

議題--關鍵報告: 數字與校園 社群的連結

今日的研究是明日的創新 - 綜觀台灣學術研究力

Gary Cheng 程世仁

WILEY

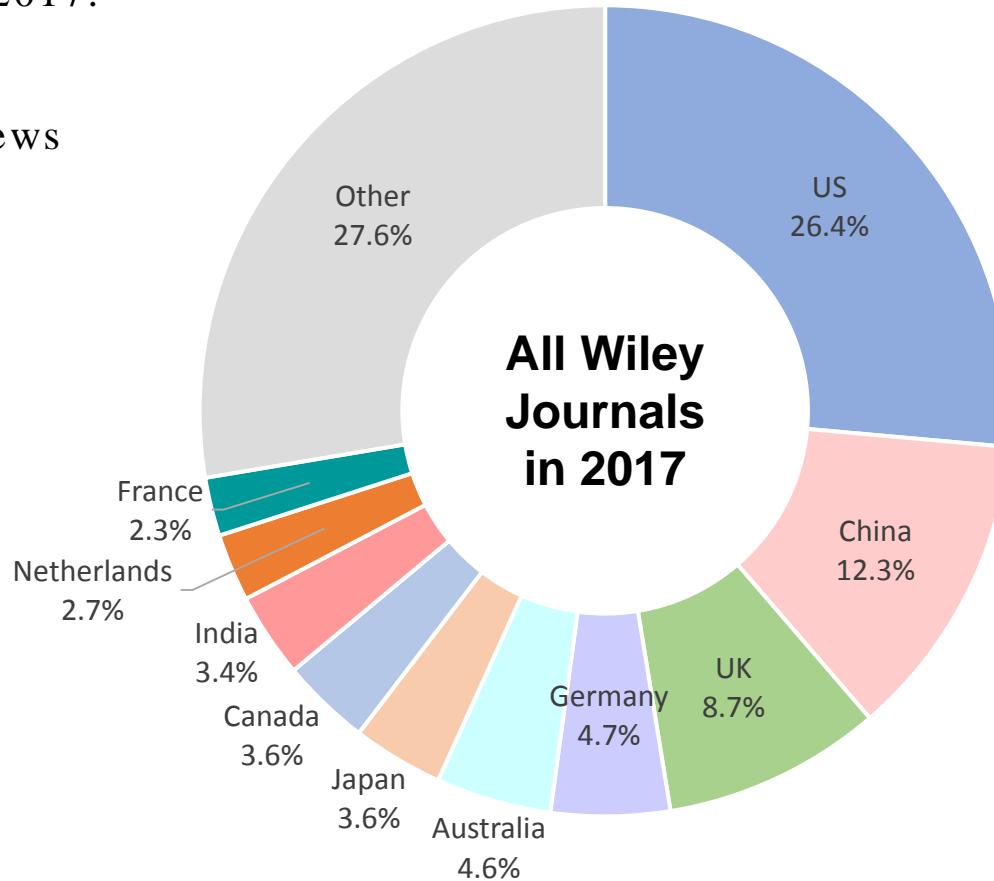
1. Trends in Readership

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Our Readership is Global

Wiley Online Library in 2017:

- >340 million visits
- >830 million page views



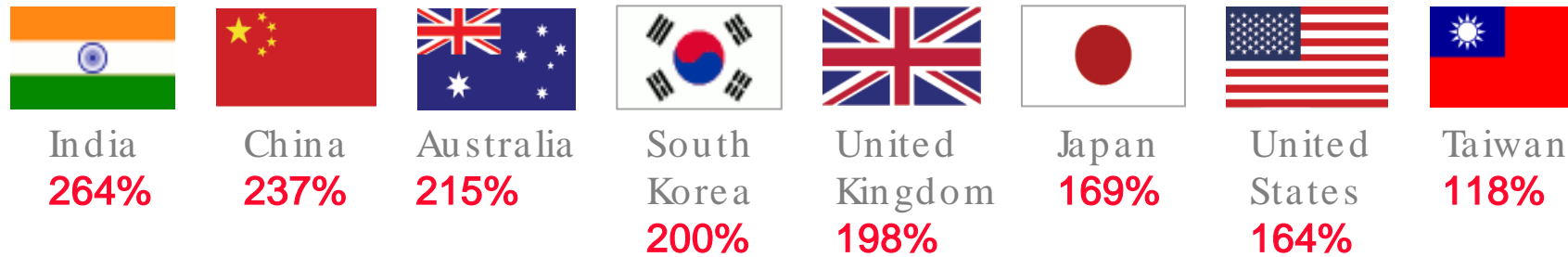
- Readership of all Wiley journals in 2017
- Our largest audience is the US, making up a quarter of our readers
- Taiwan is 16th largest source of readers, with over 4 million downloads in 2017

Unit of measurement for readership = full text downloads
Source: Wiley UDW

1. Trends in Readership

Global Rates of Readership Growth

Percentage Growth (2011-2017): All Wiley Journals

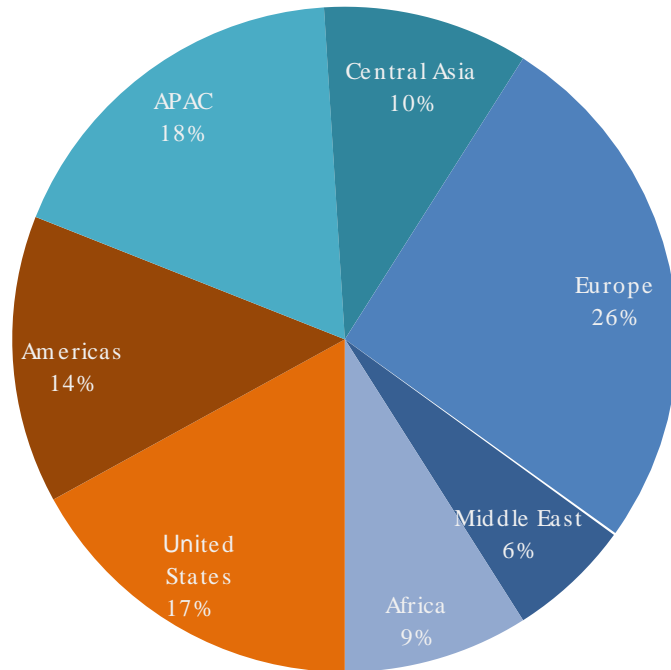


Unit of measurement for readership = full text downloads
Source: Wiley UDW

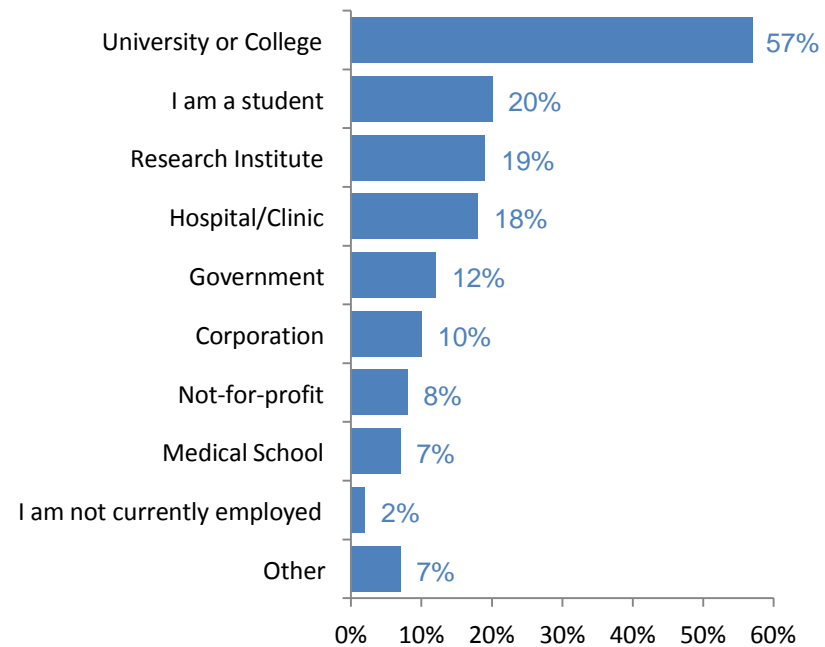
1. Trends in Readership(Readers)

