利用EI美国工程索引（EV平台）建立高效的科研体系

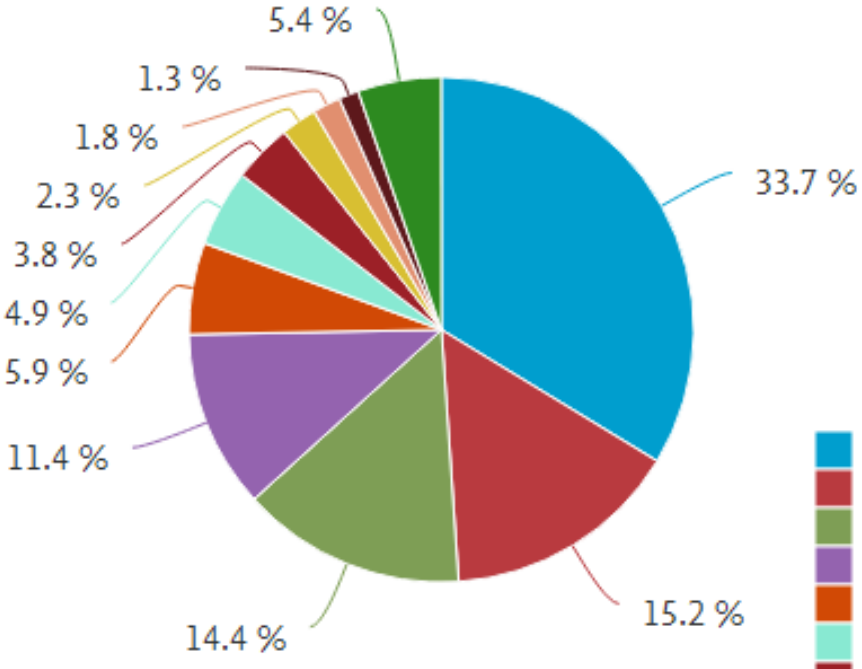
爱思唯尔高级培训师 田金龙

2019年4月29日

- 通过EV快速查找本领域的研究热点
- 如何快速追踪本研究领域的学术“大牛”
- 科研学习中与EI配合使用的软件技巧
- EI与文献管理提高科研效率
- 如何提升科研可见度及学术影响力

我们经常碰到的情况

Harbin University of Science and Technology



SciVerse Scopus

- Engineering
- Computer Science
- Materials Science
- Physics and Astronomy
- Mathematics
- Chemistry
- Energy
- Chemical Engineering
- Business, Management and Accounting
- Social Sciences
- Other

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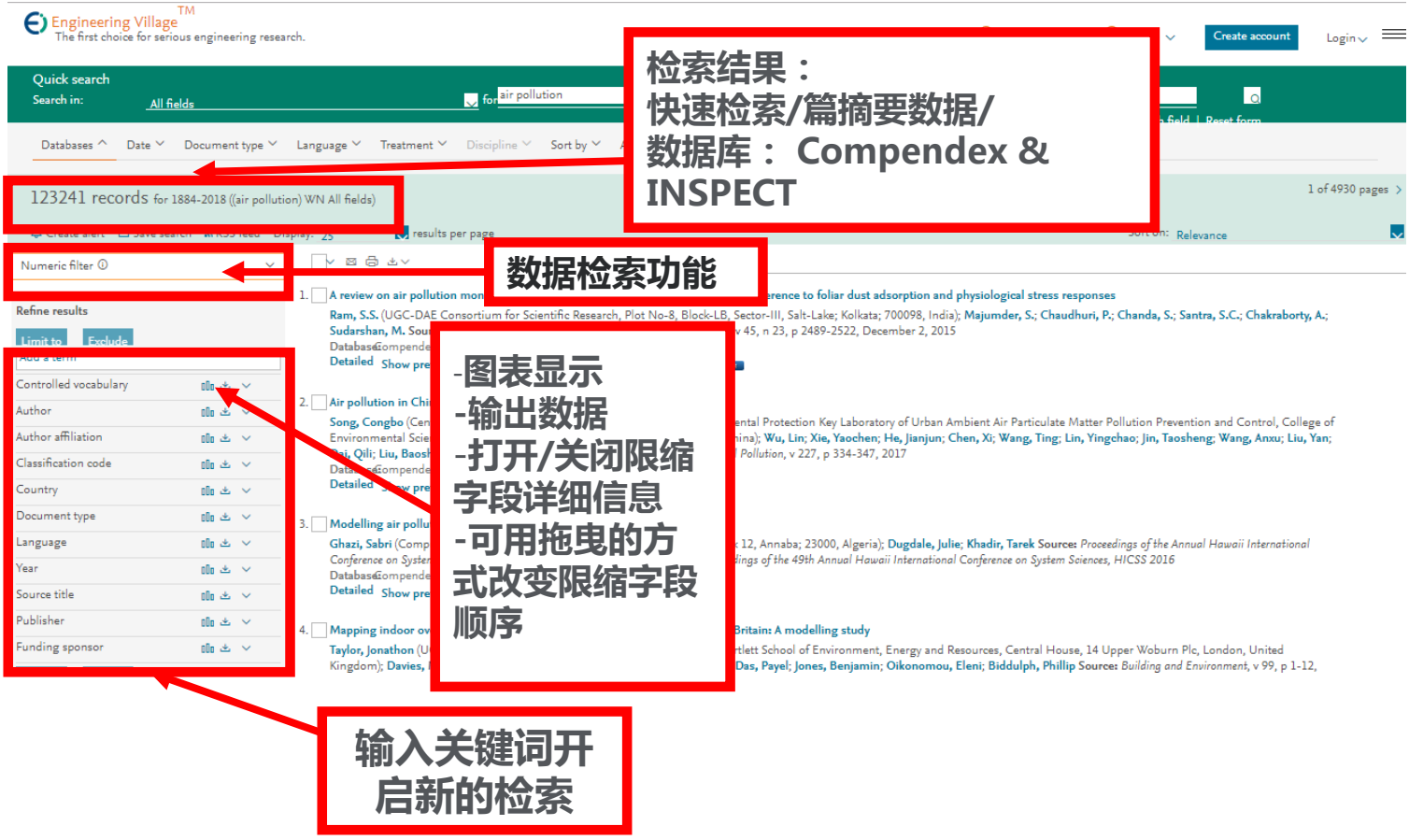
Compendex

检索方式

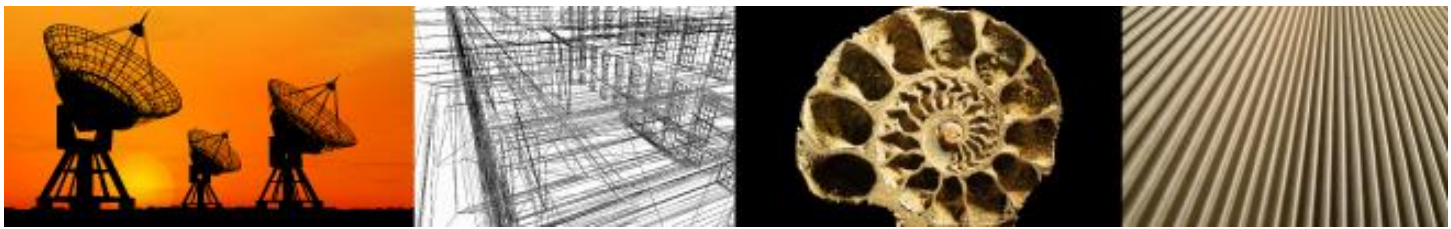
- Quick Search - 快速检索
- Expert Search - 专家检索
- Thesaurus search - 词库检索

