



Oct. 25, 2023, 12:00 pm ET

RESEARCH SECURITY EXECUTIVE BRIEFING: THE POWER OF DATA INTEGRATION



Caroline Whitacre, Former Senior Vice President for Research, The Ohio State University;
Senior Advisor, Academic Analytics

—
Lisa Dougherty, Chief Operating Officer, Academic Analytics

Matt Moericke, Chief Information Officer, Academic Analytics

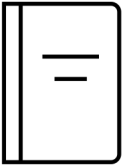
Matthew Cooper, Strategic Engagement Manager, Academic Analytics

Jonathan Fink, Business Development Manager, Academic Analytics

Follow up contact: Matthew Cooper — mcooper@academicanalytics.com

What is Academic Analytics?

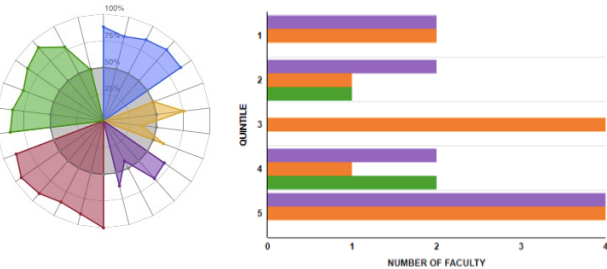
2005 – 2009



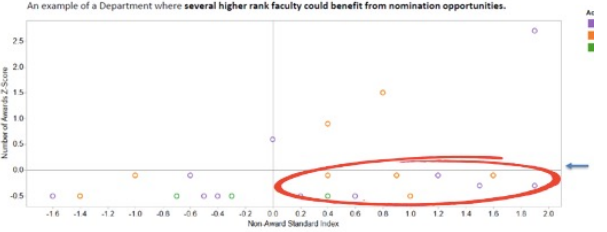
First annually updated inter-institutional comparisons of scholarly activity

2010 – 2015

Unit-level peer analyses and trends by academic rank



Tools for faculty equity and recognition



2016 – 2022

International collaborations and international funding



Collaborative networks and expertise search



Global alumni location and employment

2023



Research security



Overview

Lisa Dougherty, Chief Operating Officer, Academic Analytics

Proactive Research Security



Our Goal:

Empower your team to become more **proactive** in identifying foreign influence

Create efficiencies for your research security team
Increase the **impact** of your outreach, education, and compliance efforts



The Current Landscape

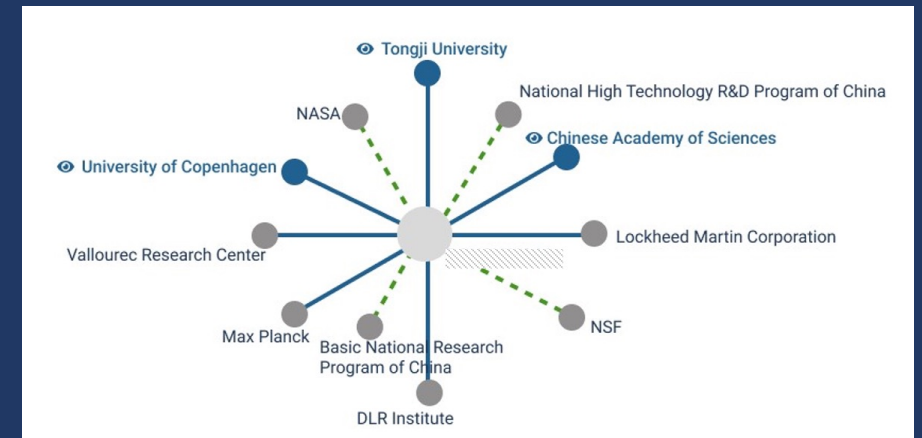
Caroline Whitacre, Former Senior Vice President for Research, The Ohio State University; Senior Advisor, Academic Analytics

Identifying the focused group of faculty who need most support — How to find those who are most vulnerable?

Being proactive is more important than ever, especially in the dynamic landscape

Must have a data-based starting point to engage faculty

Working with trusted partners



Research Security: Challenges & Pain Points

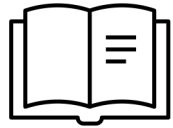
Jonathan Fink, Business Development Manager, Academic Analytics

- Open Environment
- Internal Institutional Threats
- Foreign Influence
- Cybersecurity
- Educate Faculty, Students, & Staff
- Proactivity versus Reactivity
- Time Constraints & Limited Data
- Lack of Data Unification
- Honorific Awards & Patents
- Limited Resources

easier to obtain/verify ←

Scholar Information

→ *difficult to obtain/verify*



Publications

Journal articles
Conference proceedings
Books
Book chapters



Unique expertise

Semantic analysis
Topic modeling



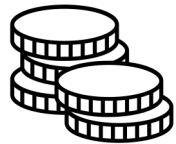
Prestige

Honorifics
Awards and prizes
US and international



Career progression

History and trajectory
Relative to peers
Where were they trained?