2,156 participants who have read or used scientific or scholarly research in the past 12 months

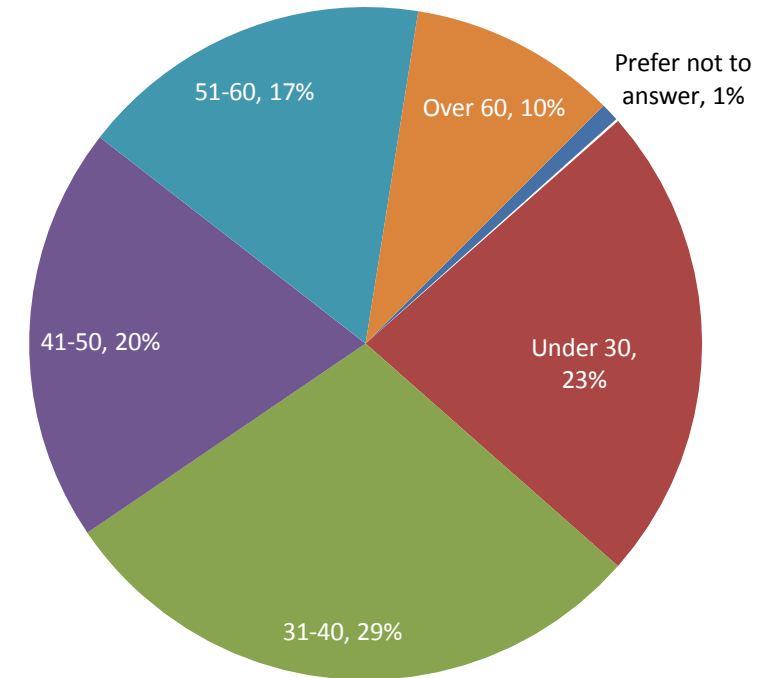
Geographic distribution



Work Setting

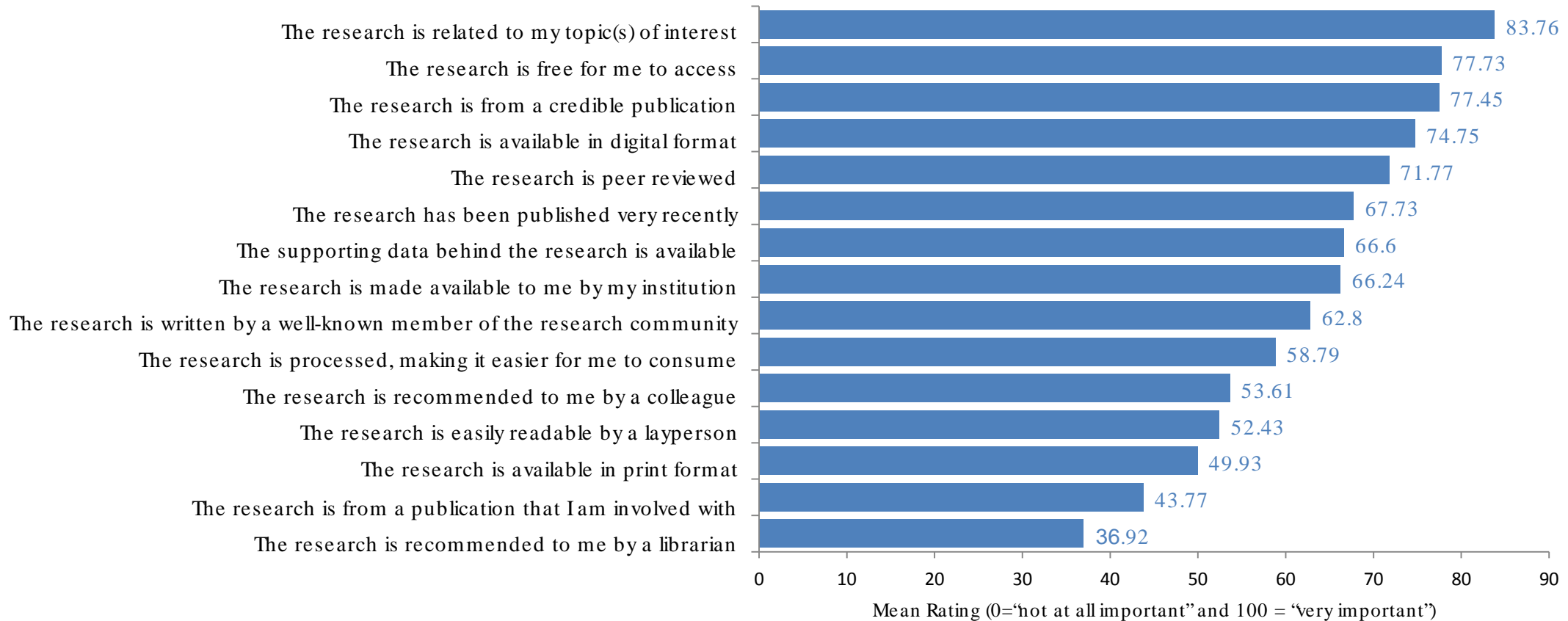


Age distribution



- What motivates individuals to consume research?
- How do researchers discover research?
- How do researchers connect with other researchers?

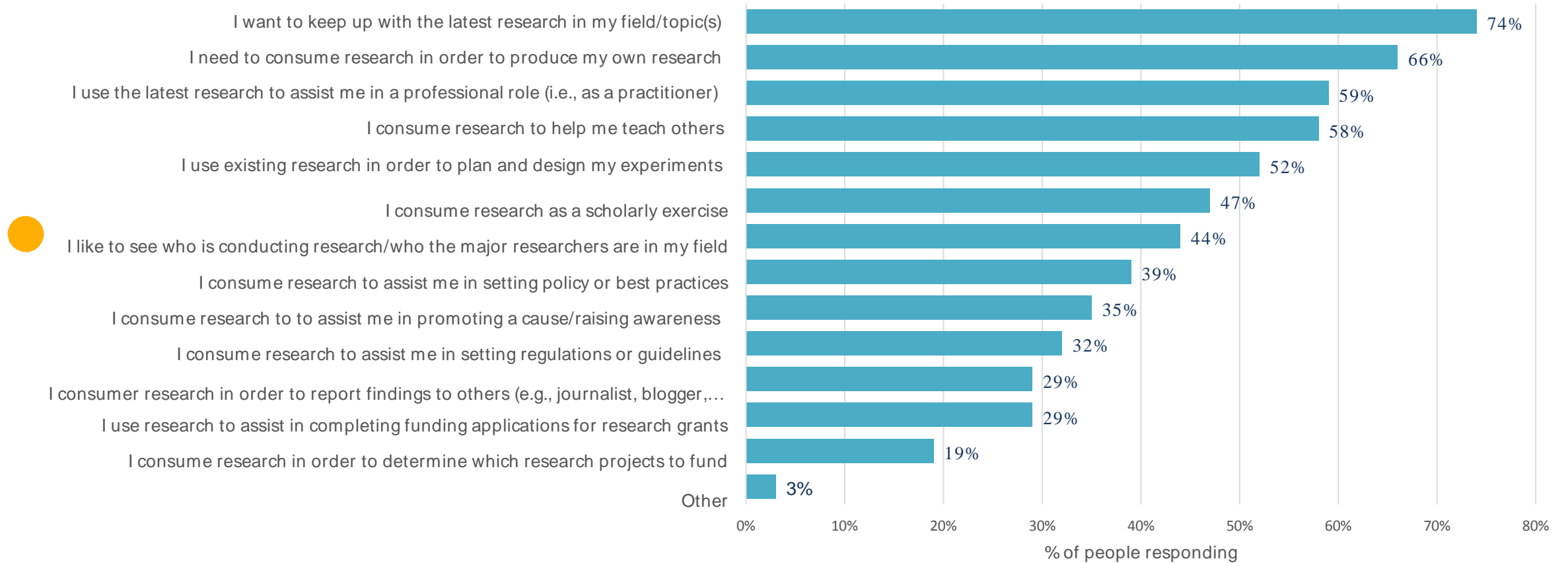
How do you Decide What to Read?



How do you Discover Content?