Quick Search – 快速检索

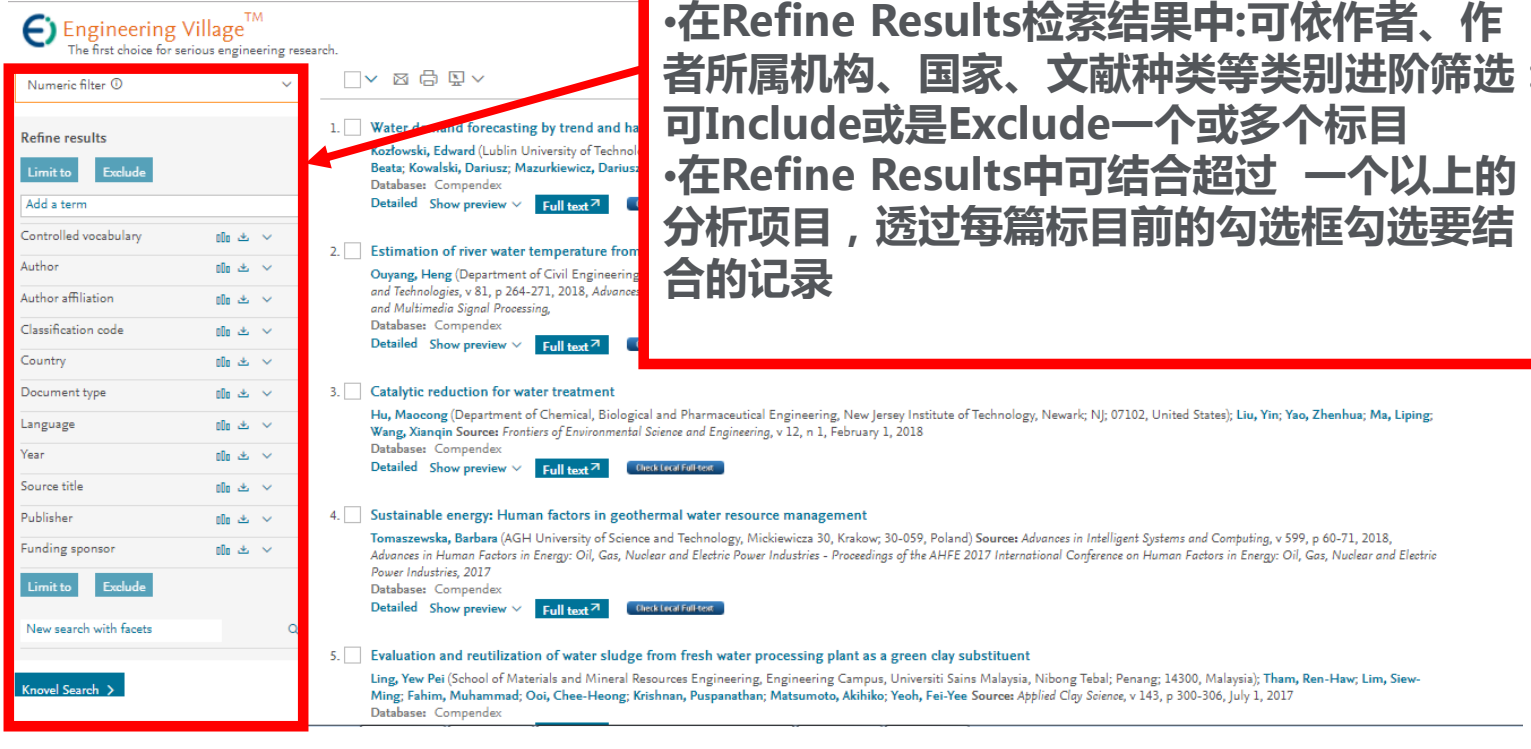
以关键词“air pollution”检索：结果页面



过滤和分析检索结果



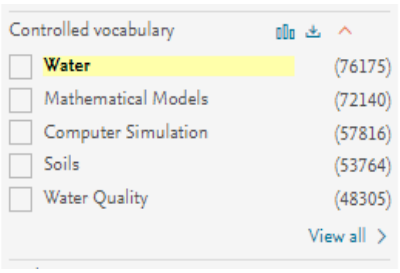
过滤检索结果



- 在Refine Results检索结果中:可依作者、作者所属机构、国家、文献种类等类别进阶筛选：可Include或是Exclude一个或多个标目
- 在Refine Results中可结合超过 一个以上的分析项目，透过每篇标目前的勾选框勾选要结合的记录

过滤选项

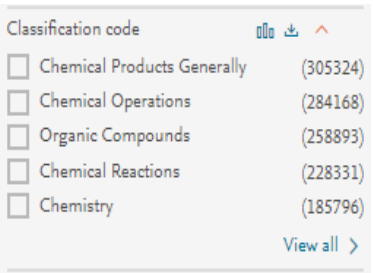
控制词汇



作者

作者机构

学科分类



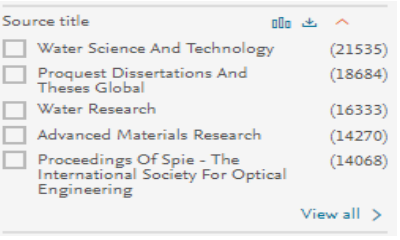
国家

文献类型

原文语言

年

刊源



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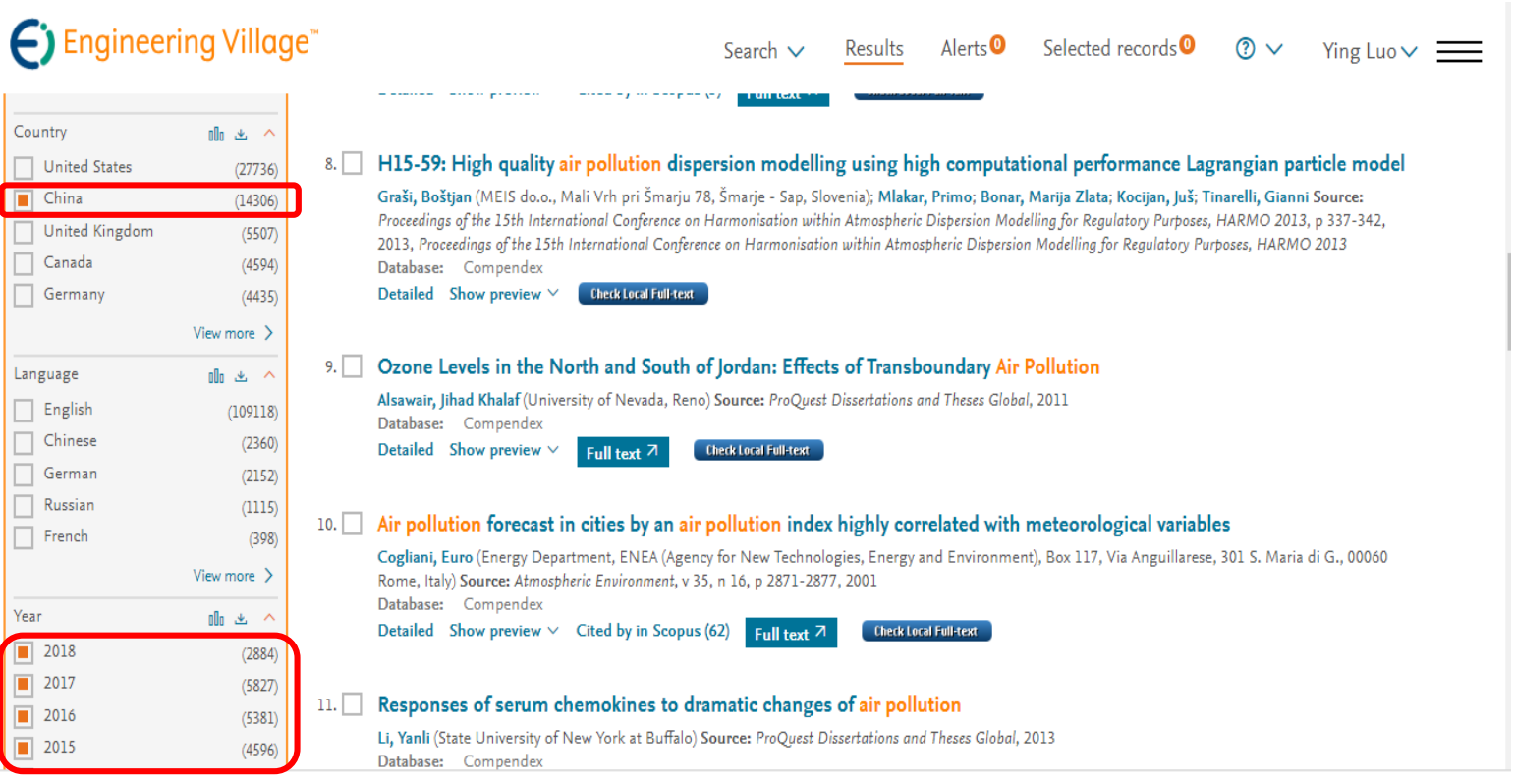
分析检索结果

- 统计图表输出的按钮会出现在每个检索结果项目的旁边
- 此功能允许使用者可以透过图表形式浏览各项目结果数据，或是下载成文字文件并可以输出到其它软件中，例如：Excel

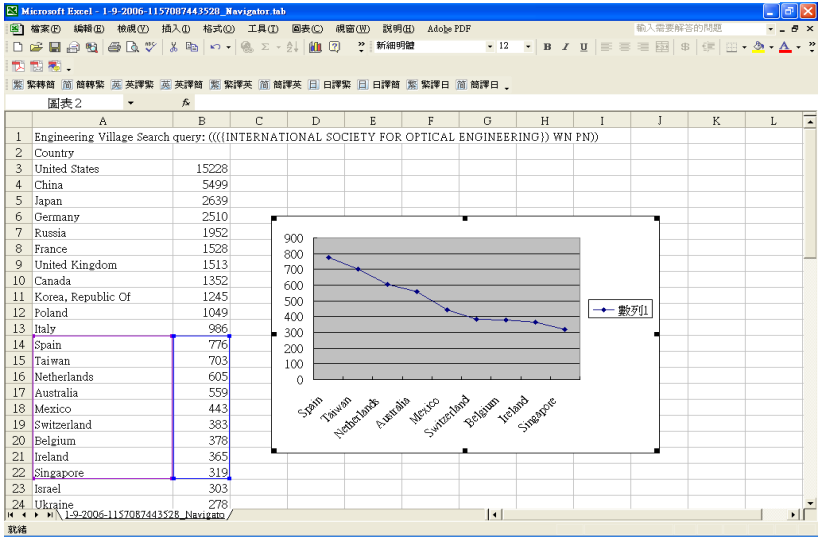
举例：只关注‘中国’近5年的‘air pollution’的研究



分析检索结果

- 点选 图标可以让您将图表输出成tab档案

- 您也可以将输出的档案以**Excel**软件开启分析管理



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Search Results 6 Alerts 0 Selected records 0 More

