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

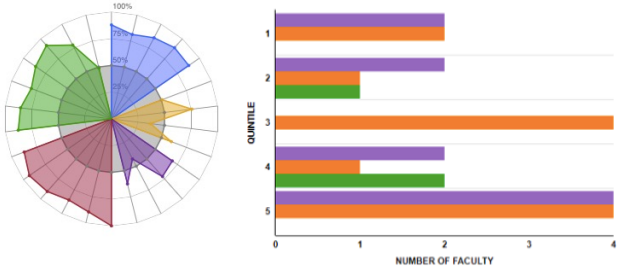
What is Academic Analytics?

2005 – 2009

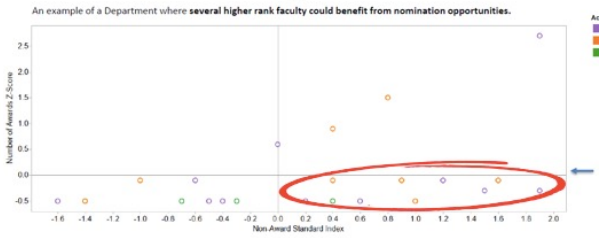
First annually updated inter-institutional comparisons of scholarly activity

2010 – 2015

Unit-level peer analyses and trends by academic rank



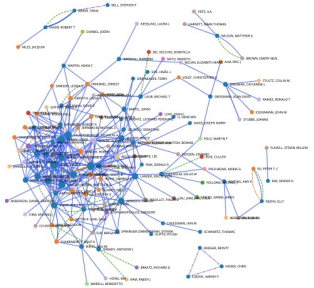
Tools for faculty equity and recognition



2016 – 2022

International collaborations and international funding

Collaborative networks and expertise search



Global alumni location and employment

2023

Research security

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ACADEMIC ANALYTICS

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

ACADEMIC ANALYTICS

The Current Landscape

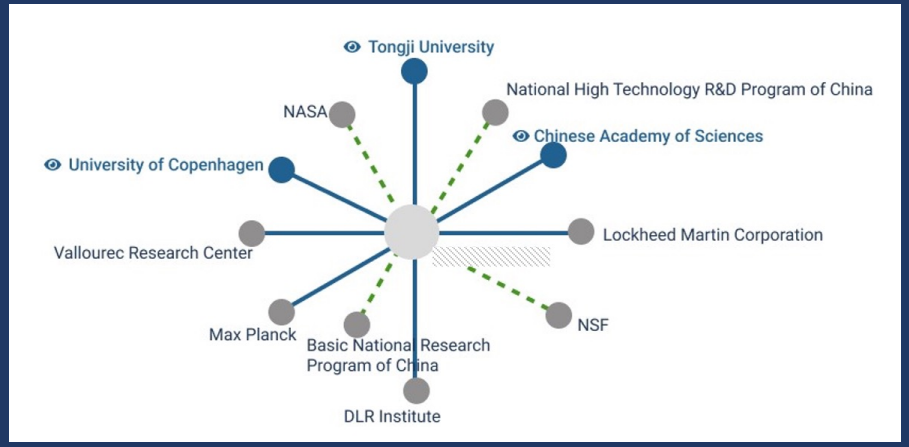
Caroline Whitacre, *Former Senior Vice President for Research, The Ohio State University; Senior Advisor, Academic Analytics*

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

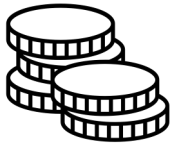
easier to obtain/verify ◄---------- **Scholar Information** ----------► *difficult* to obtain/ verify

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?

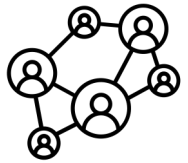


Funding
US federal grant funding
PIs and Co-PIs
Foreign funding

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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easier to obtain/verify ← **Scholar Information** → *difficult* to obtain/ verify

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**

Funding
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easier to obtain/verify ← **Scholar Information** → *difficult* to obtain/ verify

Foreign military research priority areas?