Why do you Read?

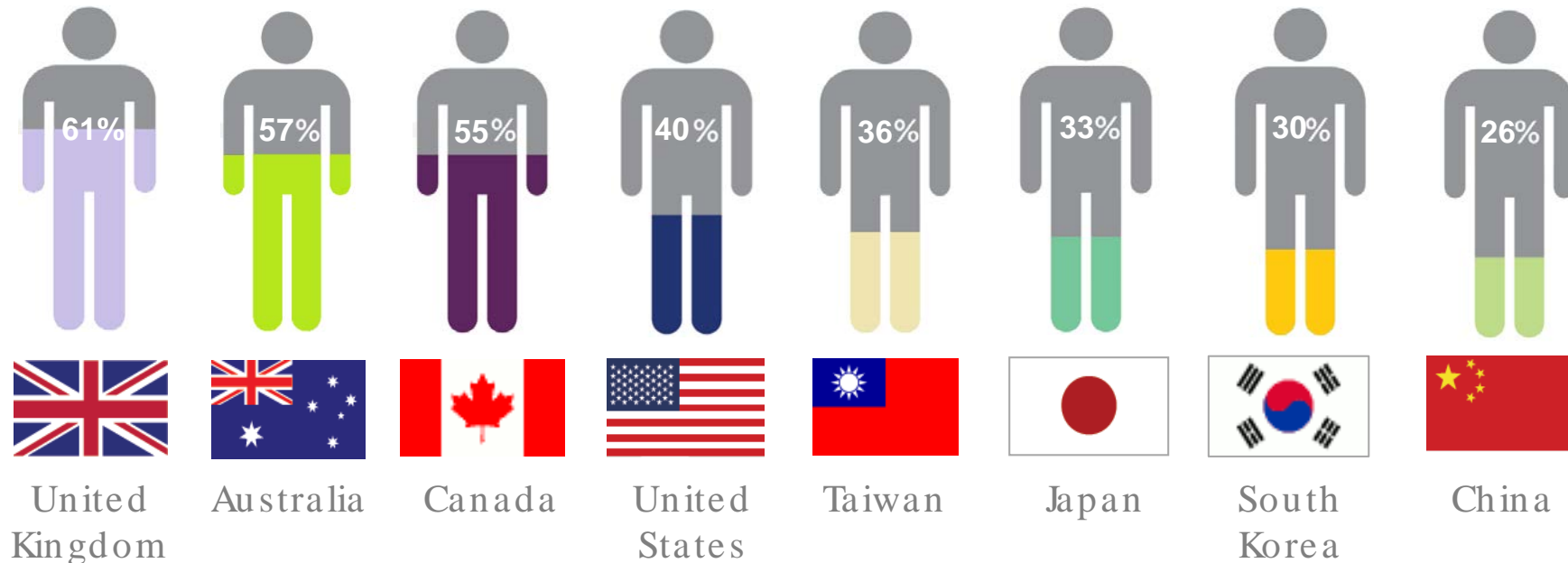


2. Trends in Global Research Collaboration

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Which Nations Collaborate Globally?

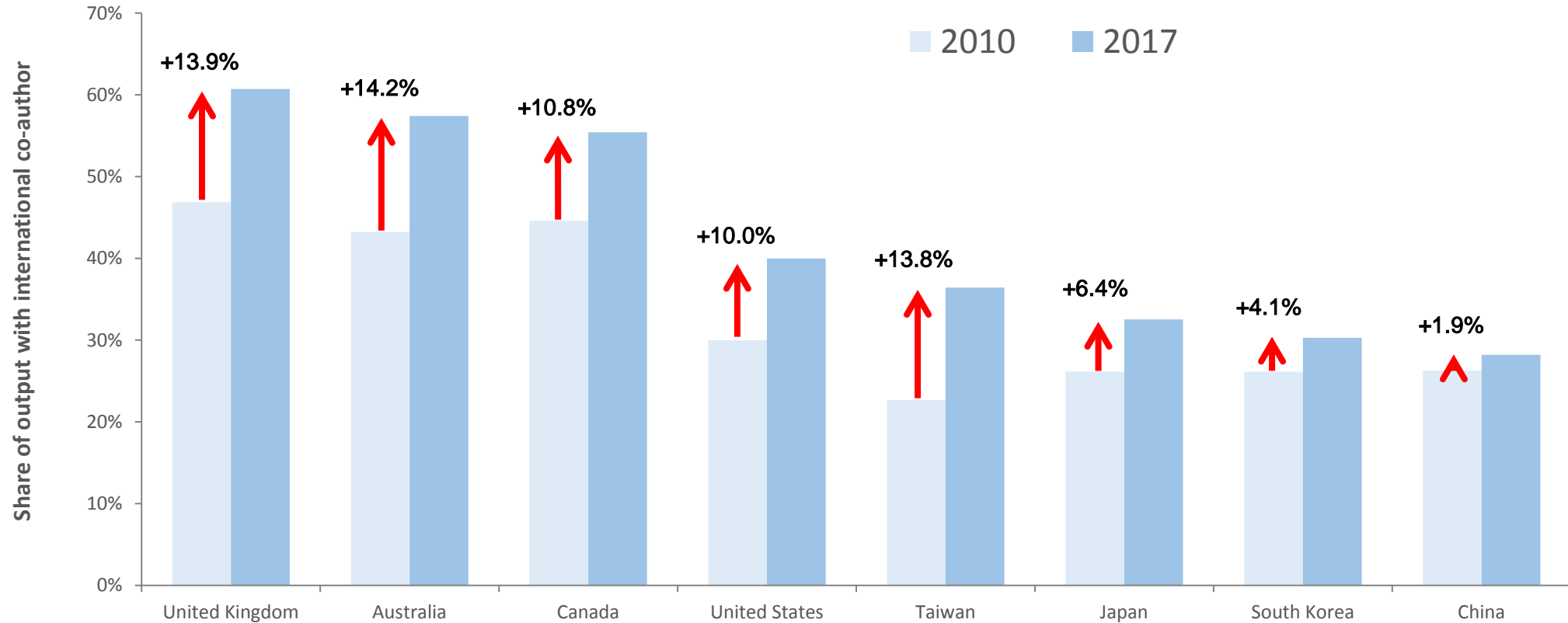
Percentage of articles with overseas co-author(s) 2017



Source: Clarivate Analytics WoS, Wiley EBAC

2. Trends in Global Research Collaboration

Rising Rates of Global Collaboration



Source: Clarivate Analytics WoS, Wiley EBAC

2. Trends in Global Research Collaboration

Who Does Taiwan Collaborate With?

