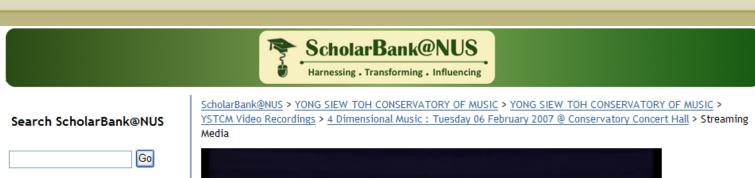


Staff Publication – Full Text via DOI





Audiovisual Streaming



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Department

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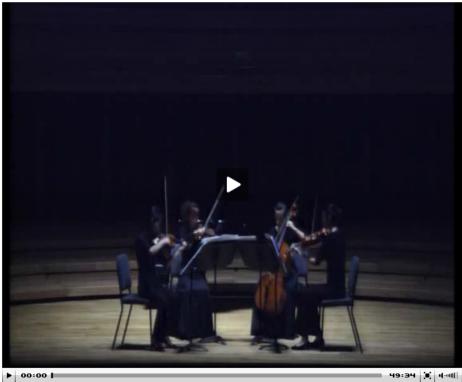
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Methods for enhancing photolithography patterning

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Title:	Methods for enhancing photolithography patterning
Authors:	LING, MOH LUNG; CHUA, GEK SOON; LIN, QUNYING; TAY, CHO JUI; QUAN, CHENGGEN
Issue Date:	2013
Abstract:	A method for fabricating a semiconductor device that includes: providing a substrate prepared with a photoresist layer; providing a photomask comprising a first and a second pattern having a respective first and second pitch range; providing a composite aperture comprising a first and a second off-axis illumination aperture pattern, the first off-axis aperture pattern having a configuration that improves the process window of the first pitch range and the second off-axis aperture pattern having a configuration that improves the process window for a second pitch range; exposing the photoresist layer on the substrate with radiation from an exposure source through the composite aperture and the photomask; and developing the photoresist layer to pattern the photoresist layer.
Document Type:	Patent

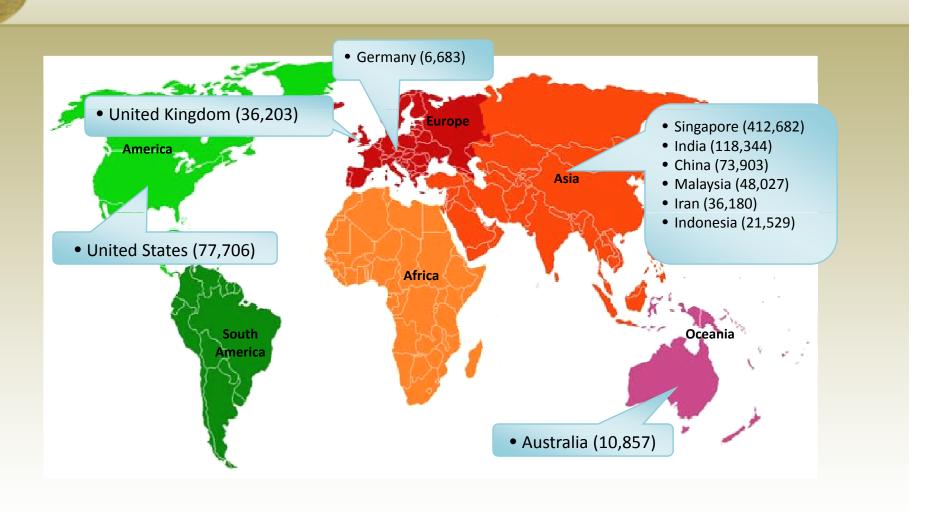
Files in this item

Files	Version	Access Type	View	View in browser
US8450046.PDF	Published	Open	View/Open	

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 GRANTED PATENTS [325] NUS GRANTED PATENTS

Global Reach (Top 10 countries)



Top 10 countries ranked by no. of page views for Aug 2012 – Jul 2013. They contributed to 842,114 (71.7%) of the 1,154,873 total page views during this period.