Quick search: All fields for petroleum

Suggested terms: Petroleum Reservoirs | Petroleum Reservoir Evaluation | Petroleum Reservoir Engineering | Oil Wells | Petroleum Engineering

Turn on AutoSuggest | + Add search field | Reset form

3. **Microbial degradation of petroleum hydrocarbons**

Varjani, Sunita J. (School of Biological Sciences and Biotechnology, Indian Institute of Advanced Research, Gandhinagar; Gujarat; 382007, India) **Source:** *Bioresource Technology*, v 223, p 277-286, January 1, 2017

Database: Compendex

Document type: Journal article (JA)

Detailed Show preview Cited by in Scopus (92) Full text

4. **Review of the immobilized microbial cell systems for bioremediation of petroleum hydrocarbons polluted environments**

Partovinia, Ali (Faculty of New Technologies Engineering, Shahid Beheshti University (SBU), Zirab Campus, Tehran, Iran); Rasekh, Behnam **Source:** *Critical Reviews in Environmental Science and Technology*, v 48, n 1, p 1-38, January 2, 2018

Database: Compendex

Document type: Journal article (JA)

Detailed Show preview Cited by in Scopus (1) Full text

< Back to results | Full text

Abstract

Microbial degradation of petroleum hydrocarbons

Compendex Refs 93

J.[1] ✉

source Technology, v 223, p 277-286, January 1, 2017; **ISSN:** 09608524, E
rtech.2016.10.037; **Publisher:** Elsevier Ltd

tion : [1] School of Biological Sciences and Biotechnology, Indian Institute
; Gujarat; 382007, India

roleum hydrocarbon pollutants are recalcitrant compounds and are class
of these pollutants from environment is a real world problem. Bioremedi
loyed in restoration of petroleum hydrocarbon polluted environments th
degradation activity. Petroleum hydrocarbons utilizing microorganisms
. They naturally biodegrade pollutants and thereby remove them from th
drocarbon pollutants from environment by applying oleophilic microorg
rtium of microorganisms) is ecofriendly and economic. Microbial biodeg
pollutants employs the enzyme catalytic activities of microorganisms to
This article provides an overview about bioremediation for petroleum hy
anation about hydrocarbon metabolism in microorganisms with a specia

PlumX Metrics

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Citations

Citation Indexes: 92

Usage

Abstract Views: 71

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Captures

Readers: 401

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“学术大牛”

Related Documents

Journals

The application of a carrier-based bioremediation strategy for marine oil spills

Sheppard, Petra J. ; Simons, Keryn L. ; ...

(2014) *Marine Pollution Bulletin*

Database: *Compendex*

A Review on Phytoremediation of Crude Oil Spills

Yavari, Sara ; Malakahmad, Amirhossei...

(2015) *Water, Air, and Soil Pollution*

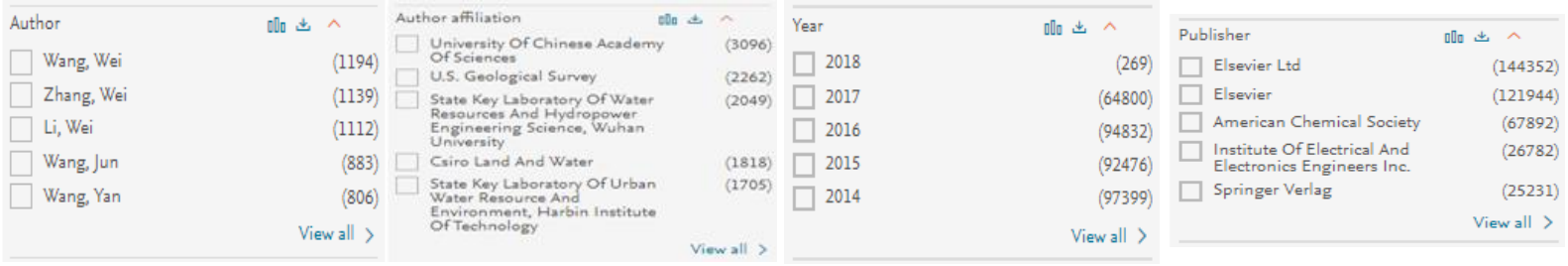
Database: *Compendex*

Merits and limitations of TiO2-based photocatalytic pretreatment of soils impacted by crude oil for expediting bioremediation

Yang, Yu ; Javed, Hassan ; Zhang, Dann...

(2017) *Frontiers of Chemical Science and*

追踪“小牛”法



1.年轻有为

2.文章质量中上：多为1-2区或高分文章

3.多在经费少、实验条件一般情况下发文章

4.文章思维型强，有故事感，多交叉

重复查找很 辛苦

Search history

6 searches

Combine searches: e.g. (#1 AND #2) NOT #3

View

Combine searches	Search query	Actions
#6	422073 results in (Compendex) for: ((petroleum) WN All fields) Details	
#5	385 results in (Compendex) for: (({Li, Jianrong}) WN AU) Details	
#4	1269 results in (Compendex) for: ((blueberry) WN All fields) Details	
#3	124 results in (Compendex) for: ((((Blueberry) WN ALL)) AND ((2018) WN YR)) Details	
#2	1269 results in (Compendex) for: ((Blueberry) WN All fields)	

Search | Results 6 | Alerts 1 | Selected records 0 | More

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通配符

- **<u>*右截词-命中检索词起始部分相同的记录</u>**
- **<u>Learn* 命中learn, learns, learning, learned, learnt, learner(s), learner’s, learnability, learnable</u>**

- ？有限截词-问号个数代表字符数
- 如**distance?** 可检出复数; **Wom?n** 命中**woman, women**

- **$**词根运算符等价于Auto stemming功能
- **$ manage** 命中 **manage, managing, managed, manager,**
- **managers，management, managements。**

此页引自清华大学图书馆花芳《文摘库**Ei**在文献调研中的应用》

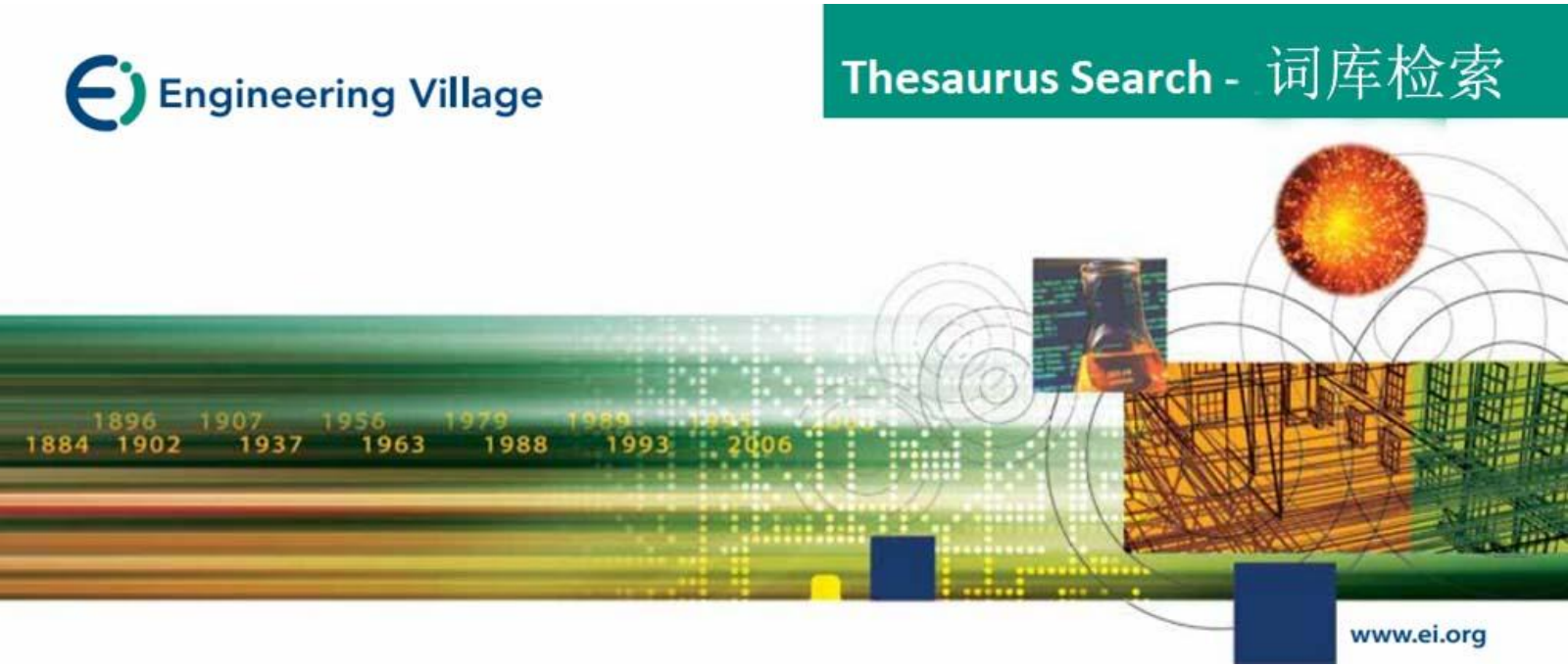
位置算符

- 词组检索 “ ” 或{ }- 词间不能插词，词序不能颠倒
- “International Space Station”命中包含有词组 “International Space Station”的记录
- 词组检索不能使用通配符与字根符