3,743 Collaborating papers



14.8% of Taiwan's papers



0.9% of US's papers

3,370 Collaborating papers

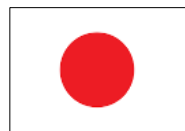


13.3% of Taiwan's papers



1.0% of China's papers

1,320 Collaborating papers



5.2% of Taiwan's papers



1.6% of Japan's papers

1,035 Collaborating papers



4.1% of Taiwan's papers



0.8% of UK's papers

878 Collaborating papers



3.5% of Taiwan's papers



0.7% of Germany's papers

Source: Clarivate Analytics WoS, Wiley EBAC

3. Globalisation and Research Impact

The Relative Citation Impact



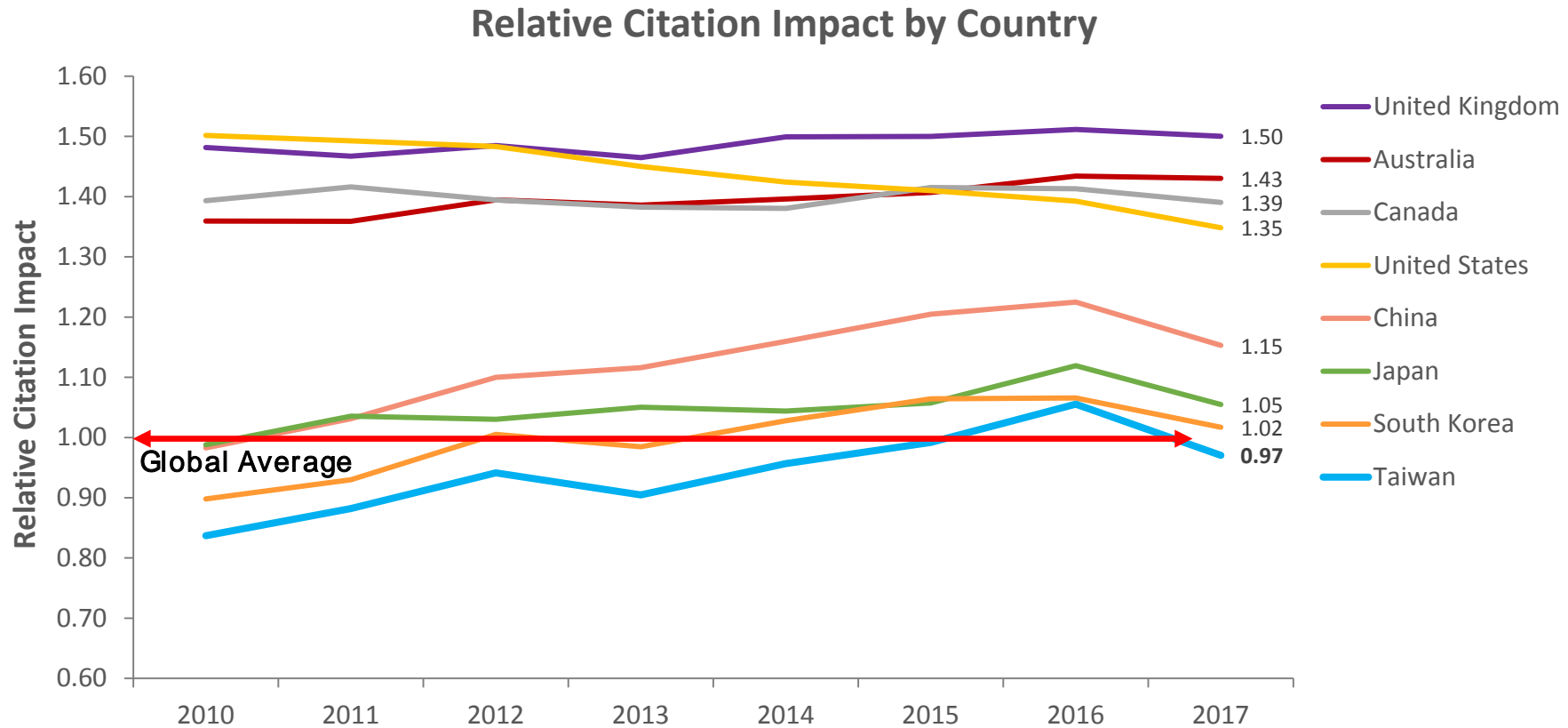
Average number of citations per article in each year, weighted by the world average.

A Relative Citation Impact (RCI) of 1 means that your citation impact is equal to the world average.

Source: Dr Jenny Neophytou, Bibliometrics Manager, Wiley

3. Globalisation and Research Impact

Rates of Relative Citation Impact

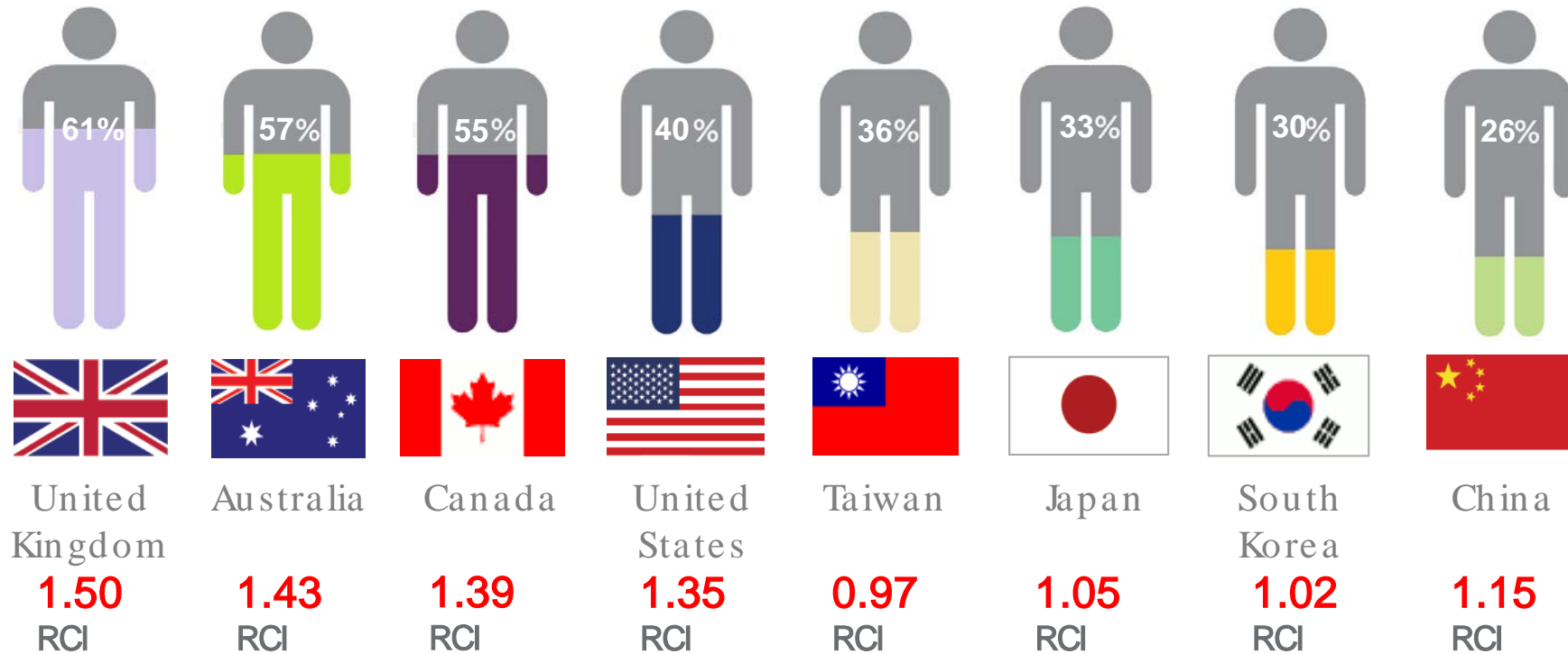


Source: Dr Jenny Neophytou, Bibliometrics Manager, Wiley Clarivate Analytics WoS, Wiley EBAC

3. Globalisation and Research Impact

Rates of Relative Citation Impact

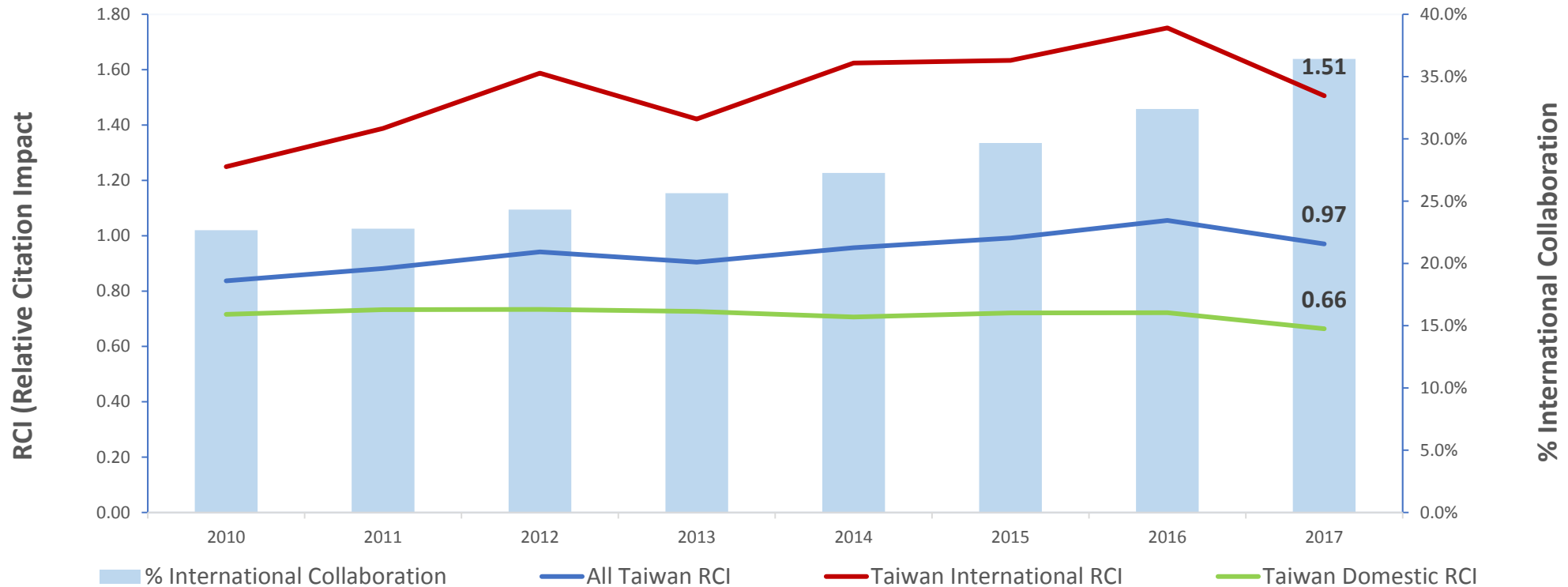
Percentage of articles with overseas co-author(s) 2017