Unique expertise
Semantic analysis
Topic modeling

Foreign "gateway" awards

Prestige
Honorifics
Awards and prizes
US and international

Publications
Journal articles
Conference proceedings
Books
Book chapters

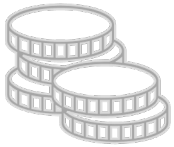
Author affiliations

Highest value targets

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

China Defense University Tracker

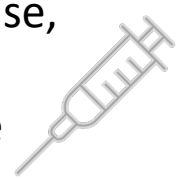
Unified data **streamlines search efforts** and enables **proactive analysis** with **additional critical intelligence**



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

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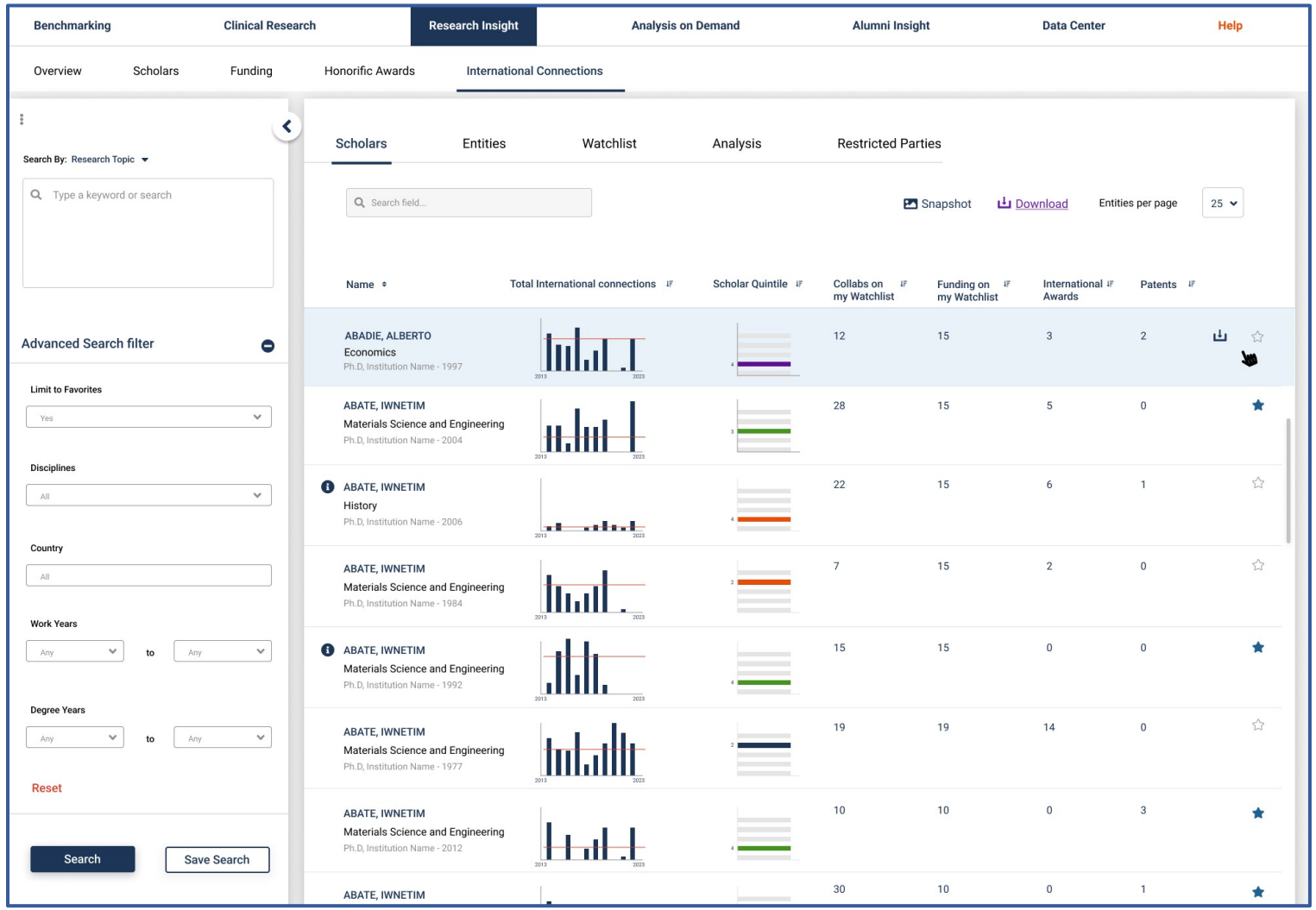
ACADEMIC ANALYTICS

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.*



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.