Challenges: Harvest Staff Publications from SPS

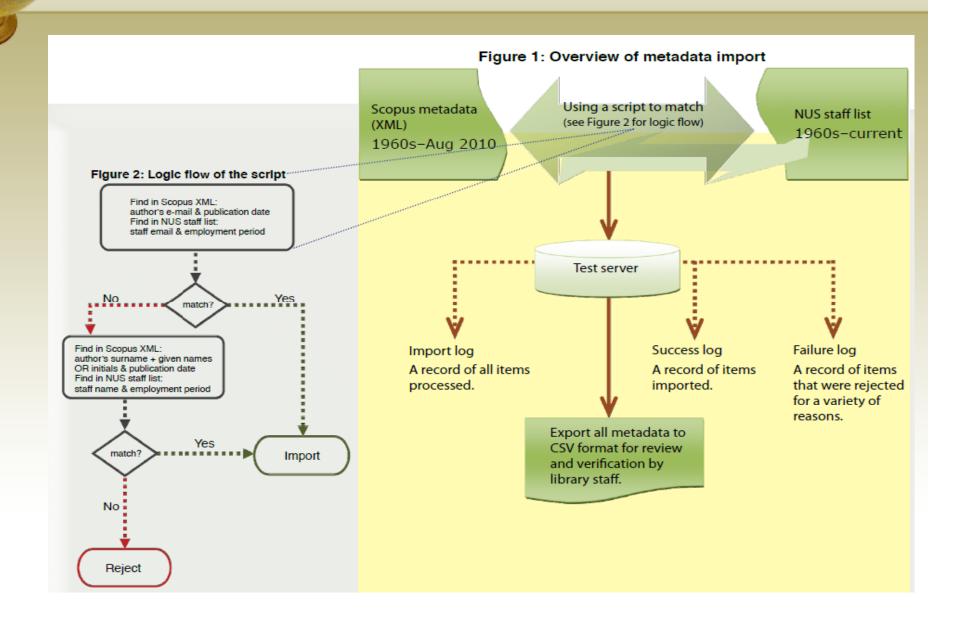
- Why not from SPS (Staff Publication System)?
 - Inhouse SPS system planning to migrate to new platform
 - Data mapping to current structure is complex and tedious
 - Progress of SPS migration was slower than we expected
 - Non NUS publication (include works when they were affiliated with other institution)



Harvest Staff Publications from Scopus

- Why Scopus?
 - Multi-disciplinary
 - Large database with more than 28 million records from 1996
 - Indexes mainly journal articles and conference papers
 - Cheaper option

Harvesting Process



Verification Process

- Matching criteria
 - E-mail address
 - Name
 - Tenure start date
- The import process generated 'success' log and 'reject' log
 - 'success' log
 - Mismatched records were found. Project team proceeded to verify and correct the records associated with wrong staff
 - 'reject' log
 - Project team checked for possible causes for the failure to match & to assign staff unique ID & department name

Challenges Encountered

- Difficult to match last name, name initial in Scopus against full name in NUS staff list
 - o Different Chinese authors have same last name & initial, some even in the same area of research (not unique enough to identify)
 - o Incorrect inversion of family name and given names particularly of Chinese, Malay and Indian names, extraneous punctuation and character space
 - o Name variants are common in Scopus
 - Some authors published with different names

Different Authors with Same Last Name and Initials

	Authors	Documents	Subject Area	Affiliation	City	Country
1	Lim, SuChi Lim, S. C. Lim, Su Chi Lim, Su C.	€ 60 Show Last Title	Medicine; Biochemistry, Genetics and Molecular Biology; Pharmacology, Toxicology and Pharmaceutics;	Khoo Teck Puat Hospital	Singapore City	Singapore
2	Lim, SehChun Lim, Seh Chun Lim, S. C.	■ 43 Show Last Title	Engineering; Materials Science; Physics and Astronomy;	National University of Singapore	Singapore City	Singapore
3	Lim, Robert Lim, R. S C Lim, R.	■ 34 Show Last Title	Medicine; Biochemistry, Genetics and Molecular Biology; Pharmacology, Toxicology and Pharmaceutics;	National University of Singapore	Singapore City	Singapore
4	Lim, Sam Lim, S. C. V. Lim, S. C.	■ 32 Show Last Title	Materials Science; Engineering; Chemical Engineering;	National University of Singapore	Singapore City	Singapore
5	Lim, Chin Seong Lim, C. S. Lim, Chin Seong	14 ☐ Show Last Title	Materials Science; Physics and Astronomy; Engineering;	Date Storage Institute, A-Star, Singapore	Singapore City	Singapore