Source: Clarivate Analytics WoS, Wiley EBAC

3. Globalisation and Research Impact

Collaboration Drives Impact Growth for Taiwan Papers



Source: Dr Jenny Neophytou, Bibliometrics Manager, Wiley Clarivate Analytics WoS, Wiley EBAC

4. Taiwanese Editorial Members within Wiley Journals



Three significant trends...

1

Taiwanese researchers play an important role in **global research publication**

Around 305 researchers as editorial board member in 172 Wiley journals

2

Taiwanese researchers contribute strongly to **global subject community**

Medicine, Chemistry and Physical Sciences & Engineering are the top 3 subjects with Taiwanese Editorial Member

3

Taiwanese researchers have influence on prestige journal and have **global impact**

The EMBO Journal (IF 9.64), SMALL(8.32), EMBO reports (7.74)

Taiwanese researchers contribute strongly to global subject community



2016 Publication

| Subject | Number of Editor | Number of Journal | Total WoS Paper - 2016 |
|---|------------------|-------------------|------------------------|
| Medicine | 65 | 37 | 5057 |
| Chemistry | 58 | 19 | 6275 |
| Physical Sciences & Engineering | 48 | 21 | 5824 |
| Business, Economics, Finance & Accounting | 35 | 18 | 771 |
| Social & Behavioral Sciences | 28 | 17 | 687 |
| Life Sciences | 24 | 20 | 2685 |
| Nursing, Dentistry & Healthcare | 13 | 11 | 1129 |
| Agriculture, Aquaculture & Food Science | 9 | 7 | 1218 |
| Psychology | 8 | 6 | 231 |
| Earth, Space & Environmental Sciences | 6 | 6 | 883 |
| Computer Science & Information Technology | 5 | 4 | 352 |
| Mathematics & Statistics | 3 | 3 | 175 |
| Veterinary Medicine | 1 | 1 | 92 |
| Law & Criminology | 1 | 1 | 27 |
| Humanities | 1 | 1 | 0 |
| Total | 305 | 172 | 25406 |

Unit = Web of Science citable item

Source: Wiley WOL, Clarivate Analytics Web of Science

Taiwanese researchers have influence on prestige journal and have global impact

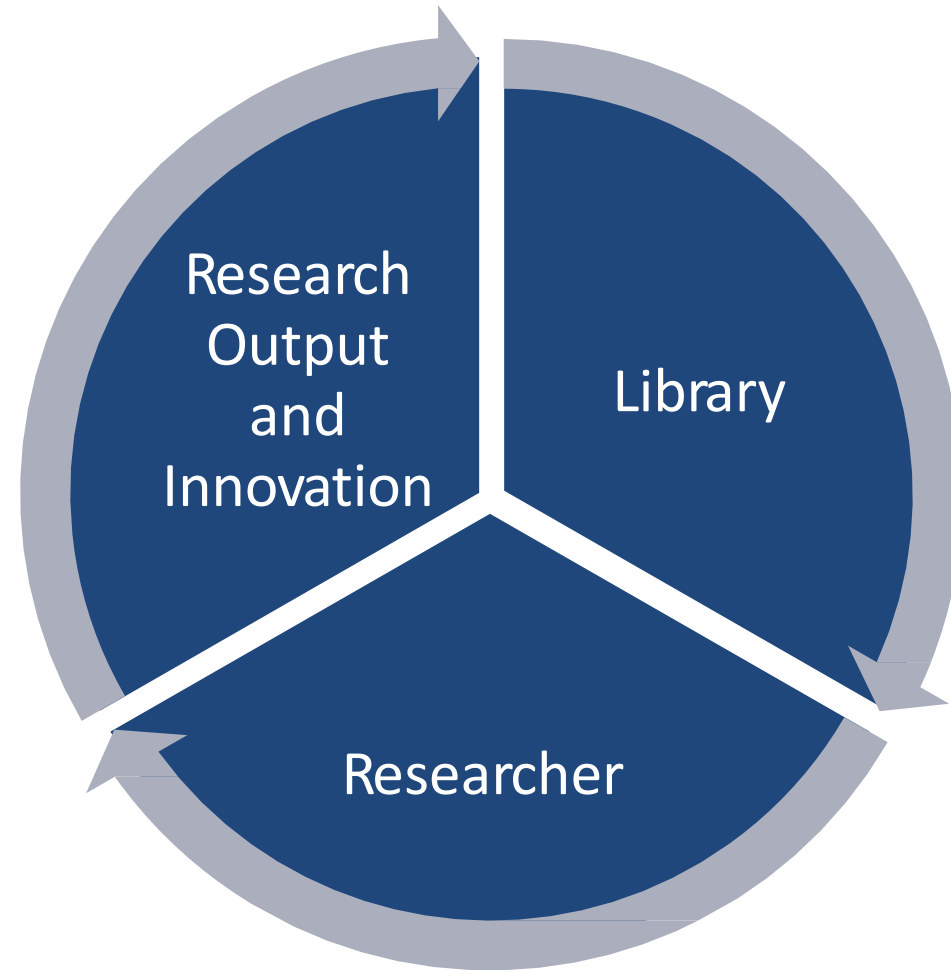


2016 Publication

| Impact Factor | Journal Name | Subject | Number of Editor | Total WoS Paper - 2016 |
|---------------|--|---------------------------------|------------------|------------------------|
| 9.64 | The EMBO Journal | Life Sciences | 1 | 157 |
| 9.31 | Journal of Pineal Research | Life Sciences | 1 | 76 |
| 8.32 | SMALL | Physical Sciences & Engineering | 1 | 649 |
| 7.74 | EMBO reports | Life Sciences | 1 | 115 |
| 7.37 | Progress in Photovoltaics: Research & Applications | Physical Sciences & Engineering | 1 | 143 |
| 6.09 | Plant Biotechnology Journal | Life Sciences | 2 | 196 |
| 5.77 | Chemistry - A European Journal | Chemistry | 1 | 2250 |
| 5.76 | Advanced Healthcare Materials | Physical Sciences & Engineering | 1 | 276 |
| 5.67 | American Journal of Transplantation | Medicine | 1 | 338 |
| 5.59 | Clinical & Experimental Allergy | Medicine | 1 | 133 |
| 4.94 | Journal of Cellular and Molecular Medicine | Medicine | 1 | 225 |
| 4.73 | The Journal of Physiology | Life Sciences | 1 | 447 |
| 4.72 | ChemCatChem | Chemistry | 1 | 499 |
| 4.72 | Molecular Carcinogenesis | Medicine | 1 | 191 |
| 4.71 | Epilepsia | Medicine | 1 | 257 |
| 4.59 | Chemistry - An Asian Journal | Chemistry | 3 | 469 |
| 4.55 | Molecular Nutrition & Food Research | Agriculture, Aquaculture & Food | 1 | 228 |
| 4.47 | Liver International | Medicine | 2 | 222 |
| 4.33 | Indoor Air | Nursing, Dentistry & Healthcare | 1 | 77 |
| 4.08 | Proteomics | Life Sciences | 2 | 290 |