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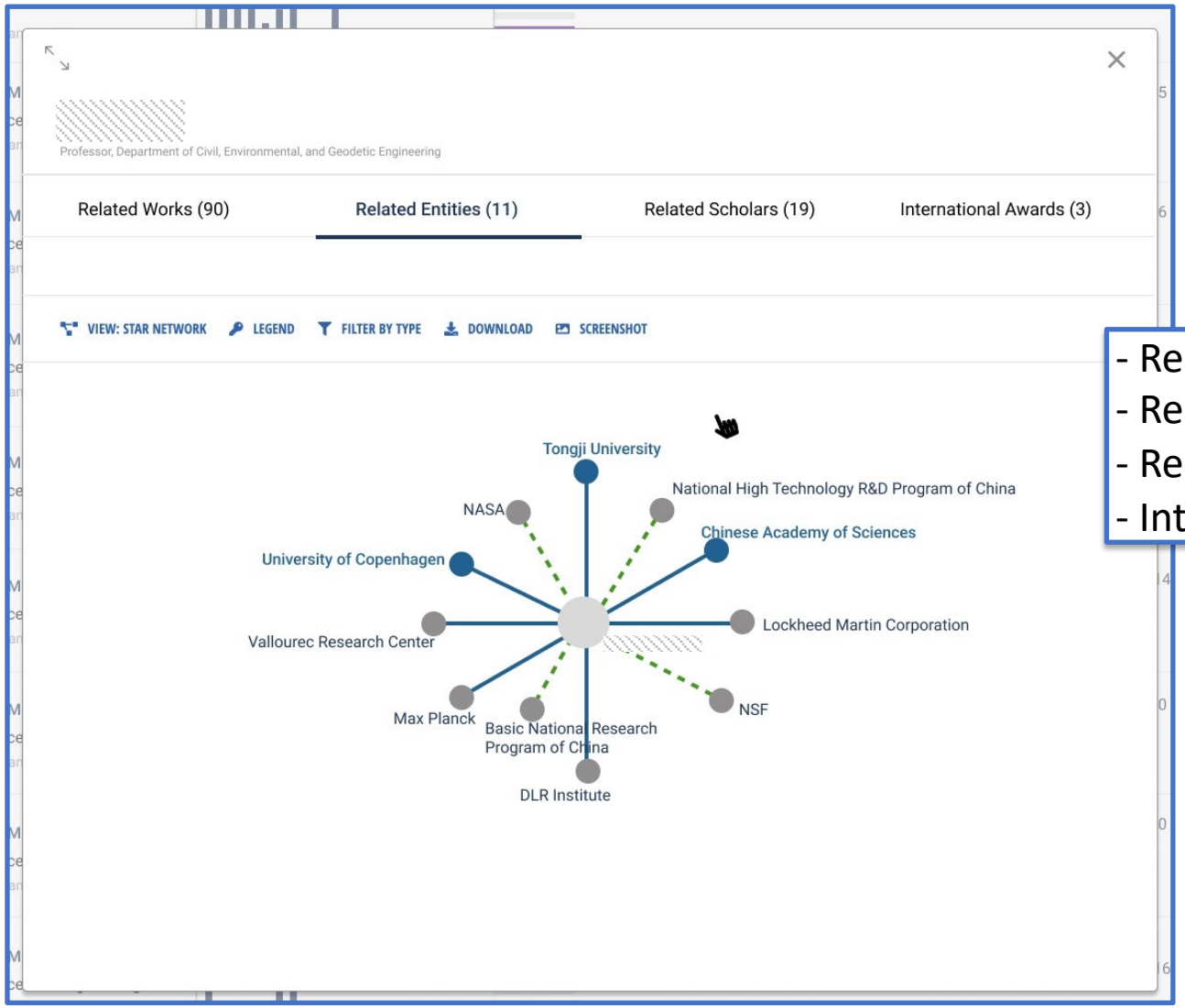
ACADEMIC ANALYTICS