Inversion of Family Name and Given Name

lp, YuenKwong			Yuen, Kwong I.					
Personal			Personal		▼ Find potential author matches			
Name Ip, YuenKwong			Name	Yuen, Kwong I.				
Other formats	lp, Yuen K	_	Author ID	ruen, rwong i.				
	lp, Yuen K. lp, Y. K.		Affiliation National University of Singap		ngapore, Department of Biological Sciences,			
Author ID	STEEN SELLEN	374		Singapore City Singapore				
ffiliation National Univ Singapore Ci Singapore		•	Research	Siligapore				
Staff Name			ress	Faculty Name	Dept Name			
R∉ Do lp Yuen Kwon				SCIENCE	ZOOLOGY			
Re lp Yuen Kwon	ng			SCIENCE	BIOLOGICAL SCIENCES rt			
^{Cit} Ip Yuen Kwor	ng			SCIENCE	BIOLOGICAL SCIENCES			
Ip Yuen Kwon	ng			SCIENCE	BIOLOGICAL SCIENCES			
Co-authors	150 (maxi	num 150 co-author	Web search	7633				
Web search	0		Subject area	Agricultural and Biological Sciences Biochemistry, Genetics and Molecular Biology				
Subject area Agricultural and Biological Biochemistry, Genetics and Medicine More								
			History					
			Publication range 2004-2007					
History								
Publication range	1987-Pre	sent						



Inversion of Family Name and Given Name

Hock, Ow Chin								
▼ Find potential author match								
Personal								
Name	Hock, O	w Chin						
Author ID		SW- 1						
Affiliation National University of Singapore, Department of Economics and Statistics, Singapore City Singapore								
Staff Name	Email Addı	ress Faculty Name		Dept Name				
Ow, Chin Hock		ARTS & SOCIAL	SCIENCES	ECONOMICS & STATISTICS				
Ow, Chin Hock		ARTS & SOCIAL	SCIENCES	ECONOMICS & STATISTICS				
Ow, Chin Hock		ARTS & SOCIAL	SCIENCES	ECONOMICS & STATISTICS				
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Citations	13 total	citations by 12 docum	ients 📶 Vie	w citation overview 🦫 Set alert				
h Index	1	Wew h-Grann	The <i>h</i> Index cor after 1995.	nsiders Scopus articles published				
Co-authors	2							
Web search	896							
Subject area	Econom	ics, Econometrics an	d Finance					
	nor matches							
History								
Publication range	1990-19	96						



Name Variants in Scopus

Ng, P. K. L.			
		▼ Find potential au	thor ma
Personal			
Name	Ng, P. K. L.		
Other formats	Ng, P. K L	Ng, Peter Kee Lin	
	Ng, P. K.	Ng, P.	
	Ng, Peter	NG, P. K L	
	Ng, Peter K L	Ng, Peter K L Ng	
	Ng, Peter Kee Lin		
Author ID			
Affiliation	National University of Singap	ore, Tropical Marine Science Institute,	
	Singapore City		
	Singapore		

Staff Name	Email Address	Faculty Name	Dept Name
Ng, Kee Lin Peter		SCIENCE	ZOOLOGY
Ng, Kee Lin Peter		SCIENCE	BIOLOGICAL SCIENCES
Ng, Kee Lin Peter		SCIENCE	BIOLOGICAL SCIENCES
Ng, Kee Lin Peter		SCIENCE	BIOLOGICAL SCIENCES

Web search	1190358	
Subject area	Agricultural and Biological Sciences Environmental Science Biochemistry, Genetics and Molecular Biology More	
● Find potential autho	r matches	
History		
Publication range	1981-Present	

Tedious Process

- Verification & correction of matched metadata & clearing of rejects were extremely tedious and time-consuming.
- On average, it takes 1 hour to verify and correct about 7 records.
- Estimated effort to complete the harvesting process for more than 50,000 NUS staff publications is 8,323 manhours! That's more than 3 man-years!!!