Connecting Libraries, R&D and Researchers

Wiley 作者國際影響力培育學院



Key challenges for researchers

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Language needs



Academic /
Writing skills



Where to publish?
Predatory journals



Ethics
(e.g. plagiarism)



Teaching workload



Network and support
opportunities

Understanding the
publication process:

- Peer review
- Publication costs (APC)
- Open Access, Open Data



Current supply of author training

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- Strong demand for workshops from publishers, universities
- Free online materials from publishers and others
- High-quality but constraints
 - limited coverage
 - no instructional design
 - non scalable
 - difficult to measure learning and impact

Social

Mentoring

Scientific researchers fundamental competencies

- training is key

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| Specific Conceptual Knowledge of Discipline | Development of Research Skills | Communication Skills | Professionalism | Leadership and Management Skills | Responsible Research Conduct |
|---|---|--|--|--|--|
| <ul style="list-style-type: none"> Analytical approach to define questions Design of verifiable hypotheses Acquisition of interdisciplinary knowledge Detailed knowledge of the research area | <ul style="list-style-type: none"> Techniques of investigation and security Experimental design Analysis and interpretation of data Strategies of investigation and evaluation of literature Requests of financing and processes | <ul style="list-style-type: none"> Writing Oral presentation Teaching and tutoring Interpersonal communication skills Special situations | <ul style="list-style-type: none"> Workplace etiquette, standards and objectives Evaluation and improvement of third-party performance Participation in public and professional activities to advance the discipline Management of ethical and professional failures | <ul style="list-style-type: none"> Human resources management Project management Leadership | <ul style="list-style-type: none"> Ownership and sharing of data Research in human beings Research in animals Identification of professional faults Resolution of conflicts of interest |

Self-paced, accessible and flexible itineraries

Wiley 作者國際影響力培育學院



All types impact factor

EN

Enabling researchers' to develop their skills according to their individual needs

Resources



The impact factor

Interactive learning resource • 25 ...

English



When you have completed this module you will be able to: • Define the simplified formula used to ...



Other methods for comparing journals within a g...

Interactive learning resource • 15 ...

English

When you have completed this module you will be able to: • List four differences between Impact F...



Why publish in high impact journals

Interactive learning resource • 15 ...

English

When you have completed this module you will be able to: • Explain why impact factor is not the a...



Be inspired - Selecting an appropriate journal

Video • 2 minutes

English



Selecting an appropriate journal

Course

English

100%

SEE MORE

Programme Value Proposition

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Wiley
Researcher
Academy

Essential Content

14 courses over
50 hours

Comprehensive

Impartial

Customisable

Effective Learning

Instructional
design

Knowledge and
competencies

Self-paced

Learning and
reference

Convenient Access

Unlimited
users

All target cohorts

Scalable

Efficiency

Cost efficient

Project
management

Measurable
outcomes

Strategy

Insights into
researcher skills

Drive research
outputs

Increase impact
and collaboration

Economic and
social benefits

PhD



Senior Research



Reader/PI



Professor



Qualities of a successful scientific researcher

Research and publication: the essential link

Financing the research project

Selecting an appropriate journal

Best practices in writing scientific articles

Key components of a scientific article

Manuscript submission

Peer review

Open access to scientific literature

Managing research data

Ethical questions in writing scientific papers

The roles of the publisher and journal editors

Post-publication activities and driving visibility

Becoming a peer reviewer

Rigorous assessment formats

Question 1

A study is being set up to assess the feasibility of generating a variety of tissue-specific stem cells from bone marrow stem cells of patients with the hereditary form of Alcock's syndrome, a degenerative disease that affects multiple tissues and organs, and is currently irreversible and untreatable. The ultimate aim is to culture sufficient quantities of different patient tissues from the tissue-specific stem cells, and perform genomics and metabolomics studies on them to 1.

The study has been delayed because the institutional review board could not convene in sufficient numbers to assess the proposal, but in the meantime the IRB has heard that patients in one hospital that is eager to be included (because of the kudos!) seem to know something about a study that sounds very similar to the one they are to consider. They inform the PI who will direct the study. How should the study director react, and why?

- She should find out who the patients are, and make sure that they are excluded from the study, because they may already be seeking tests to see whether they are one of the rapidly progressing disease genotype.
- She should start preliminarily enrolling volunteers, so as to capitalize on the acute interest, but postpone the start of the study proper (taking of bone marrow stem cells) until the institutional review board has approved it.
- She should find the source of the information and try to prevent it spreading further, because absolutely no information may leak out before institutional review board approval of the study.
- She should apply for local approval of the study in the hospital where patients have already heard, because this way the hospital will take responsibility in ethical terms.

Question 2

The study is essentially approved by the IRB, but they note that there is a very important document that the investigators have forgotten to submit, and without IRB approval of that document, nobody can be enrolled. What is the document?

- The information pack for prospective participants
- The accreditation of the manufacturer of the equipment for removing bone marrow cells
- The consent of each director of a hospital to be involved in the trial
- The names of the nurses who will care for the patients whilst on the ward undergoing study procedures
- The detailed cell biological procedure whereby bone marrow stem cells will be transdifferentiated into other tissue-specific stem cells

Case scenarios to test application of acquired knowledge

Question 3

The IRB also noted that in this particular study, involving the potential identification of genetic predisposition to an accelerated form of the disease, it was important to assure...

- The provision of drugs to lessen the symptoms of the accelerated form of the disease
- The provision of palliative care
- The provision of counseling

Rigorous assessment formats

Adding Cranberry Extracts to Rat Livers To Investigate Mitochondrial Damage

Authors:

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*Author for correspondence: n.zyme@fruitoxic.com; Telephone: 123-456-7890

ABSTRACT

Treatment of rats with cranberry flavonoids (7 mg/kg) during chronic carbon tetrachloride-induced intoxication led to prevention of mitochondrial damage, including fragmentation, rupture and local loss of the outer mitochondrial membrane. In radical-generating systems, cranberry flavonoids effectively scavenged nitric oxide ($IC_{50} = 4.4 \pm 0.4 \mu\text{g/ml}$), superoxide anion radicals ($IC_{50} = 2.8 \pm 0.3 \mu\text{g/ml}$) and hydroxyl radicals ($IC_{50} = 53 \pm 4 \mu\text{g/ml}$). The IC_{50} for reduction of 1,1-diphenyl-2-picrylhydrazyl radicals (DPPH) was $2.2 \pm 0.3 \mu\text{g/ml}$. Flavonoids prevented to some extent lipid peroxidation in liposomal membranes and glutathione oxidation in erythrocytes treated with UV irradiation or organic hydroperoxides as well as decreased the rigidity of the outer leaflet of the liposomal membranes. The hepatoprotective potential of cranberry flavonoids could be due to specific prevention of rat liver mitochondrial damage. The mitochondria-addressed effects of flavonoids might be related both to radical-scavenging properties and modulation of various mitochondrial events.

keywords

mitochondria; liver; cranberry flavonoids; melatonin; radical scavenging activity

list of abbreviations

b.w., body weight; CuOOH, cumol hydroperoxide; DCFH-DA, 2,7-dichlorodihydrofluoresceine diacetate; DCF, 2,7-dichlorofluorescein; DMPO, 5,5-dimethyl-1-pyrroline N-oxide; DPH, 1,6-diphenyl-1,3,5-hexatriene; DPPH, 1,1'-diphenyl-2-picrylhydrazyl radical; i.g., intragastrically; NBT, nitroblue tetrazolium; PBS, phosphate buffer saline; RONS, reactive oxygen and nitrogen species; s.c., subcutaneous injection; TCA, trichloroacetic acid; TMA-DPH, 1-(4-trimethylammoniumphenyl)-6-phenyl-1,3,5-hexatriene; t-BHP, tert-butyl hydroperoxide

INTRODUCTION

Flavonoids are a group of polyphenolic compounds, which have a diphenylpropane ($C_6-C_3-C_6$)

How should the title be modified to improve it?

- Title should mention major methodology used.
- Title should mention crucial findings.
- Title should include at least 5 keywords.

✓ That is correct. Well done!

CONTINUE >

What should be changed to make the abstract more rigorous?