- **Onear/n-** 两个词之间可插入**0 - n**个词，词序不能颠倒,如
- **Distance Onear/3 learning**

- **Near/n-** 两个词之间可插入**0 - n**个词，词序可以颠倒，如
- **Distance near/3 learning**

此页引自清华大学图书馆花芳《文摘库Ei在文献调研中的应用》



Thesaurus Search – 叙词检索

叙词表的作用

- **叙词表是由专业的规范词组成，它可以将同一主题不同表述的词，按主题内容规范在标准的专业词下，避免了由于词汇书写不同造成漏检，或词义概念混淆导致错检的问题。**

- **控制词汇**
  - 不使用其他的术语
- **每年更新**
  - 词汇工作组和索引工作人员决定变化
  - 叙词表新版本
- **具体范围标记**
  - 受控词的信息

- **分面层次**
  - 分面: 按类别分组
  - 层次: 上位类/下位类
- **自动显示的款目**
  - 有信心检索专属性的任一层次
- **相互参照**
  - 引导用户使用有效款目

Example
An engineer wants to evaluate peer-reviewed literature on rechargeable batteries.
They need to survey all recent publications and don't want to miss anything.
术语表达
材料种类
不同机理
电池类型

提高主题检索效率的方法 （准且全）

- 从文中选词检索易漏检或误检
  - 一个概念有多种表示—**导致漏检** (检索时需要收集同义词，费时麻烦且易漏检)
  - 一个词可以表示多个概念—**导致误检** (cell 细胞、电池 Cell wn ti, 检出的文献中有solar cell, tumor cells等)

- **EI**的解决方案：对文献进行主题标引
  - 做到**标引词与概念一一对应**，
  - 标引词来源于词表，故EI的标引词也称为受控词

此页引自清华大学图书馆花芳《文摘库**Ei**在文献调研中的应用》

工程师只需通过Ei叙词表中的“Secondary batteries”在Engineering Village上检索所需结果
YES
Engineering Village
The first choice for serious engineering research.
Search
Quick search
Search in:
All Fields
for
recha
Rechargeable batteries
Recommended terms: Secondary batteries
Recharging (underground waters)
AutoSuggest Powered by Ei Thesaurus
Databases
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Language
Document type
Sort by
All
Compendex
Inspec
NTIS
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  - 储存检索策略 (125个)
  - 建立E-mail Alert (25篇)
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    - 3个资料夹
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Compendex

其他功能

- 数值检索

数值检索-来自数值数据的更多信息

Comparison of geotechnical properties from large-diameter long cores and borings in deep water Gulf of Mexico

Abstract: Large-diameter long piston cores (Jumbo Piston Corer, JPC) and Large-diameter Gravity Cores (LGC) were taken immediately adjacent to previously drilled geotechnical borings at three floating platform sites: Auger, Jolliet, and Marlin. This task was included as part of a more comprehensive NSF program on seabed processes in the deep water Gulf of Mexico. Sediment properties measured included bulk density, magnetic susceptibility, compression wave velocity, vane shear strength, and unconsolidated-undrained triaxial strength. A comprehensive geotechnical-testing program confirms the samples are high quality and shear strengths within the 63-ft core depth were comparable to the results of tests on the geotechnical borings. The exception occurred when gassy deposits were encountered. The use of the LGC and Multi-Sensor Core Logger (MSCL) in conjunction with the JPC proved to be valuable in assessing the quality and continuity of the piston cores. At the Auger and Marlin sites, there was good agreement between the sediment properties obtained from the borings and cores over the cored depth of 63 ft. At the Jolliet site, the values of strength obtained from the core in the upper 10 to 20-ft. were considerably higher than those obtained from the nearby boring. With modifications, the long coring system can be extended to take 100-ft samples. The use of large-diameter piston and gravity cores can provide an economical alternative to traditional borings for the design of shallow foundations for subsea completions, pipelines, suction caissons, and identification of geohazards.

Controlled terms: Core drilling - Density (specific gravity) - Geotechnical engineering - Hazards - Magnetic susceptibility - Mooring - Offshore pipelines - Petroleum geology - Production platforms - Sediments - Shear strength

Uncontrolled terms: Compression wave velocity - Geotechnical properties - Large diameter long piston cores - Sensor core logger

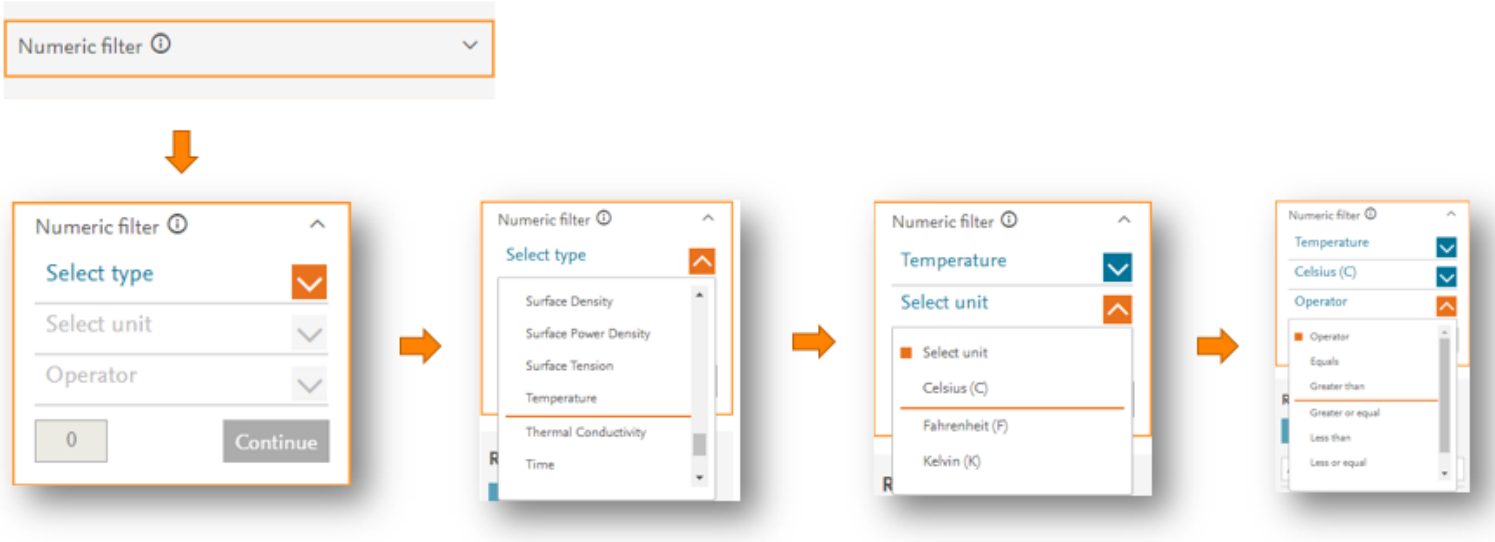
Classification code: 481.1Geology - 483.2Foundations - 511.1Oil Field Production Operations - 674.2Marine Drilling Rigs and Platforms - 701.2Magnetism: Basic Concepts and Phenomena - 931.2Physical Properties of Gases, Liquids and Solids

Numerical data indexing Size 1.92e+01m, Size 3.05e+00m to 6.10e+00m, Size 3.05e+01m

//CODiE//
2018 SIIA CODiE WINNER

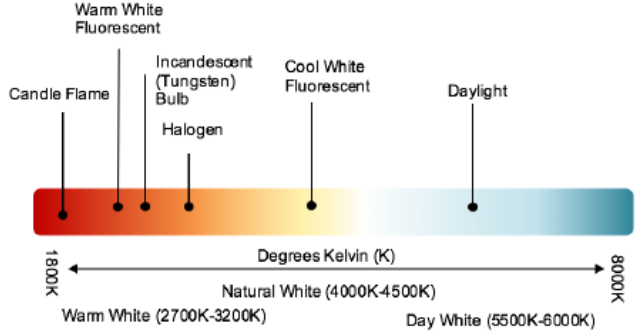
数值检索

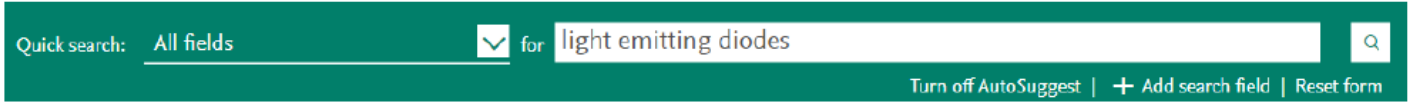
Engineering Village是唯一支持Compendex和Inspec数值搜索的平台。数值数据通常描述工程文献中最重要的方面。 通过数字数据索引，研究人员可以访问可能未通过纯文本搜索发现的文档。
-为Compendex索引的62种不同的物理和化学性质。
-在Compendex和Inspec数据库中可用于交叉搜索的记录超过650万条。
-460,000种不同的数字数据写入方式 - 匹配，转换和标准化。