Funding

US federal grant funding
PIs and Co-PIs
Foreign funding



Former students

Current employment of
doctoral trainees and post-docs

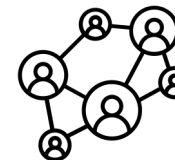


Clinical trials



Technology

International Patents
Co-inventors



Connections

International collaborators
Current and historic

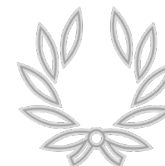
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Scholar Information

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Unique expertise
Semantic analysis
Topic modeling



Prestige
Honorifics
Awards and prizes
US and international



Publications
Journal articles
Conference proceedings
Books
Book chapters



Career progression
History and trajectory
Relative to peers
Where were they trained?

Unified data streamlines search efforts and enables proactive analysis



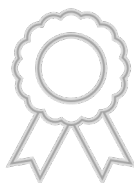
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US federal grant funding
PIs and Co-PIs
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Current employment of
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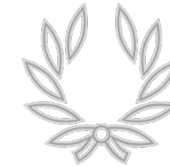
Scholar Information

→ *difficult to obtain/verify*

Foreign military research
priority areas?



Unique expertise
Semantic analysis
Topic modeling



Prestige Honorifics
Awards and prizes
US and international

Foreign "gateway" awards

Highest value
targets



Publications
Journal articles
Conference proceedings
Books
Book chapters

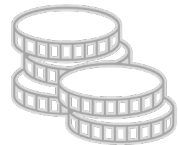
Author affiliations

Unified data **streamlines**
search efforts and enables
proactive analysis
with **additional critical**
intelligence



Career progression
History and trajectory
Relative to peers
Where were they trained?

China Defense University Tracker



Funding
US federal grant funding
PIs and Co-PIs
Foreign funding



Former students
Current employment of
doctoral trainees and post-docs

Dept. of Defense,
Commerce,
Treasury, State
lists



Clinical trials



Technology
International Patents
Co-inventors



Connections
International collaborators
Current and historic

Known watch lists

Tools Overview - Scholars Tool

The Scholars Tool offers search functionality with various filters. It provides a listing of persons with multiple metrics and allows drill-down analysis.

The screenshot shows the Scholars Tool interface. At the top, there are navigation tabs: Benchmarking, Clinical Research, Research Insight (selected), Analysis on Demand, Alumni Insight, Data Center, and Help. Below this, there are sub-tabs: Overview, Scholars, Funding, Honoric Awards, and International Connections. The main content area is divided into sections: Scholars, Entities, Watchlist, Analysis, and Restricted Parties. On the left, there is an 'Advanced Search filter' panel with various filters: 'Limit to Favorites' (Yes/No), 'Disciplines' (All), 'Country' (All), 'Work Years' (Any to Any), and 'Degree Years' (Any to Any). A 'Reset' button is at the bottom of the filter panel. The main grid displays search results for 'ABATE, IWNETIM' in 'Materials Science and Engineering'. Each row includes a name, a histogram for 'Total International connections', a bar chart for 'Scholar Quintile', and columns for 'Collabs on my Watchlist', 'Funding on my Watchlist', 'International Awards', and 'Patents'. Action icons like 'Snapshot', 'Download', and 'Entities per page' are also visible.

Name	Total International connections	Scholar Quintile	Collabs on my Watchlist	Funding on my Watchlist	International Awards	Patents
ABADIE, ALBERTO Economics Ph.D, Institution Name - 1997	[Histogram]	[Bar Chart]	12	15	3	2
ABATE, IWNETIM Materials Science and Engineering Ph.D, Institution Name - 2004	[Histogram]	[Bar Chart]	28	15	5	0
ABATE, IWNETIM History Ph.D, Institution Name - 2006	[Histogram]	[Bar Chart]	22	15	6	1
ABATE, IWNETIM Materials Science and Engineering Ph.D, Institution Name - 1984	[Histogram]	[Bar Chart]	7	15	2	0
ABATE, IWNETIM Materials Science and Engineering Ph.D, Institution Name - 1992	[Histogram]	[Bar Chart]	15	15	0	0
ABATE, IWNETIM Materials Science and Engineering Ph.D, Institution Name - 1977	[Histogram]	[Bar Chart]	19	19	14	0
ABATE, IWNETIM Materials Science and Engineering Ph.D, Institution Name - 2012	[Histogram]	[Bar Chart]	10	10	0	3
ABATE, IWNETIM	[Histogram]	[Bar Chart]	30	10	0	1

SEARCH TOOL

Menu

- Saved Searches
- Saved Favorites

Keyword Search

- Search by Topic
- Search by Person Name

Search Filters

Limit To Favorites

Favorites can be selected in the search results grid.

Disciplines

Will only return persons from the selected discipline(s).

Country

Will only return persons with connections to the specified country(s).

Work Years

Will only consider activity records within the specified date range.

Degree Years

Will only consider persons within the specified date range.

RESULTS GRID

Columns (all columns are sortable)

Name

Clicking on the name will open the person's details (see more below).