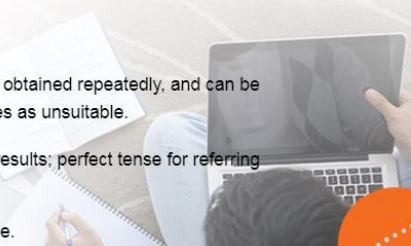
- The abstract should not include detailed data.
- The abstract should not contain abbreviations, even if defined.
- The abstract should not contain interpretations of the data.
- The abstract should describe the purpose for the study.
- The abstract should cite reference(s) for the major method(s) used in the study.

Carefully designed assessment formats to demonstrate understanding and competence

Robust instructional design

Different sections have different tense distribution

- **Title:** Present tense or, more rarely, past imperfect.
- **Abstract:** Present tense or perfect for reporting main finding(s) of the present research; past imperfect for describing more distant background.
- **Introduction:** Past imperfect for summarizing established and/or temporally distant findings; present tense for referring to universally acknowledged facts, models.
- **Methods & Materials:** Exclusively past imperfect.
- **Results:** Mostly past imperfect; present tense can be used for referring to results obtained repeatedly, and can be considered true. Present tense can also be useful for ruling out certain approaches as unsuitable.
- **Discussion:** Mixture of past imperfect and present tense for discussing present results; perfect tense for referring to uncompleted processes, particular in the negative.
- **Conclusion (if present):** Here you can use a mixture of present and perfect tense.



Can punctuation influence the meaning of a sentence?

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Match each meaning to the corresponding example.

A panda walks into a restaurant,
eats, shoots and leaves.

A panda walks into a restaurant,
eats shoots, and leaves.

A panda walks into a restaurant,
eats shoots and leaves.

This means that after eating (something) the panda

Interactive learning formats to ensure high levels of engagement and reinforce learning

When is reusing content "fair use"?

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Click the images to find out the different criteria for fair use of content.

Not for profit

Facts or data

Small segments

Images



Facts or data

The content to be reproduced conveys facts or data, including charts or diagrams, rather than something subjective or creative in nature.



The writing sequence

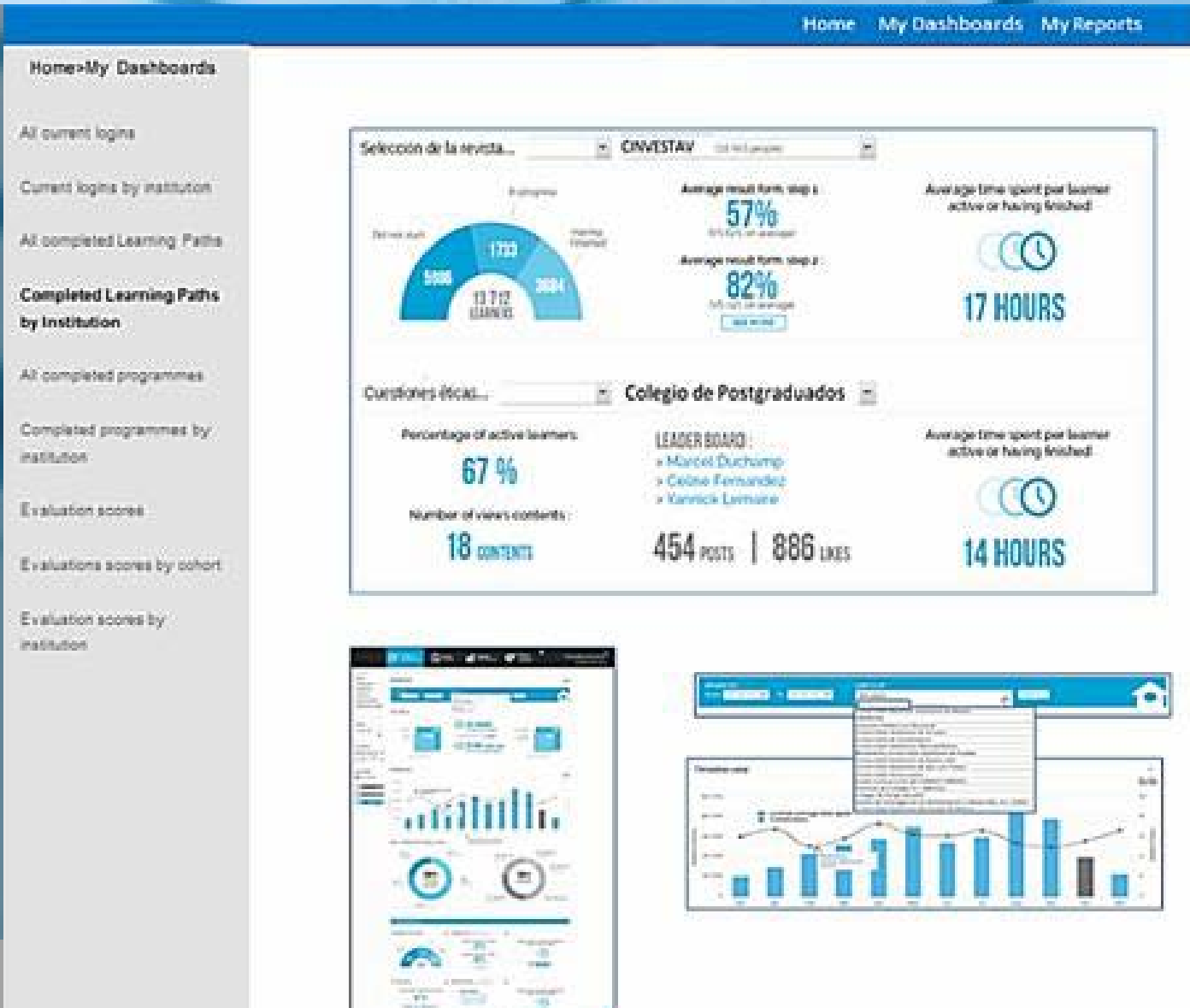
Discussion

- Be honest: **don't hide results** that are problematic to researchers.
- The aim is to present the **best model or advance in understanding** your results and tempered by other observations.
- The **discussion of inconsistencies** in your results is an extremely important part of your (results-and-) discussion section.
- Make sure **not to mix these qualifying details in with the main messages**: treat them sequentially.
- Now you have the intellectual **core of your paper secure**.
- Cast a critical glance at each result sequentially with an **eye for presentational quality**, not scientific quality (that should be beyond doubt at this stage).
- If you **identify a result of poor presentational quality** during writing, repeat it as soon as you notice, if possible.