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

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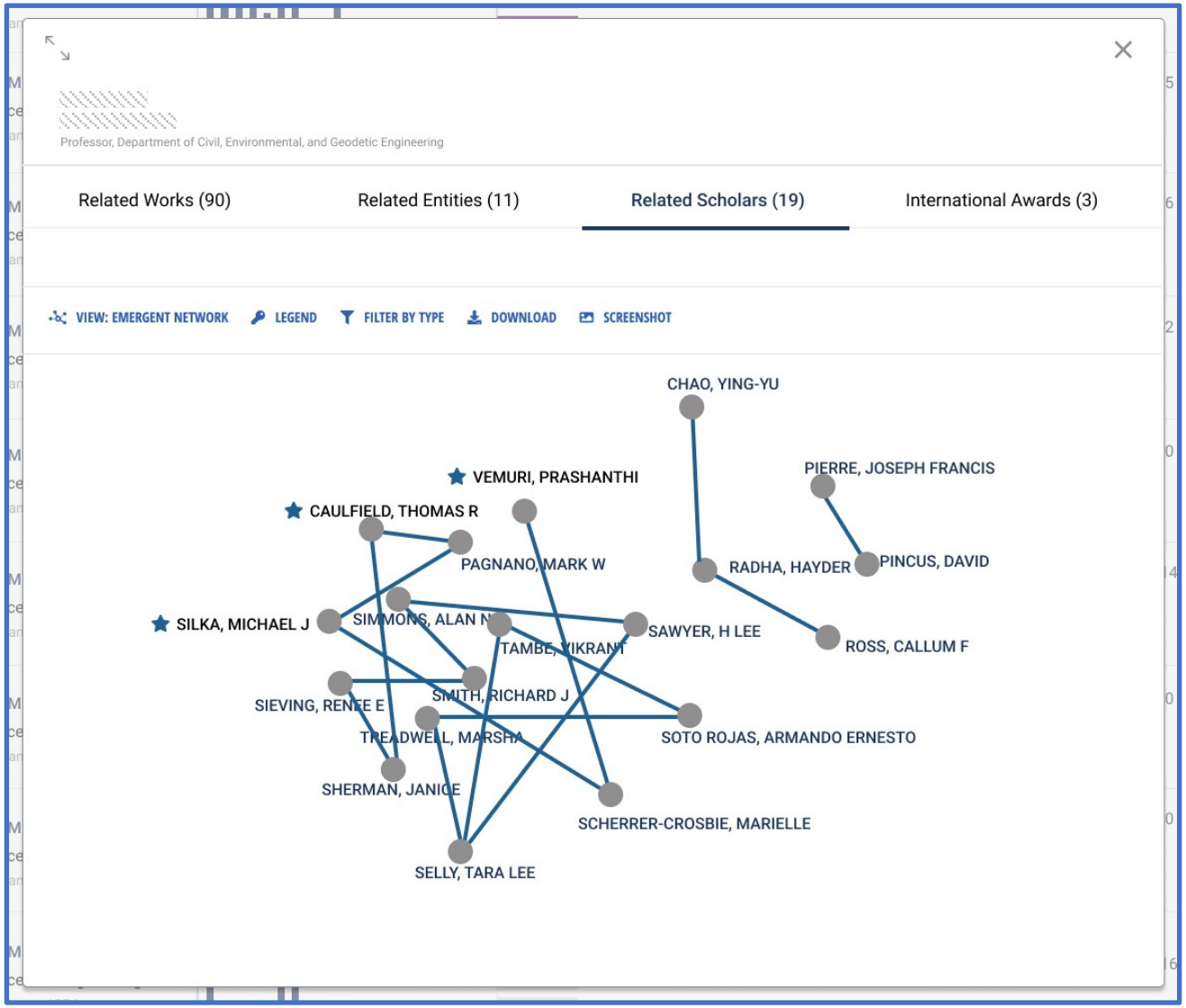
ACADEMIC ANALYTICS