Total International Connections

Displays the last ten years of observed international connections in a histogram format.

Scholar Quintile

An overall productivity metric based on Aca's SRI and broken out by faculty rank.

Collabs on my Watchlist

The number of co-author affiliations with entities on the user's watchlist.

Funding on my Watchlist

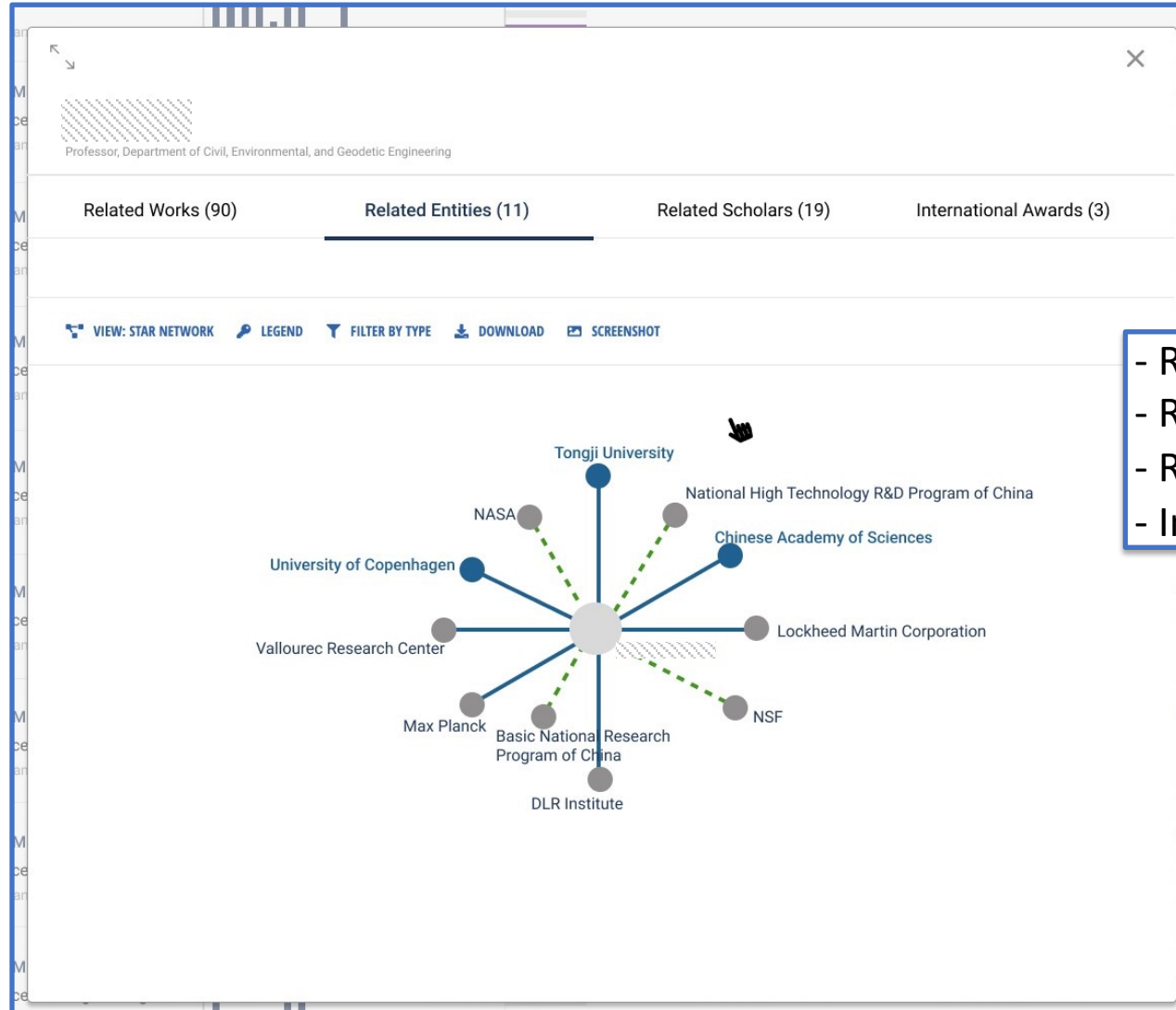
The number of funding acknowledgments with entities on the user's watchlist.

International Awards

The total number of international honorific awards.