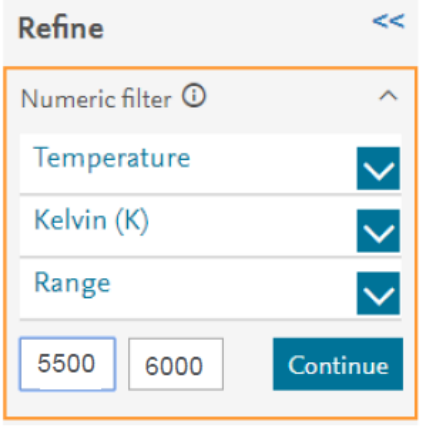


实例：LED灯泡的研发

工程师参与一个LED灯泡的研发项目。该工程师需要开发日照白的LED灯泡，由于色彩取决于灯泡的温度，因此该工程师在EV上进行了基于温度的搜索。







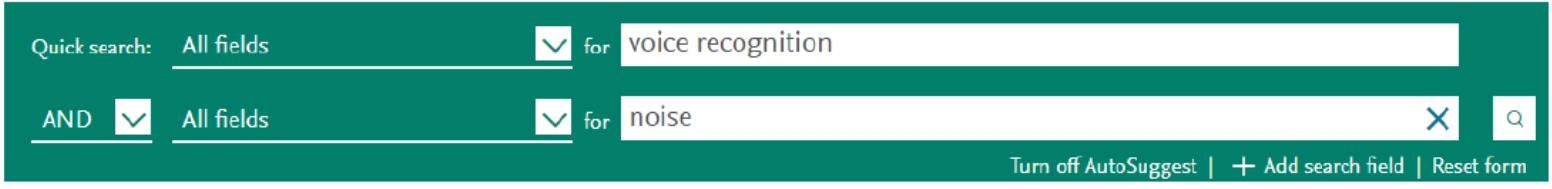
Title: White light-emitting diodes based on ultrasmall CdSe nanocrystal electroluminescence

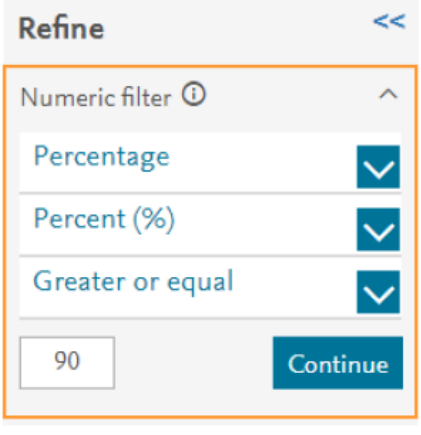
Abstract: … hese LEDs have excellent color characteristics, defined by their pure white CIE color coordinates (0.333. 0.333). correlated color temperatures of **5461-6007 K**. and color rendering Indexes as high as 96.6. …

Numerical data indexing: temperature 5.46e+03K to 6.01e+03K

实例：声音识别精度的研究

工程师在研究一个声音识别的研究，为了达到实用级别需要在一定噪音环境下也能够精确识别。为了了解相关文献，该工程师进行了以下搜索：



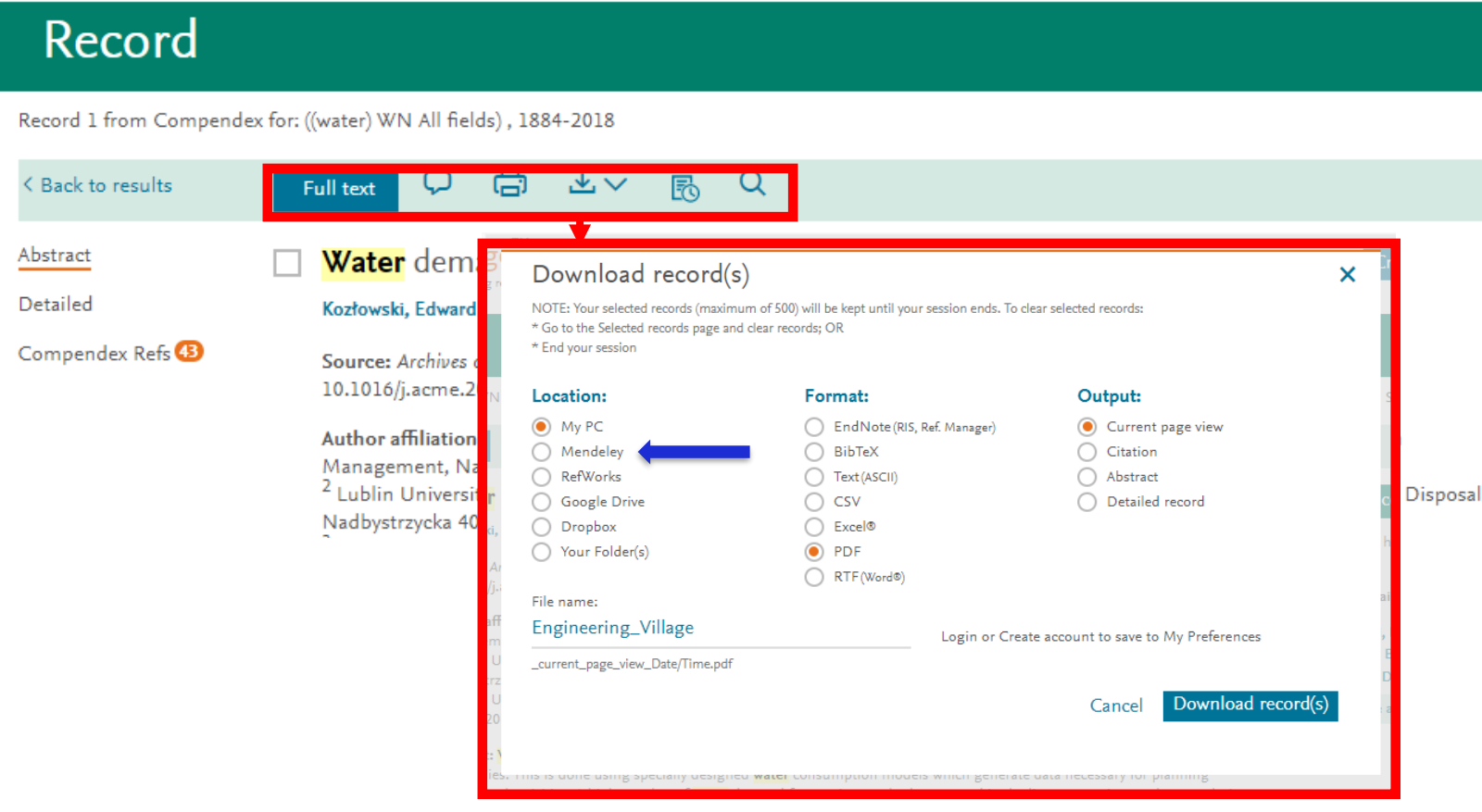


Title: Voice operated home automation system based on Kinect sensor

Abstract: … It is **more than 95%** when the distance between user and Kinect sensor is 4 m and when there is about **53 dB noise**...

Numerical data indexing: Decibel 5.30e+01dB, Percentage 9.50e+01%, Size 4.00e+00m

保存需要的文章


Record
Record 1 from Compendex for: ((water) WN All fields) , 1884-2018
Back to results
Full text
Abstract
Detailed
Compendex Refs 43
Water dem
Kozłowski, Edward
Source: Archives
10.1016/j.acme.2
Author affiliation
Management, Na
2 Lublin Universi
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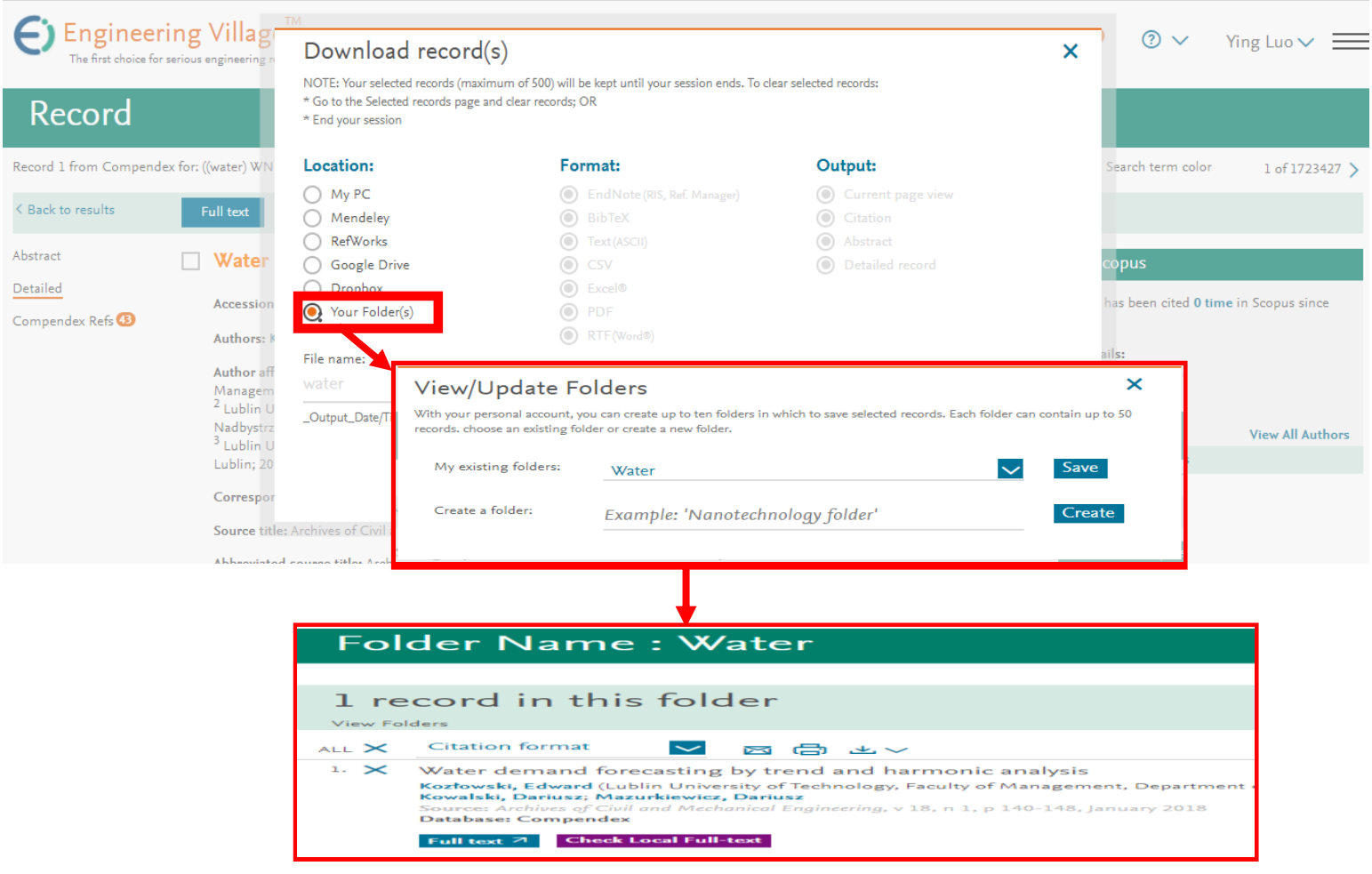