Tools Overview - Scholars Tool

***Scholar Detail** – Related Scholars*



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ACADEMIC ANALYTICS

Tools Overview - Scholars Tool

Scholar Report

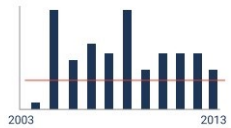
Current Position

Professor, Department of Civil, Environmental, and Geodetic Engineering

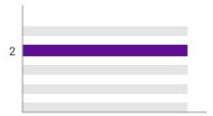
Terminal Degree

Ph.D. in photogrammetry and remote sensing ,
Technical University of Berlin

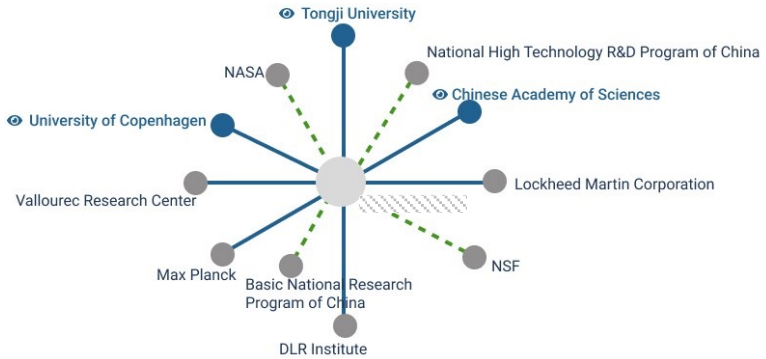
Total International Connections



Scholar Quintile



Related Connections



Related Works

Articles :

S. W. Squyres et al. ,Ancient Impact and Aqueous Processes at Endeavour Crater, Mars.Science 336,570-576(2012).DOI:10.1126/science.1220476

J. A. Grant et al. ,Surficial Deposits at Gusev Crater Along Spirit Rover Traverses.Science305,807-810(2004). DOI:10.1126/science.1099849

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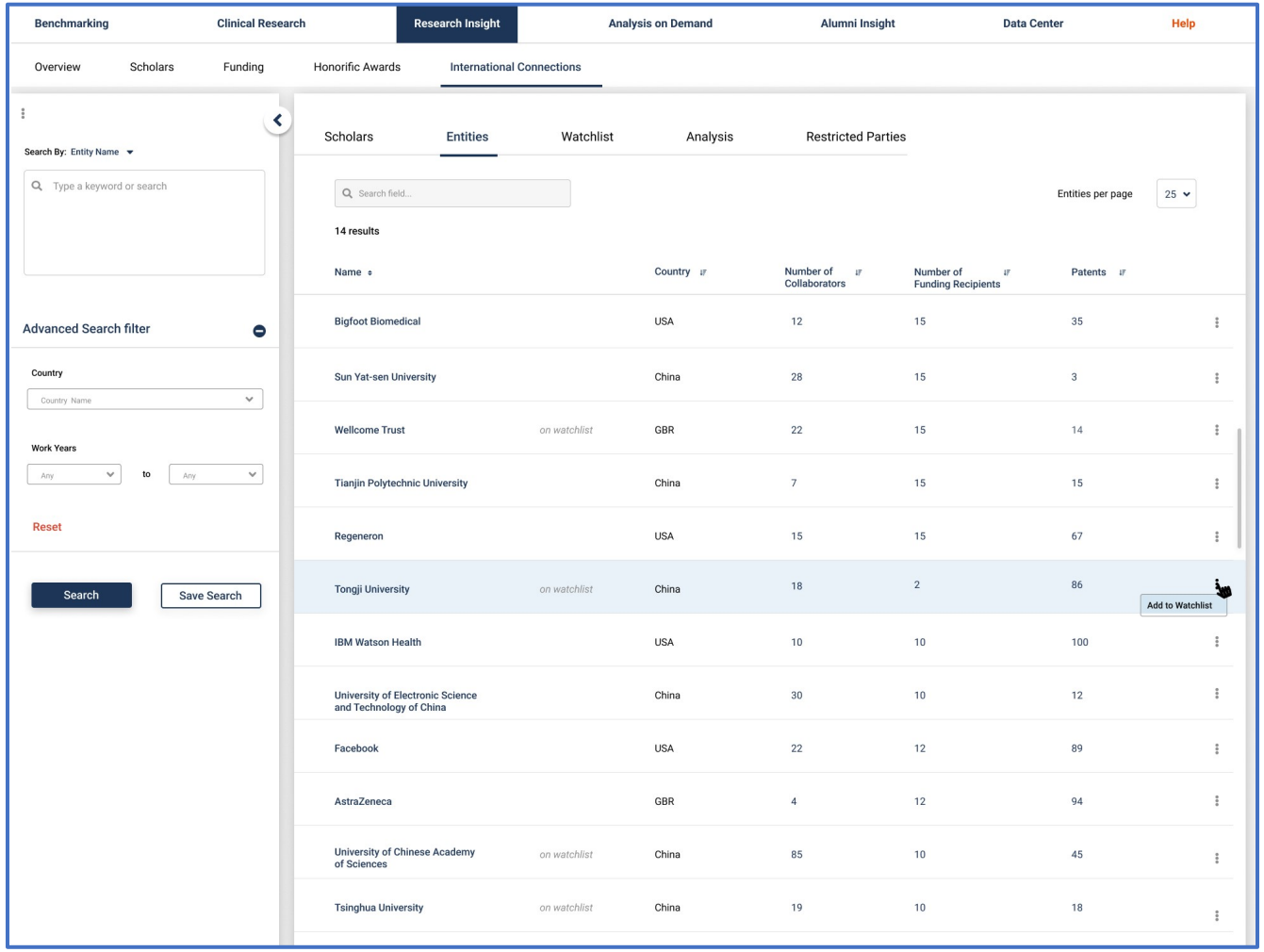
Tools Overview - Entities Tool