Tools Overview - Scholars Tool

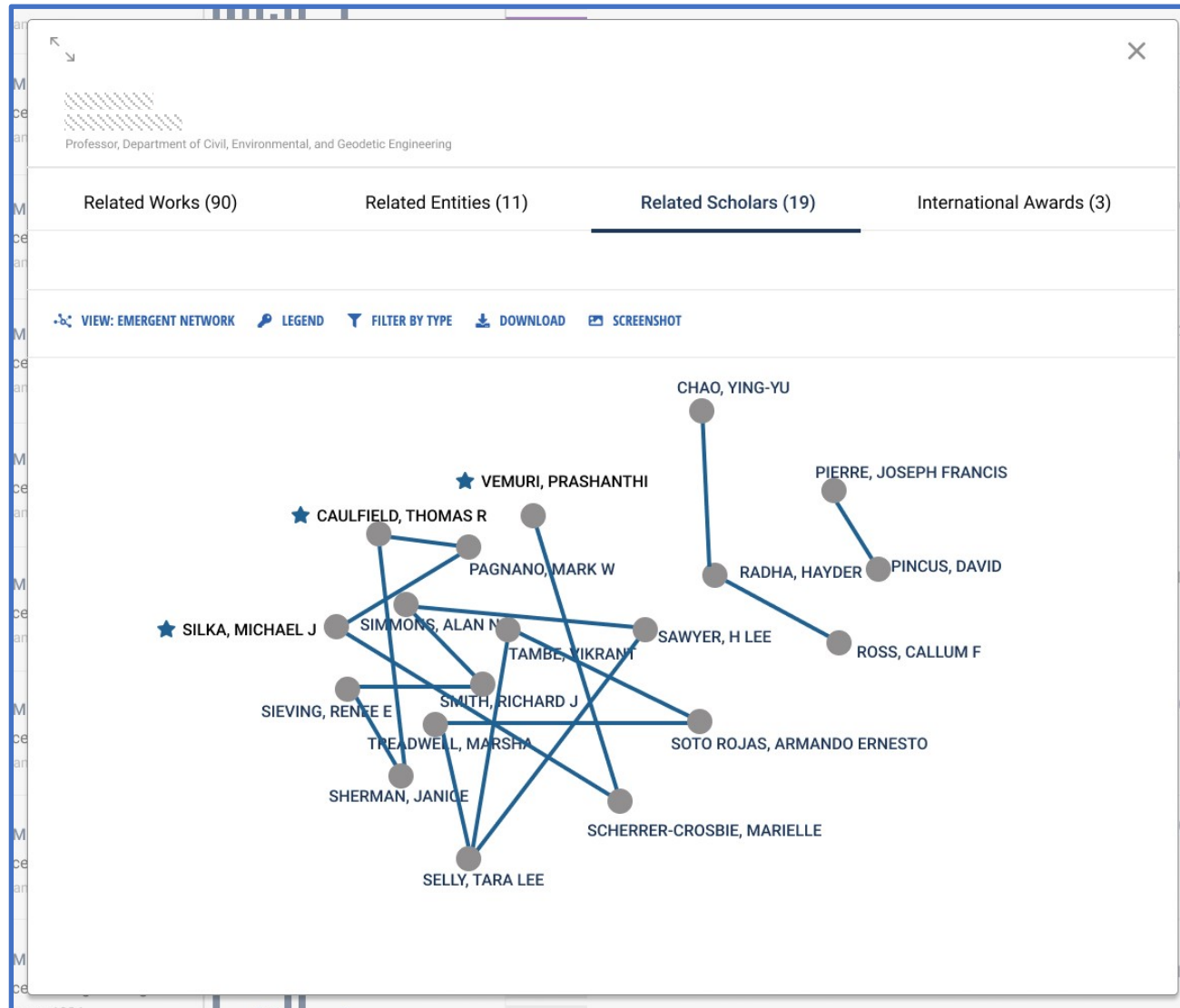
Scholar Detail - Clicking on an individual's name in the tool grants access to the Scholar Detail screen. This screen offers 4 displays: **Related Works**, **Related Connections**, **Related Scholars** and **International Awards**.