Mitigate Challenges Encountered

- Engage SciVAL Quality Assurance service to perform data matching and verification process.
- This service is expected to produce data which is ready for import without the need for further checking and correction
- Benefit:
 - 'Import Ready' data
 - Save staff time in doing verification and correction
 - Speed up the whole process



Process to Acquire SciVAL Data

NUS provides staff list

Vendor retrieves all NUS affiliated publications from Scopus and match against given staff list

Vendor outputs:

- (I) Matched List
- (II) Non-matched List: List of NUS publications which failed to match NUS staff list

Iterative process

NUS' follow up action

(I) Matched List

Import metadata into ScholarBank@NUS

(II) Non-matched List

Search staff list for NUS authors from the given list of publications. Assign staff id and dept name

New Challenges Encountered

- SciVAL data inaccuracy
 - o Some staff publications belonging to NUS authors are missed out
- What could have happened?
 - o Multiple Author IDs (profiles) in Scopus
 - o Scopus data error
 - o Human errors inevitable
 - o high volume of data
 - o process was semi-automated

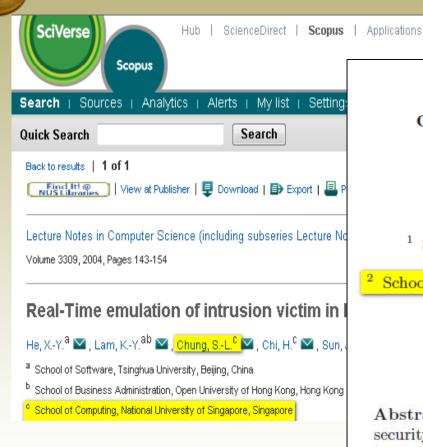
Multiple Author Ids in Scopus

Author results: 8 of 12 Show Profile Matches with One Document								
All With selected: Page Show documents 1 View citation ov	verview 💰 Request to merge authors							
Authors	Documents	Subject Area	1	Affiliation				
Goh, James Goh, James C H Goh, J. C H Goh, James C.	ा 119 □ Show Last Title		iochemistry, Genetics and ology ; Engineering;	National University of Singapore				
Goh, JCH Goh, J. Goh, J.C. H. Goh, J. C. H.	☐ 27		iochemistry, Genetics and ology ; Chemical Engineering;	National University of Singapore				
Goh, ChengHian Goh, Cheng Hian Goh, C. H.	■ 14 Show Last Title	Computer S Mathematics	cience ; Engineering ; 8;	DSO National Laboratory, Singapore				
Goh, JamesCh Goh, James C. Goh, J. C. H. Goh, J. C.	■ 8 □ Show Last Title		Engineering; Medicine; Health National University Professions;					
Goh, CheongHian Goh, Cheong Hian Goh, C. H.	■ 5 Show Last Title		ience ; Chemistry ; gy, Toxicology and ics;	National University of Singapore				
Goh, James Cho Hong 6 Goh, James C H	■ 3 Show Last Title	Engineering 	; Materials Science ; Medicine;	National University of Singapore				
Goh, C. B H	■ 2 □ Show Last Title		Immunology and Microbiology ; National Univer- Biochemistry, Genetics and Molecular Biology					
Goh, James Ch Goh, James C H Goh, James Ch	□ 2 □ Show Last Title	Engineering 	; Medicine ; Materials Science;	National University of Singapore				
Goh Cho Hong, James	YONG LOO LIN SCHOOL OF MEDICINE		ORTHOPAEDIC SUR	RGERY				
Goh Cho Hong, James	YONG LOO LIN SCHOOL OF MEDICINE		ORTHOPAEDIC SURGERY					
Goh Cho Hong, James	YONG LOO LIN SCHOOL OF MEDICINE	NG LOO LIN SCHOOL OF MEDICINE		RGERY				
Goh Cho Hong, James	ENGINEERING		BIOENGINEERING					
Goh Cho Hong, James	ENGINEERING	BIOENGINEERING						
Goh Cho Hong, James	ENGINEERING	BIOENGINEERING						