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.



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.

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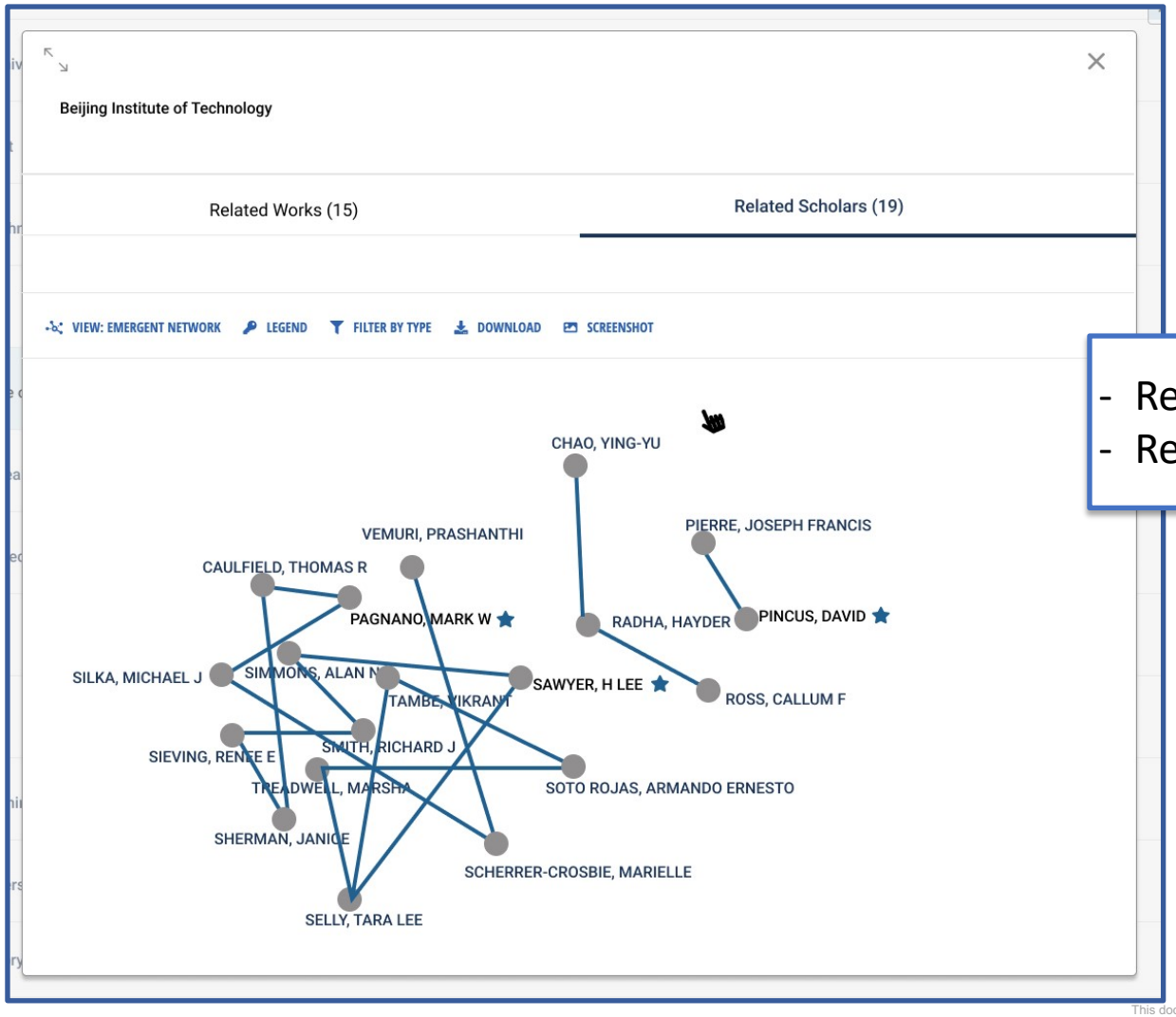
ACADEMIC ANALYTICS