- Related Works
- Related Entities
- Related Scholars
- International Awards

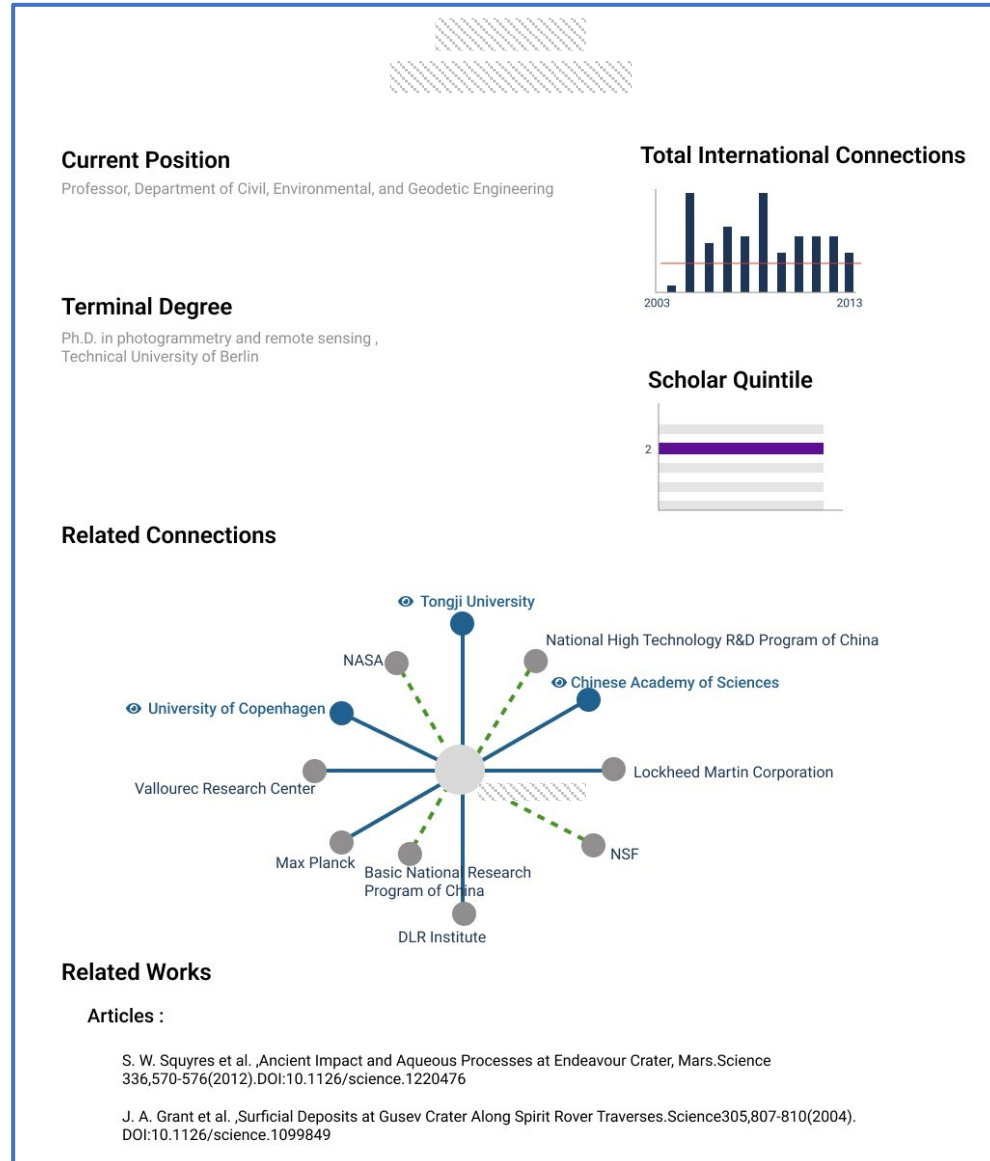
Tools Overview - Scholars Tool

Scholar Detail - Related Scholars



Tools Overview - Scholars Tool

Scholar Report



Tools Overview - Entities Tool

The Entities Tool allows users to search and browse the entire catalog of global entities. Each entity can be further examined with on-screen analysis and added to the user's watchlist.

The screenshot shows the 'Entities Tool' interface. At the top, there are navigation tabs: Benchmarking, Clinical Research, Research Insight (selected), Analysis on Demand, Alumni Insight, Data Center, and Help. Below these are sub-tabs: Overview, Scholars, Funding, Honoric Awards, and International Connections (selected). The main content area has a search bar and a table of results. The table has columns: Name, Country, Number of Collaborators, Number of Funding Recipients, and Patents. The 'Tongji University' row is highlighted and has an 'Add to Watchlist' button.

Name	Country	Number of Collaborators	Number of Funding Recipients	Patents
Bigfoot Biomedical	USA	12	15	35
Sun Yat-sen University	China	28	15	3
Wellcome Trust	GBR	22	15	14
Tianjin Polytechnic University	China	7	15	15
Regeneron	USA	15	15	67
Tongji University	China	18	2	86
IBM Watson Health	USA	10	10	100
University of Electronic Science and Technology of China	China	30	10	12
Facebook	USA	22	12	89
AstraZeneca	GBR	4	12	94
University of Chinese Academy of Sciences	China	85	10	45
Tsinghua University	China	19	10	18

Search Tool

Menu

Saved Searches

Keyword Search

Search by Topic

Search by Person Name

Search Filters

Country

Will only search upon entities with a location in the specified country(s).

Work Years

Will only consider activity records within the specified date range.

Results Grid

Columns (all columns are sortable)

Name

Name of the entity. Clicking on the name will open the entity details (see more below).

Country

The country in which AcA has identified the entity.