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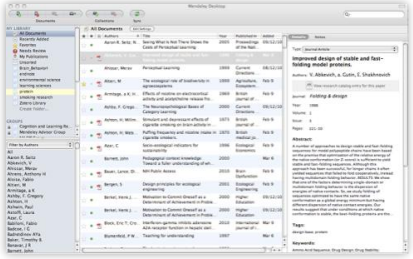

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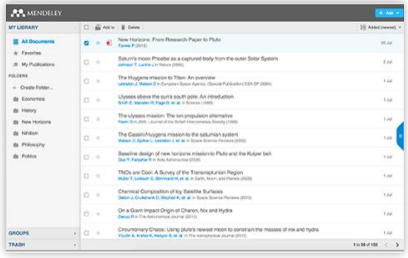

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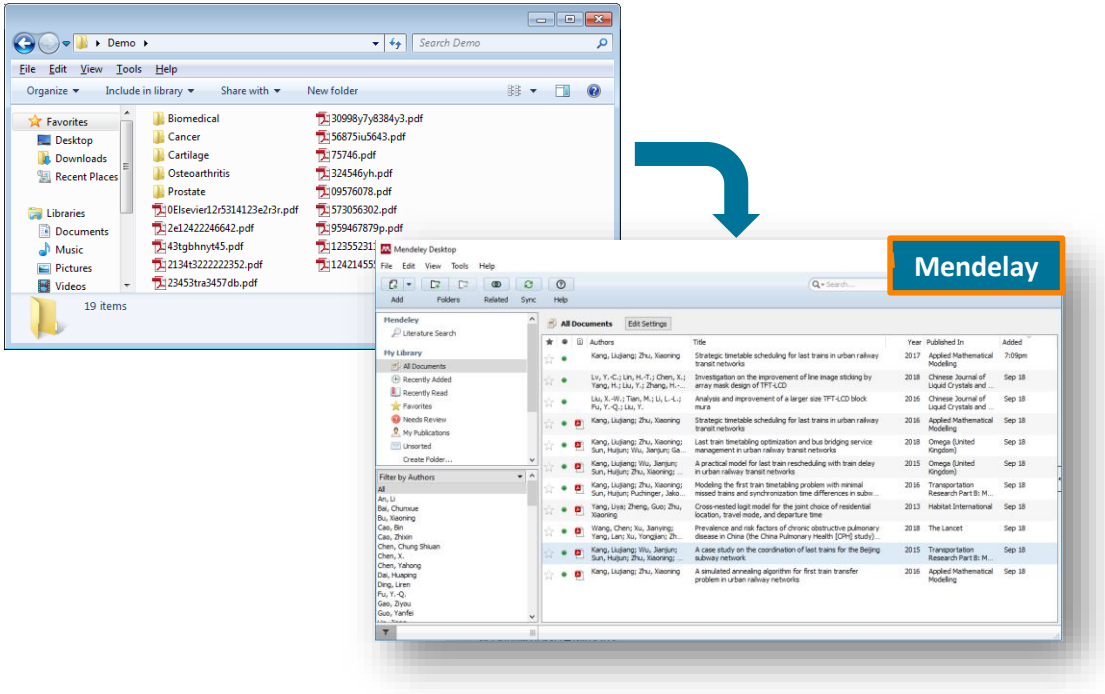

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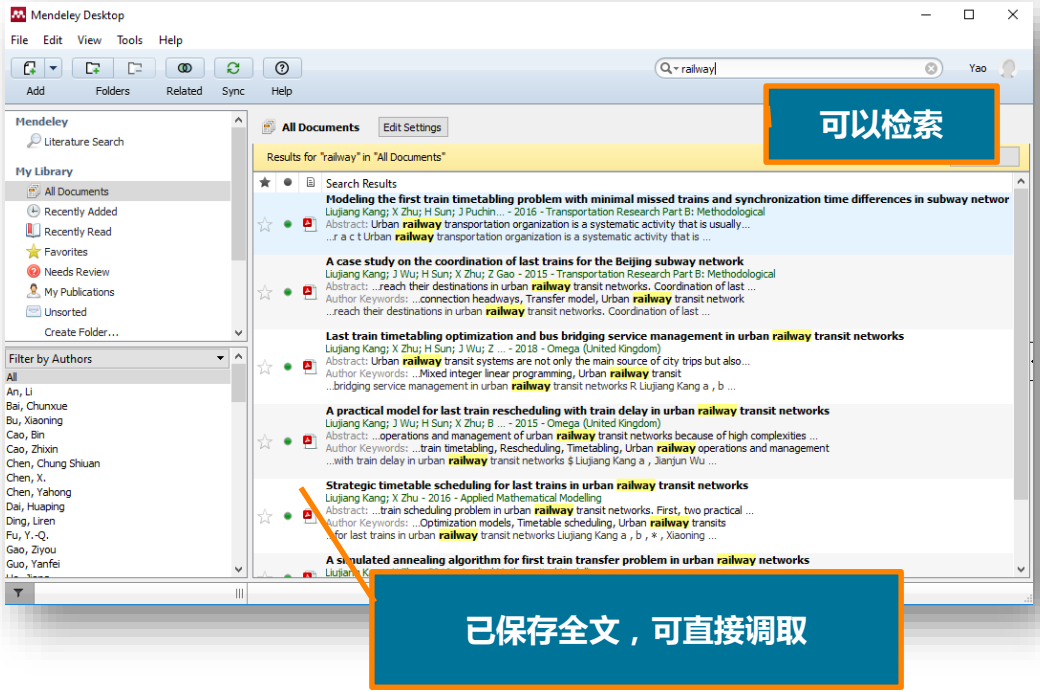

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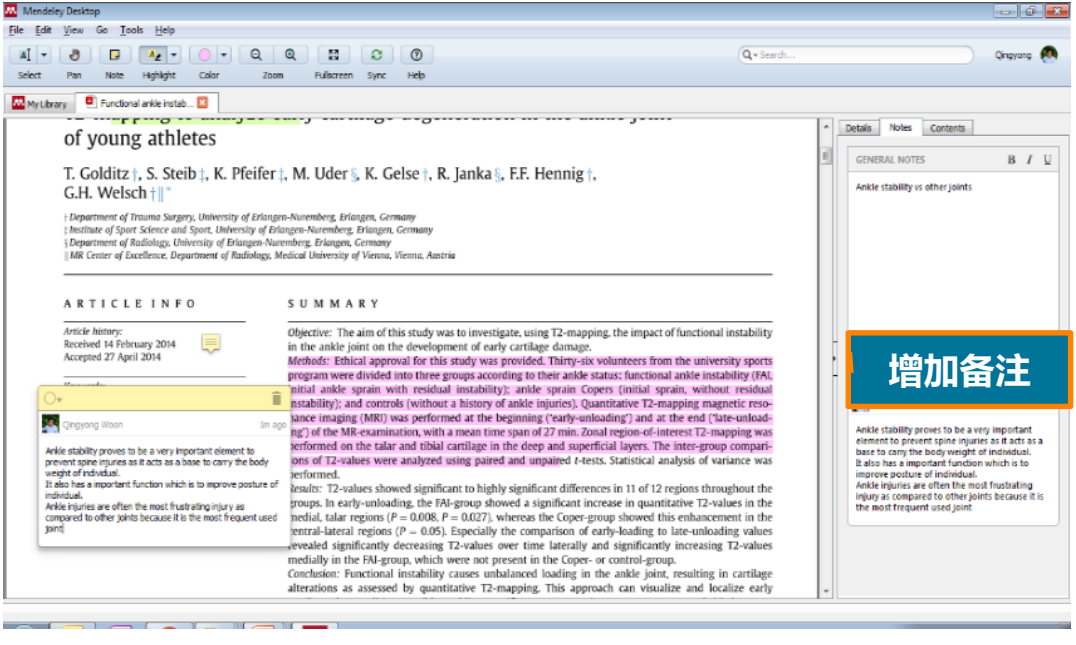