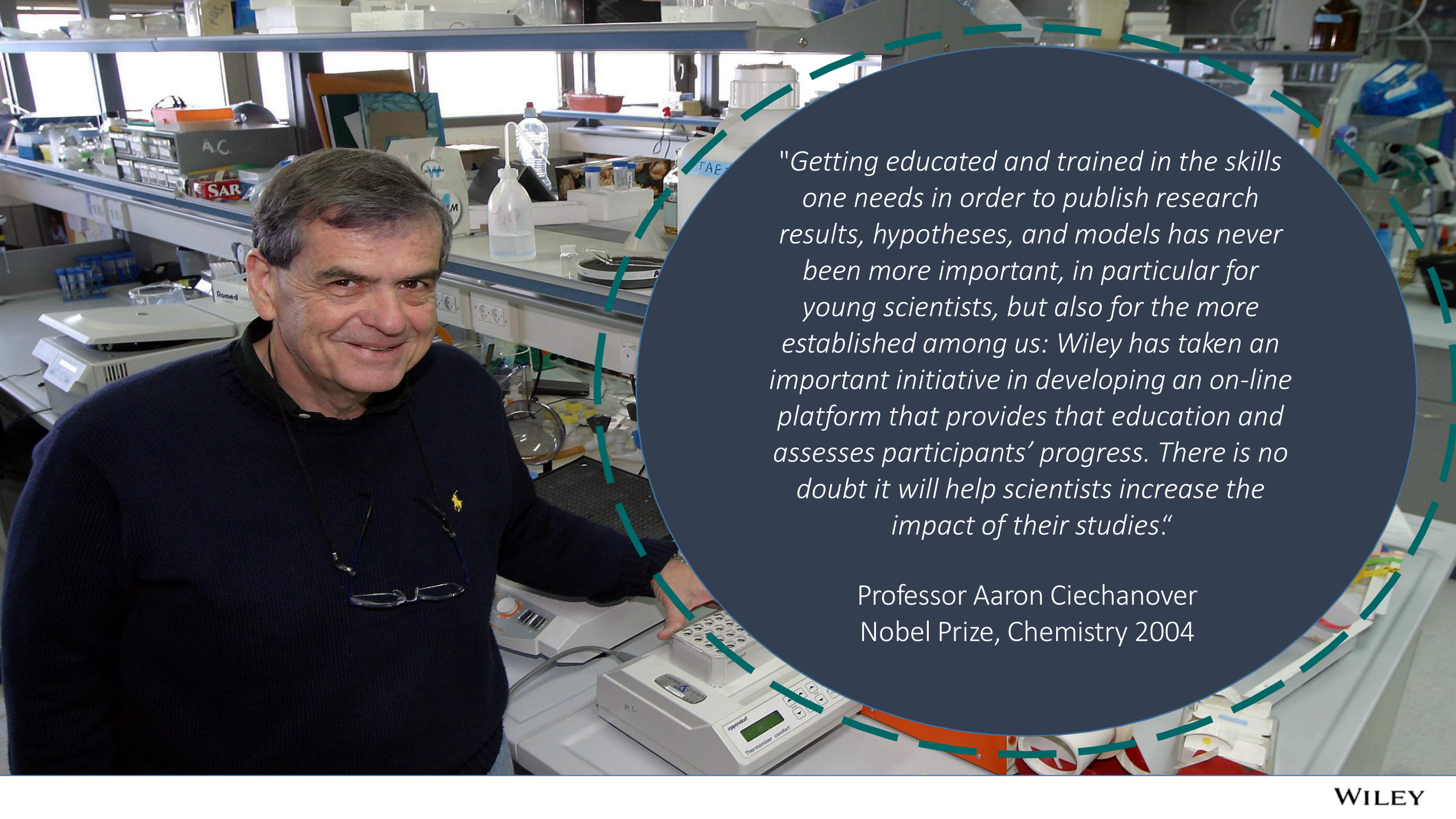
Effective measurement and reporting

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Wiley
Researcher
Academy



- Dashboards and configurable reports
- Monitor usage, completion and learning benefits by institution, level of study, subject group, etc.
- Insight into researchers' strengths and weaknesses

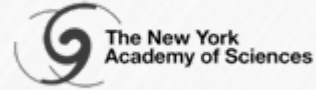


"Getting educated and trained in the skills one needs in order to publish research results, hypotheses, and models has never been more important, in particular for young scientists, but also for the more established among us: Wiley has taken an important initiative in developing an on-line platform that provides that education and assesses participants' progress. There is no doubt it will help scientists increase the impact of their studies."

Professor Aaron Ciechanover
Nobel Prize, Chemistry 2004

Wiley Digital Archives Program for FY18

The New York Academy of Sciences



The Royal Anthropological Institute of Great Britain and Ireland



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Wiley Digital Archives Program for FY18

即將推出 Wiley Digital Archives

體驗學術研究的新次元

Wiley Digital Archives 內容

自2018年起, Wiley Digital Archives將建立於一個滿足研究需求而專門設計的直觀且能全面檢索的平台上。通過視覺化、繪圖與文本分析工具將最大限度地還原資料本身。同時增強元數據、索引及機讀編目紀錄, 確保該平台能滿足您圖書館的技術要求。

可檢索的全文內容將包含以下不同格式的第一手資料:

- 書籍
- 實地考察
- 設計圖 (藍圖)
- 灰色文獻
- 地圖
- 信件
- 平面圖
- 短期資料
- 手稿
- 照片
- 小冊子
- 期刊
- 圖表
- 報告
- 資料集
- 會議紀錄
- 報紙

發展中的 Wiley Digital Archives

Wiley Digital Archive 的內容將隨著合作夥伴珍貴檔案資料的數位化進程而不斷發展。

Wiley Digital Archives的初始版本將聚焦於我們學會合作夥伴的優勢學科, 特別邀請研究人員來探索源自于紐約科學院 (New York Academy of Sciences) 與英國皇家人類學會 (Royal Anthropological Institute of Great Britain and Ireland) 的全新數位化的第一手資料內容。

www.wileydigitalarchives.com



欲了解更多關於 Wiley Digital Archives 的資訊, 請洽您的客戶經理或電: 02-23573900



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即將推出 Wiley Digital Archives

體驗學術研究的新次元

學術紀錄一直以來就像我們無法獲取的信息一樣不為人所知。一份來自知名學會的期刊論文可以告訴我們一項重大研究的科學方法、結果與結論, 但這項研究的背景故事為何? 是什麼樣的歷史脈絡驅使著研究的進行? 必須考慮的觀點為何以及其如何影響我們對於文獻的解讀?

Wiley Digital Archives 介紹

Wiley Digital Archives 是一項與全球領先學會、圖書館及檔案館持續合作的新計畫, 以數位化珍稀罕見的第一手資料方式, 闡述所發表當代研究內容背後的故事。透過將這些珍貴資料轉置為可搜尋的線上格式, 研究人員可輕鬆地使用關鍵原始資料, 進而深入了解並更加細微地解讀已發表的作品。

世界著名學會獨特的對外窗口

Wiley Digital Archives的顯著優勢在於其與許多全球領先學會間的良好合作夥伴關係。與眾不同且慎選的學會檔案資料不僅能提供其獨家研究的價值、想法、分歧點、突破點、期望度與會員間的互動, 更能塑造對於與時俱進的科學目標的追求。

透過此人文觀點來處理科學研究, 可使研究人員對於科學在廣泛研究課題中所扮演的角色擁有更為全面的理解。

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Fall 2018 Archives

- *The Royal College of Physicians (5M page images, new scanning)*
- *500 years of medical history*
 - *Collections across a range of topics, including:*
 - *History of the RCP*
 - *Regulation, Law, Policy and Control*
 - *Medieval and Early Modern Texts*
 - *Non-Western Medicine*
 - *Anatomical Studies Foundation*
 - *Vaccination*
 - *Public Health and Common Diseases*
 - *Military Medicine*
 - *Early Medical Textbooks*



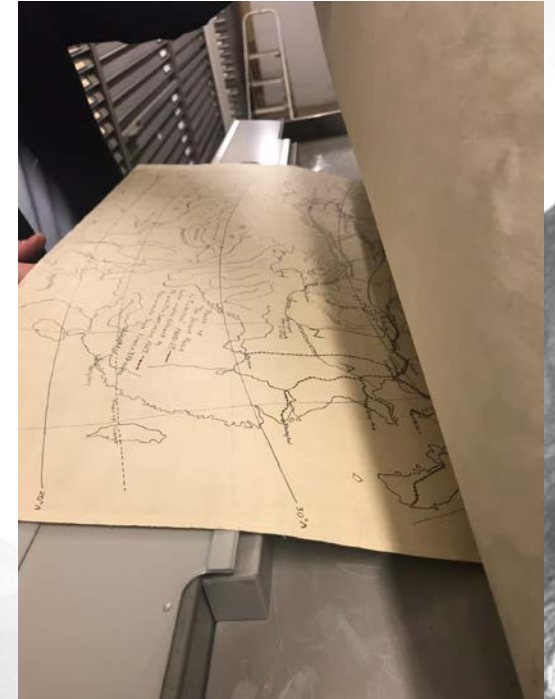
Illustration within an early Arabic medical textbook

Spring 2019 Archives

- *The Royal Geographical Society (3M page images, new scanning)*
- *500 years of geographical history and research*
 - *Collections across a range of topics, including:*

- *History of the RGS*
- *Climate Science*
- *Cartography, GIS*
- *Environmental Studies*
- *Geology, Topography*
- *Empire, imperialism, and colonial studies*

Geography (from Greek γεωγραφία, geographia, literally "earth description") is a field of science devoted to the study of the lands, the features, the inhabitants, and the phenomena of Earth. ... **Geography** has been called "the world discipline" and "the bridge between the human and the physical sciences"



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Questions
Next steps