Number of collaborations

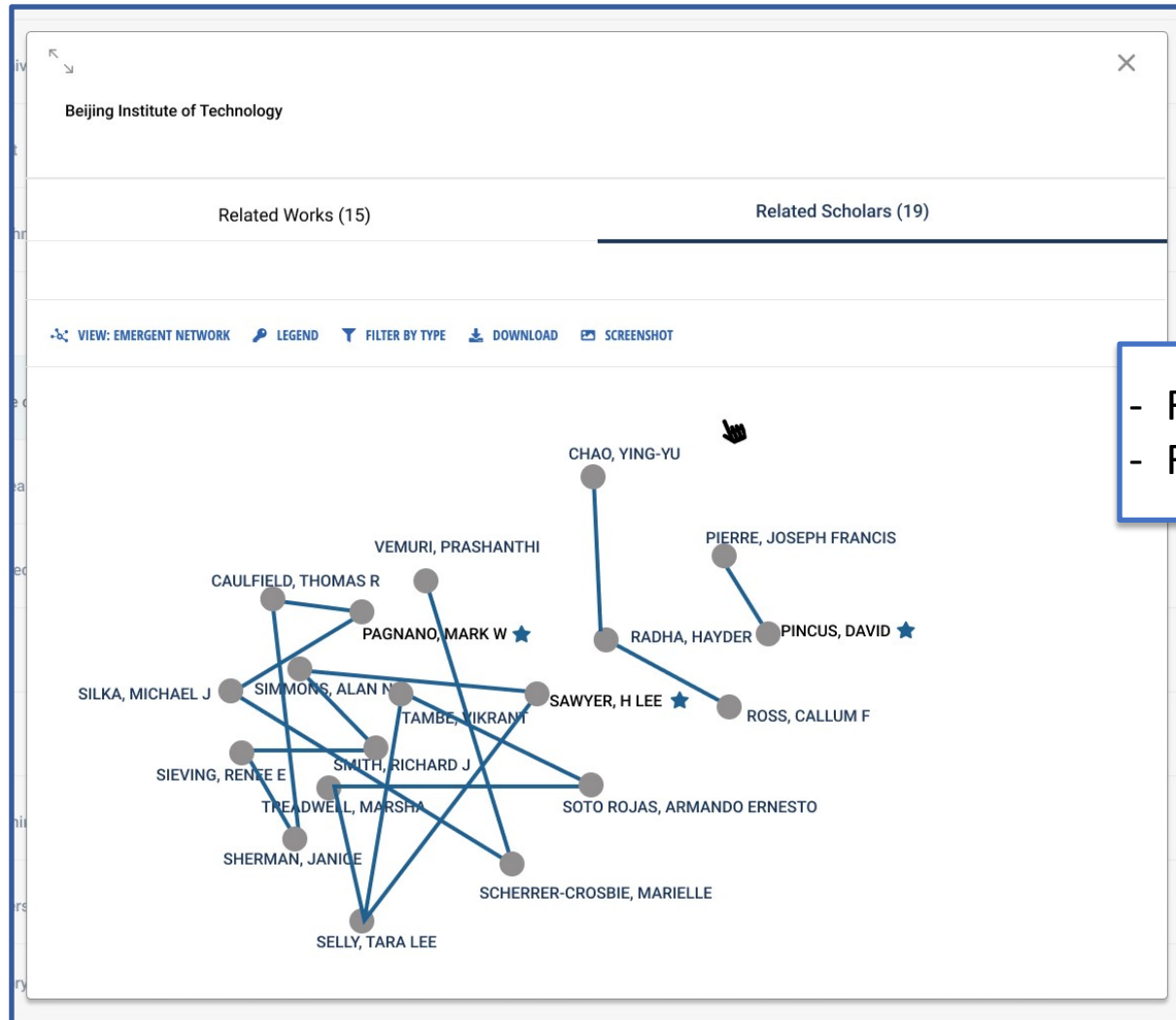
Total number of authors at the institution on papers where the entity was one of the identified affiliations.

Number of Funding Recipients

Total number of authors at the institution on papers where the entity was identified in the funding acknowledgments.

Tools Overview - Entities Tool

Entity Detail - Clicking on an entity name grants access to the Entity Detail screen with 2 displays: **Related Works** and **Related Scholars**. **Related Works** lists all works linked to the user's institution, while **Related Scholars** shows all researchers at the institution connected to the selected entity, visually representing their connections to each other in relation to the selected entity.



- Related Works
- Related Scholars

Tools Overview - Watchlist Tool

The Watchlist Tool lets users customize their list of preferred entities. Pre-built watchlists, maintained by AcA, are available to our users. Users can use these lists as-is or add them to their custom watchlist. The entities on the watchlist are then used throughout the product module.

The screenshot displays the 'Watchlist Tool' interface within the 'Research Insight' section. The top navigation bar includes 'Benchmarking', 'Clinical Research', 'Research Insight', 'Analysis on Demand', 'Alumni Insight', 'Data Center', and 'Help'. The 'Research Insight' section has sub-tabs for 'Overview', 'Scholars', 'Funding', 'Honorific Awards', and 'International Connections'. The 'International Connections' sub-tab is active, showing further sub-tabs for 'Scholars', 'Entities', 'Watchlist', 'Analysis', and 'Restricted Parties'. The 'Watchlist' sub-tab is selected.