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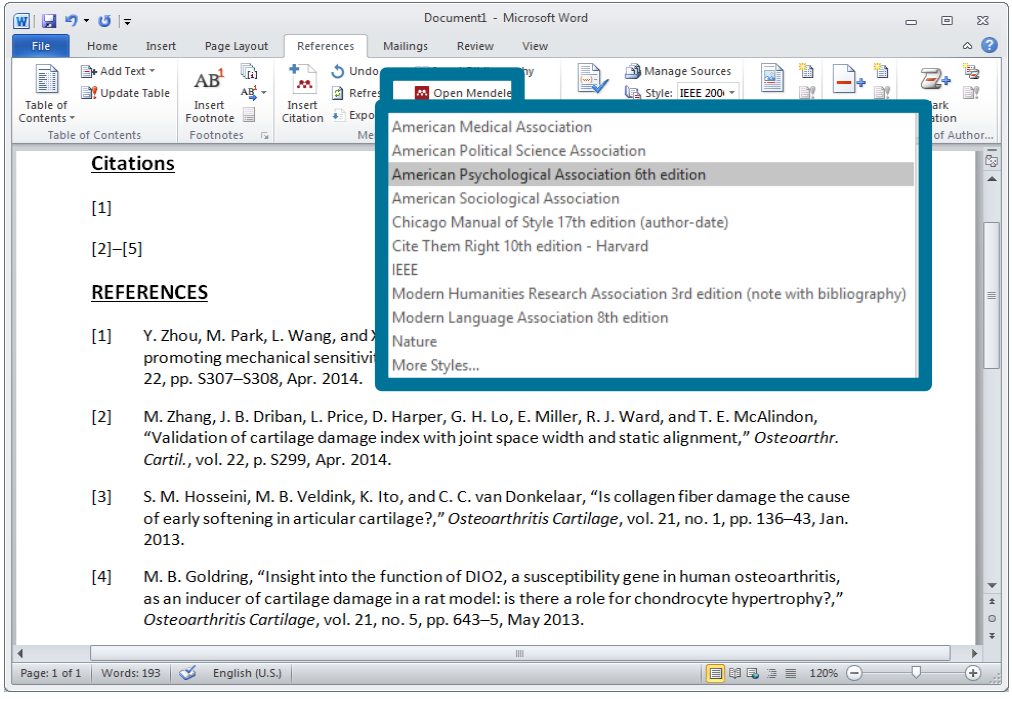

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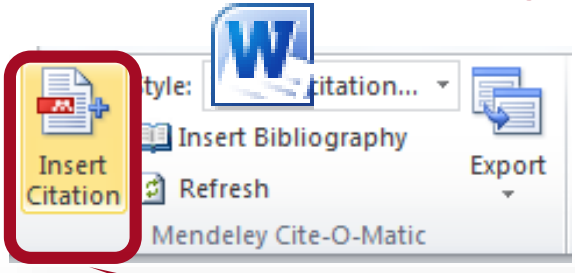

(1) Zhang, X.; Zhou, L.; Wu, Y.; Skitmore, M.; Deng, Z. *Habitat Int.* **2015**, *46*, 91–100.

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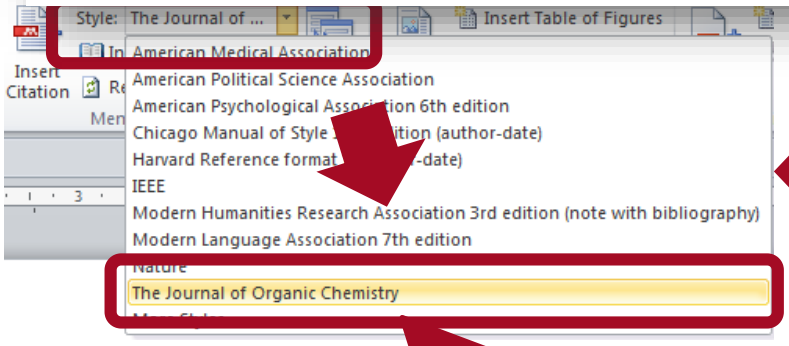

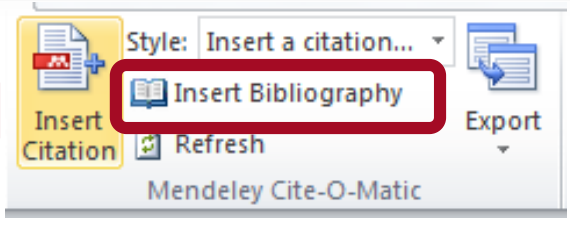

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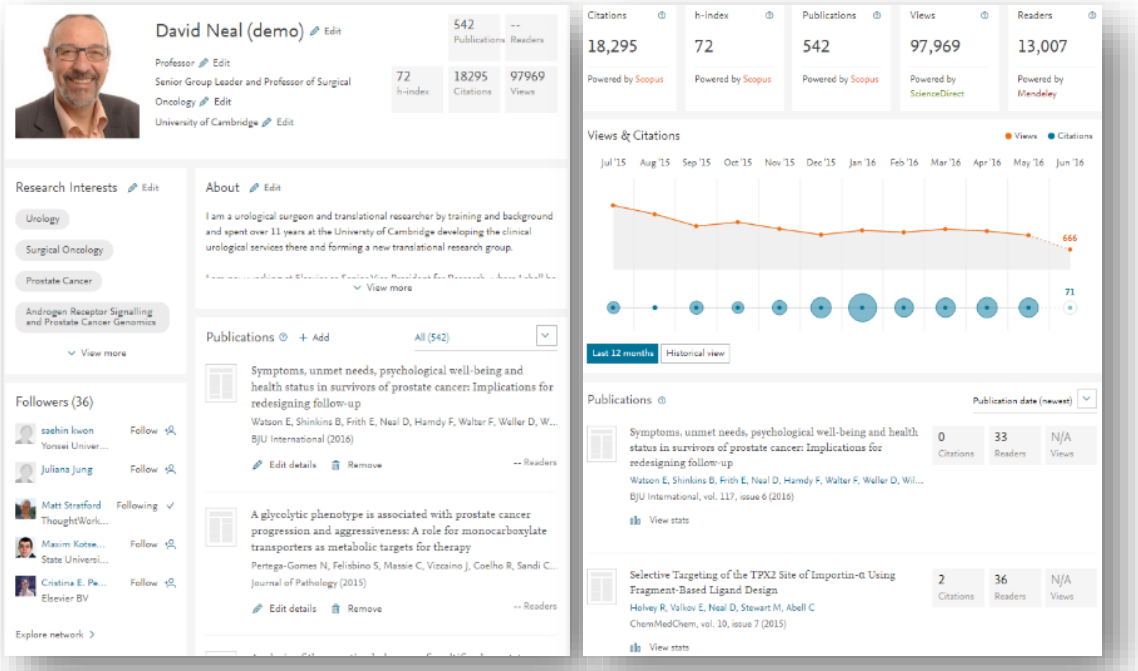

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2.专家思维：控制词汇 – Thesaurus 词库

3.使用者思维：自然语汇 – Tag 标签

4.专业的专家检索模式：可自行输入检索语法

相关网站资源

如何判断一种刊物是否EI收录的期刊

1. EI收录期刊：
   官网搜索 EI刊源列表
2. 检索刊名，看当年是否有检索结果

3. CNKI—中国期刊全文数据库—期刊导航—数据库源刊导航——EI工程索引

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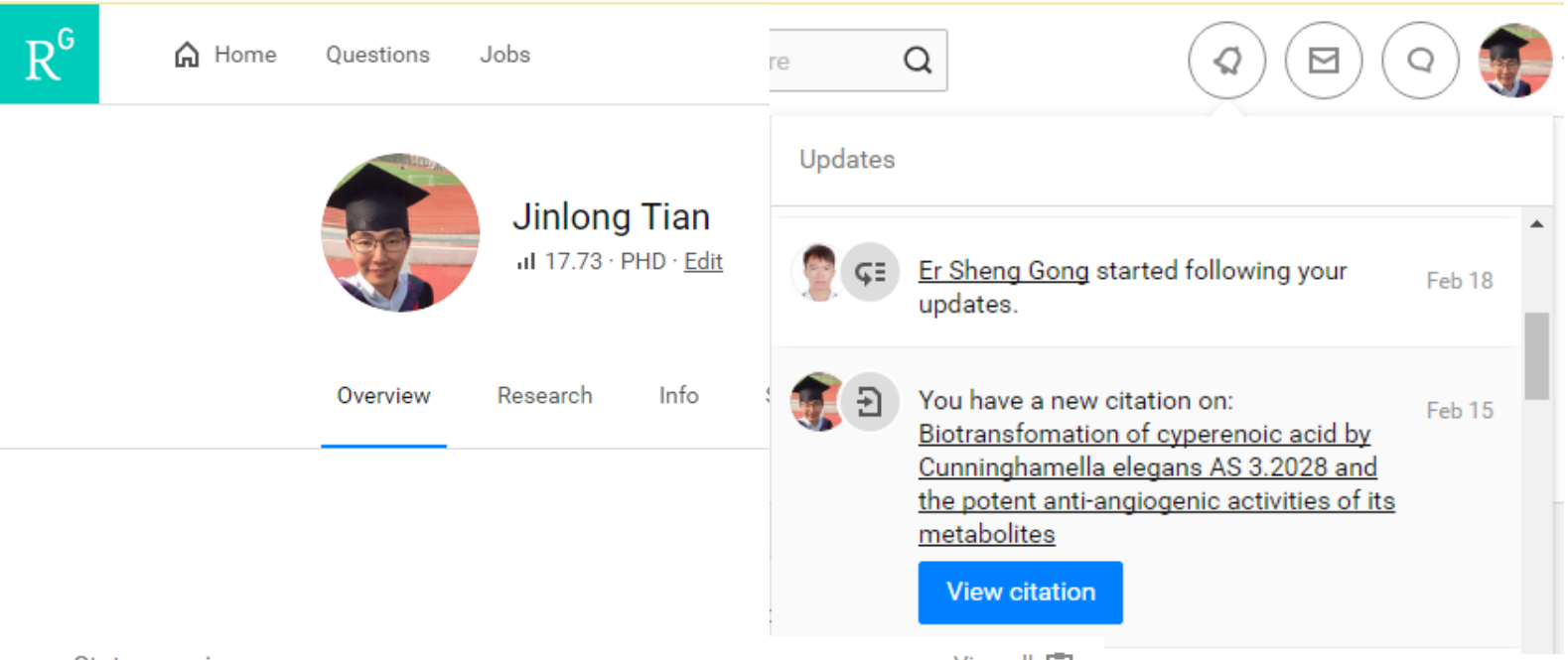
Questions & Answers