Multiple Author Ids in Scopus

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		Authors		Documents		Subject Area	Affiliation			City	Country
Ling, Florence Ling, F. Y Y Ling, Florence Y Y Ling, Florence Yean Yng		1 80 □ Show Last Title		Engineering ; Business, Management and Accounting ; Environmental Science;	and		Singapore City	Singapore			
	Ling, XingYi Ling, Xing Y. Ling, Xing Yi Ling, Yvonne Ling, Y. L. Ling, Y. L. Ling, Y. L. F. Ling, Y. L. F.			■ 26 Show Last Title		Materials Science ; Chemistry ; Chemical Engineering;				Netherlands	
				13 Show Last Title		Medicine ; Neuroscience ; Health Professions;	Singapore National Eye Centre Singapore City		Singapore		
	Ling, YeanYng Ling, Yean Yng Ling, Y. Y.			■ 9 Show Last Title		Engineering; Business, Management and Accounting; Social Sciences;	National (Jniversity of Sing	apore	Singapore City	Singapore
		Ling, Hui		1 7		Biochemistry,	National (Jniversity of Sing	apore	Singapore City	Singapore
af	f N	ame	Facult	y Name				Dept Nam	ie		
ng Yean Yng		ARCHI	TECTURE, BUIL	DING	AND REAL ESTA	ATE	SCHOOL C	F BUILD	ING & REA	L ESTATE	
ng Yean Yng		ARCHITECTURE, BUILDING AND REAL ESTATE		ATE	SCHOOL OF BUILDING & REAL EST		L ESTATE				
ng Yean Yng		ARCHI	TECTURE, BUIL	DING	AND REAL ESTA	ATE	SCHOOL C	F BUILD	ING & REA	L ESTATE	
ng	Ye	an Yng	SCHO	OL OF DESIGN	AND E	NVIRONMENT		BUILDING			
ng	Ye	an Yng	SCHO	OL OF DESIGN	AND E	NVIRONMENT		BUILDING			





Real-Time Emulation of Intrusion Victim in HoneyFarm

Xing-Yun He¹, Kwok-Yan Lam¹, Siu-Leung Chung², Chi-Hung Chi³, and Jia-Guang Sun¹

- School of Software, Tsinghua University, Beijing, P.R. China {hexy02,lamky,sunjg}@tsinghua.edu.cn
- ² School of Business Administration, The Open University of Hong Kong slchung@ouhk.edu.hk
 - School of Computing, National University of Singapore chich@comp.nus.edu.sg

Abstract. Security becomes increasingly important. However, existing security tools, almost all defensive, have many vulnerabilities which are hard to overcome because of the lack of information about hackers techniques or powerful tools to distinguish malicious traffic from the huge

Scopus Data Error



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Materials Letters

Volume 51, Issue 6, December 2001, Pages

PbS-polymer nanocom optical response in fem

Liu, B.^{ac} Li, H.^b, Chew, C.H.^a, Que, W

- Department of Chemistry, National Univers
- b School of Electrical and Electronic Eng Singapore, Singapore
- C Institute of Materials Research and Engine



December 2001

Materials Letters 51 (2001) 461-469

www.elsevier.com/locate/matlet

PbS-polymer nanocomposite with third-order nonlinear optical response in femtosecond regime

Bing Liu a Heping Li b, Chwee Har Chew a, Wenxiu Que b, Yee Loy Lam b, Chan Hin Kam Leong Ming Gan a,c, Guo Qin Xu a

a Department of Chemistry, National University of Singapore, Singapore ^b School of Electrical and Electronic Engineering, Nanyang Technological University, Nanyang Avenue, 639798, Singapore c Institute of Materials Research and Engineering, Kent Ridge Crescent, Singapore 119260 Singapore

Received 5 September 2000; received in revised form 23 March 2001; accepted 23 March 2001



Next Steps

- Work with authors to verify their publications in ScholarBank@NUS and correct any data discrepancies.
- Promote and encourage staff to upload full-text for those work that they own copyright



THANK YOU