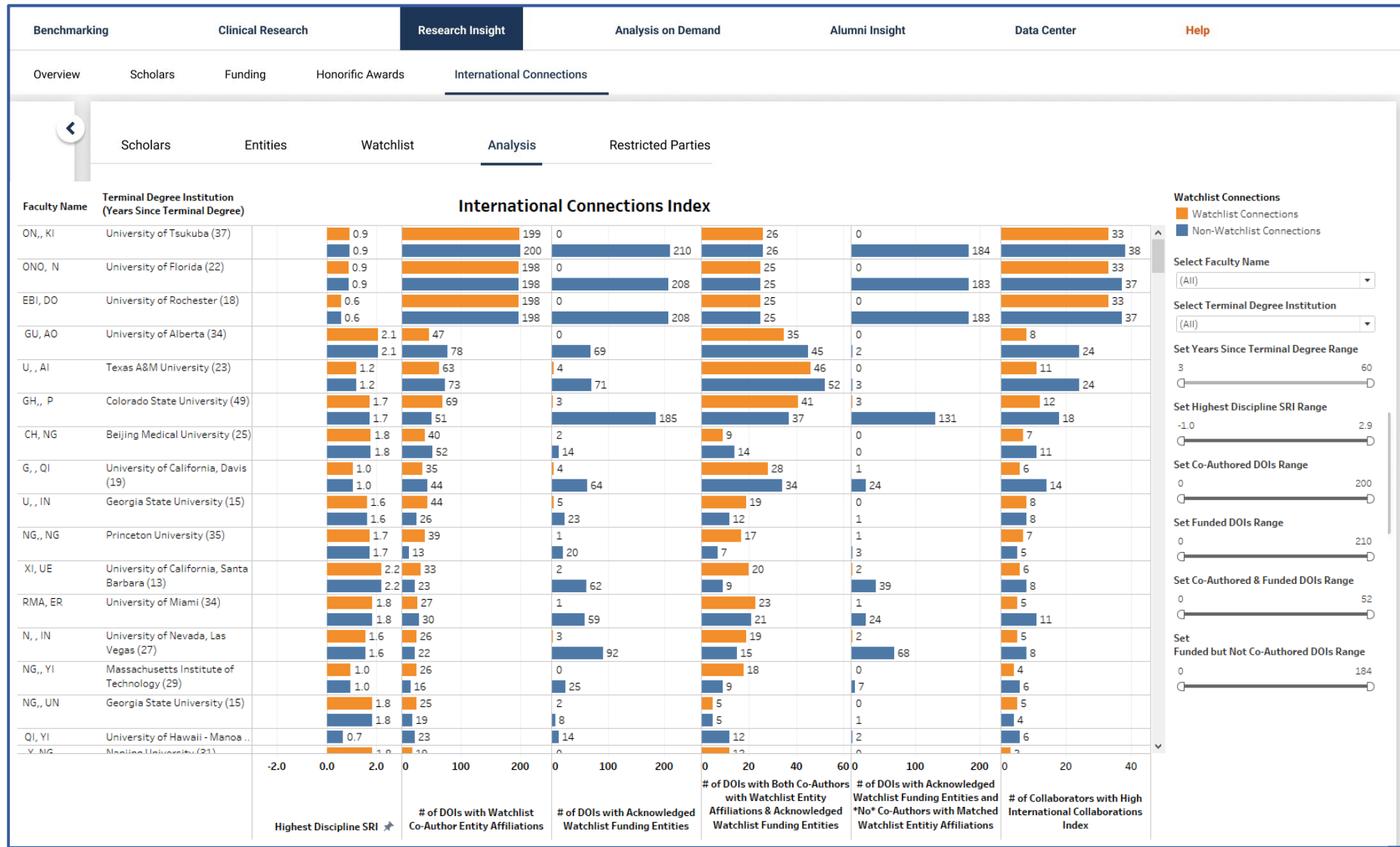
On the left side, there are three main sections: 'Search By: Entity Name' with a search input field; 'Upload List' with a file upload area and instructions; and 'Advanced Search filter' with dropdowns for 'Country' and 'Work Years', a 'Reset' button, and 'Search' and 'Save Search' buttons.

The main content area shows a table of 'All Entities' with 14 results. The table has columns for 'Name' and 'Watchlist'. The first row is highlighted in blue and has a context menu with 'Add to a watchlist' and 'Share' options. The entities listed are: Sun Yat-sen University (AcA Watchlist), Bigfoot Biomedical (AcA Watchlist), Regeneron (Australian Strategic Policy Institute), Tsinghua University (AcA Watchlist), University of Electronic Science and Technology of China (AcA Watchlist), and Wellcome Trust (Australian Strategic Policy Institute). The table includes pagination controls showing '1-5 of 9 pages' and 'Organizations per page' set to 25.

Below the table is the 'Browse Watchlists' section, which contains three cards: 'AcA Watchlist', 'Australian Strategic Policy Institute', and 'Create a New Watchlist' (with a plus sign icon and the text 'Make your own custom watchlist').

Tools Overview - Analysis Tool

The Analysis Tool offers pre-built Tableau dashboards.