- sweet_vs_sweet@163.com
  - (田金龙)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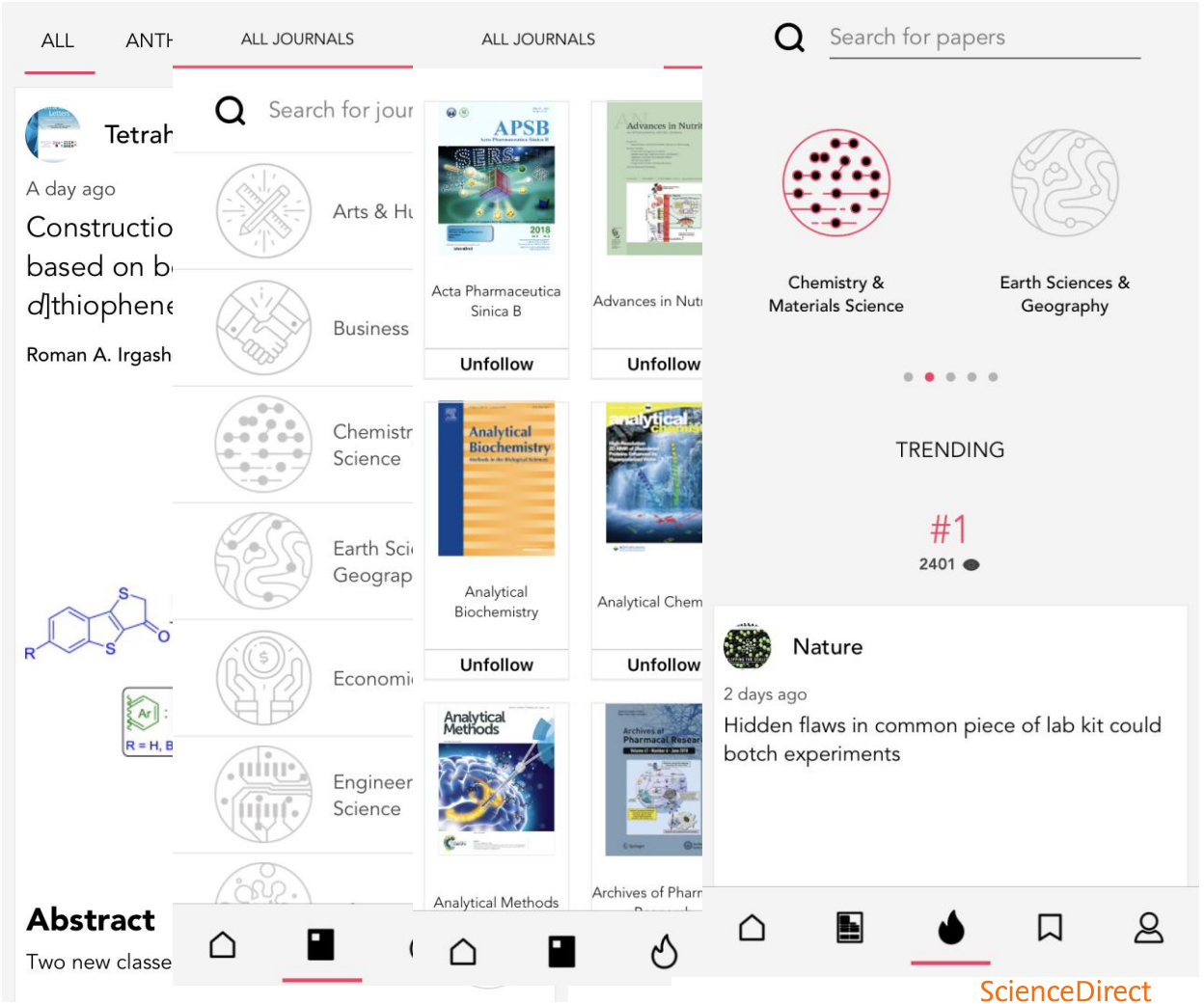
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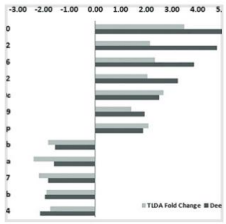

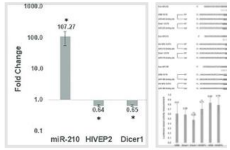

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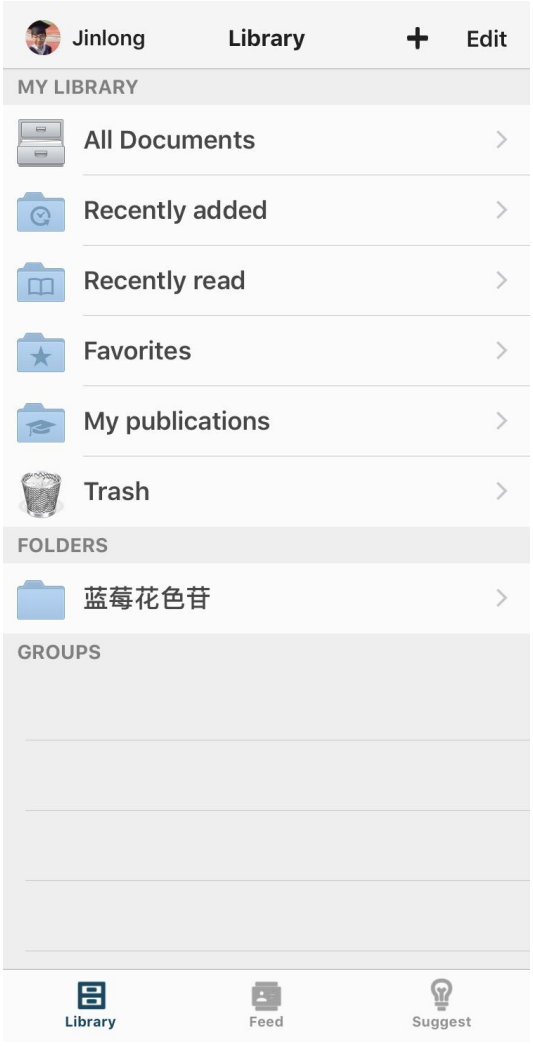
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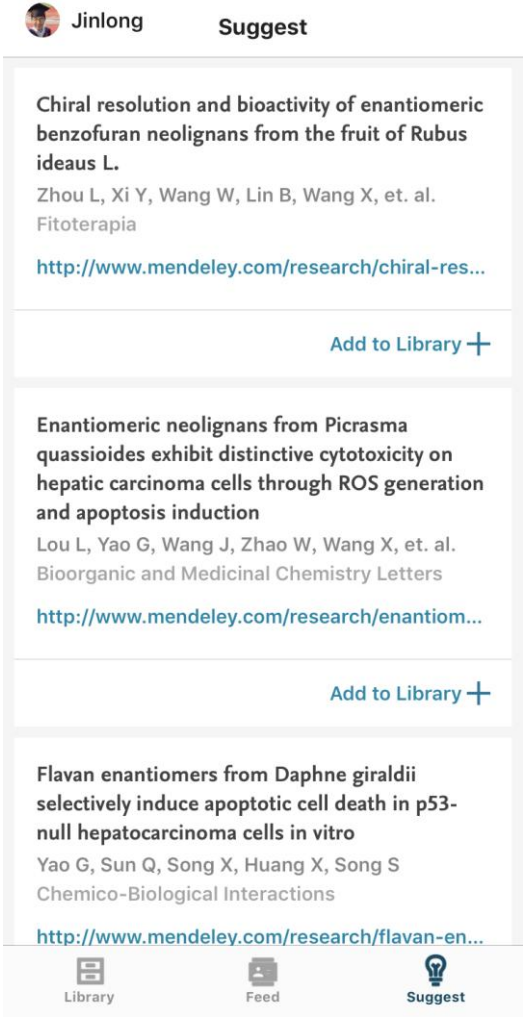
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