Tools Overview – Restricted Parties Search Tool

- *The Restricted Parties Tool allows users to search upon the restricted parties' lists maintained by Academic Analytics.*

The screenshot displays the 'Restricted Parties' search interface. On the left, there is a search bar containing 'Zadran' and an 'Upload Search' section with a file upload icon and the text 'Drag your file here or select a file to upload'. Below that is an 'Advanced Search filter' section with a 'Source' dropdown set to 'All' and a list of checked filters: 'Select All', 'Department of Commerce – Bureau of Industry and Security (BIS)', and 'Department of the Defense – 2019 Defense Authorization Act (DOD)'. The main table shows two results:

Name	Entity Type	Source	Alternative Names	Addresses
Khalil Zadran	Individual	Department of Commerce – Bureau of Industry and Security (BIS)	Khalil Zadran a.k.a., the following eight aliases: Samar Gul Khalil; Khalil Samar Gul; Samar Khalil; Samar Gul Khalil; Khilj Khalil; Kalli Khalil; Khalil Khuaili; and Haji Khalil.	Shahreno , Kabul AF House 14, Street 13, Sector F-7/2, Islamabad PK House 20-B, Main College Road Sector F-7/2, Islamabad PK
Khalil Zadran Company	-	Department of Commerce – Bureau of Industry and Security (BIS)	Khalil Zadran Company a.k.a., the following alias: Khalil Construction.	AF, PK

Department of Commerce – Bureau of Industry and Security (BIS)
Department of the Defense – 2019 Defense Authorization Act (DOD)
Department of the Treasury – Office of Foreign Assets Control (OFAC)
Department of State – Directorate of Defense Trade Controls (DDTC)
Australian Strategic Policy Institute

• Search Tool

• Search

- Text
 - *Ad-hoc searches of person names or entites.*
- Upload
 - *A CSV file of person names or entity names can be uploaded and searched upon.*

• Search Filters

- Source
 - *The restricted parties lists to search upon can be customized. By default, all are selected.*

• Results Grid

- Columns (all columns are sortable)
- Name
 - *Name of the entity as it appears on the restricted parties list. Clicking on the name will load the individual or entity detail if it has been linked to the AcA database.*
- Entity Type
 - *The entity type as it appears on the restricted parties list.*
- Source
 - *The restricted parties list the record is listed in.*
- Alternative Names
 - *Known aliases of the individual or entity.*
- Addresses
 - *Known addresses of the individual or entity.*

Data Sources – Funding Example



We are text mining the Funding Acknowledgements on each paper. Example below...

The screenshot shows a journal article page with a dark blue header. The breadcrumb trail is: Home > All Journals > Geomatics, Natural Hazards and Risk > List of Issues > Volume 6, Issue 5-7 > Some applications of 2-D and 3-D photogr .. The header includes a search icon, a 'Top' link, and navigation options: Full Article, Figures & data, References, Citations, Metrics, Reprints & Permissions, and a green 'View PDF' button. On the left, a table of contents lists: 1. Introduction, 2. Technical background, 3. 2-D applications, 4. 3-D applications, 5. Conclusions, and 'Additional information' (highlighted). The main content area is titled 'Additional information' and contains a 'Funding' section. The funding text is: 'This study is supported by the 863 [National High Technology Research and Development Program of China](#) [grant number 2012AA121302]; the 973 [Basic National Research Program of China](#) [grant number 2013CB733204]; the [National Science Foundation of China](#) [grant number 41171327], [grant number 41201379]; the [Specialized Research Fund for the Doctoral Program of Higher Education](#) [grant number 20120072120057]. This research partially benefited from the support of the FIRB 2010 [National Research Program of the Italian Ministry of University and Research \(MIUR\)](#).' Below the funding text, the word 'Notes' is partially visible.

Data Source – Collaborations Example

We are text mining the author affiliations on each paper. Example below...

Photogrammetric processing of rover imagery of the 2003 Mars Exploration Rover mission

[Kaichang Di](#)^a, [Fengliang Xu](#)^a, [Jue Wang](#)^a, [Sanchit Agarwal](#)^a, [Evgenia Brodyagina](#)^a,
[Rongxing Li](#)^a  , [Larry Matthies](#)^b

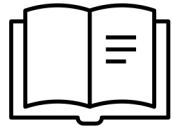
^a Mapping and GIS Laboratory, Department of Civil and Environmental Engineering and
Geodetic Science, [The Ohio State University](#), 470 Hitchcock Hall, 2070 Neil Avenue,
Columbus, OH 43210, USA

^b Jet Propulsion Laboratory, [California Institute of Technology](#), Mail Stop 125-209, Pasadena,
CA 91109, USA

easier to obtain/verify ←

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Journal articles
Conference proceedings
Books
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Unique expertise

Semantic analysis
Topic modeling



Prestige

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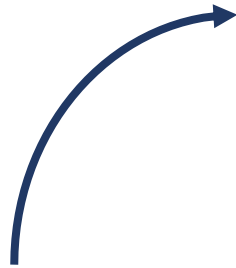
Matt Moericke, Chief Information Officer, Academic Analytics

Matthew Cooper, Strategic Engagement Manager, Academic Analytics

Jonathan Fink, Business Development Manager, Academic Analytics

Follow up contact: Matthew Cooper — mcooper@academicanalytics.com

Book a Proactive Research Security Consultation



Scan the QR code to book a consultation to review your research security toolset and explore **how to become more proactive** in this space