Tools Overview - Entities Tool

***Entity Detail** - Clicking on an entity name grants access to the Equity 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

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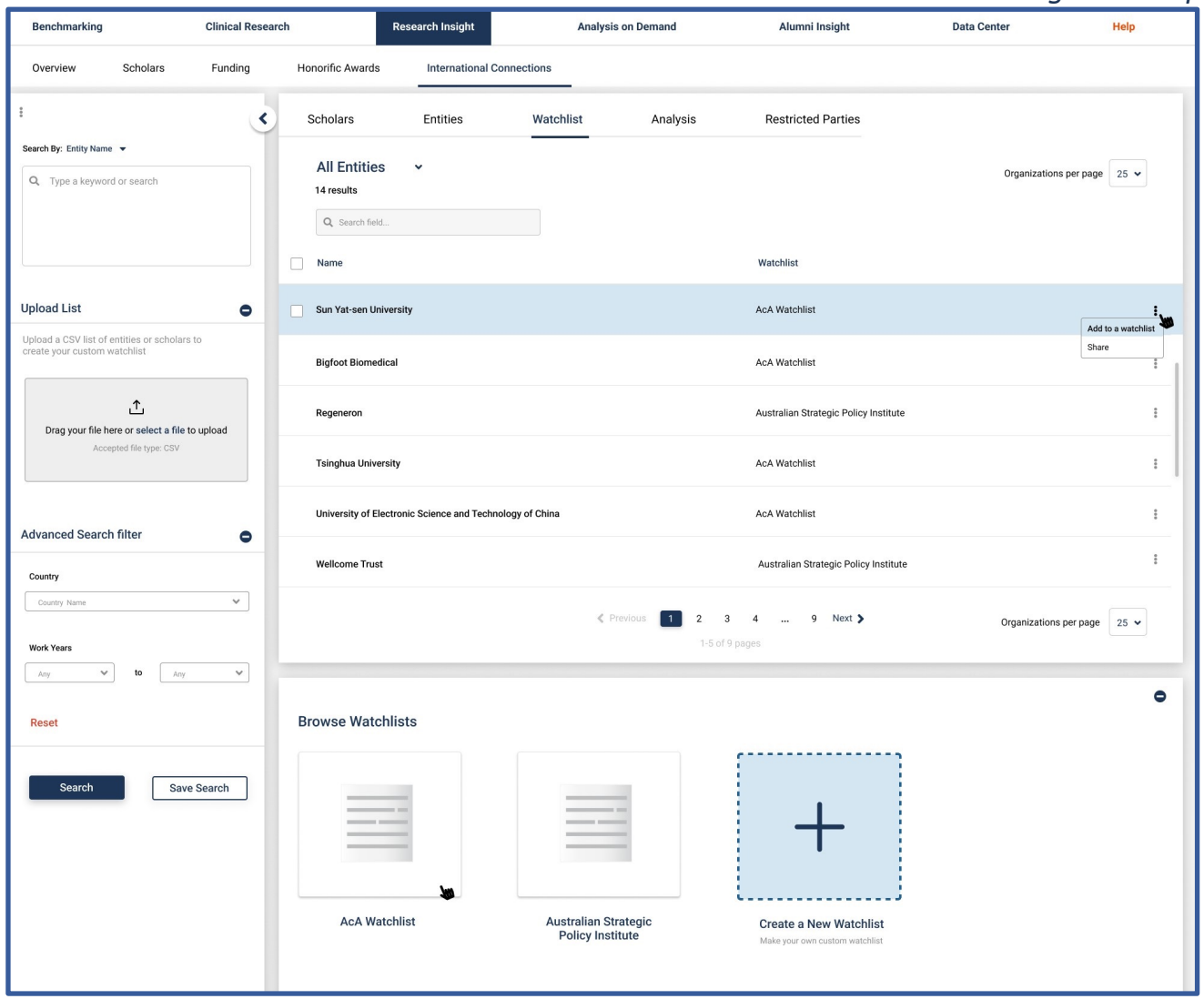
ACADEMIC ANALYTICS

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.*



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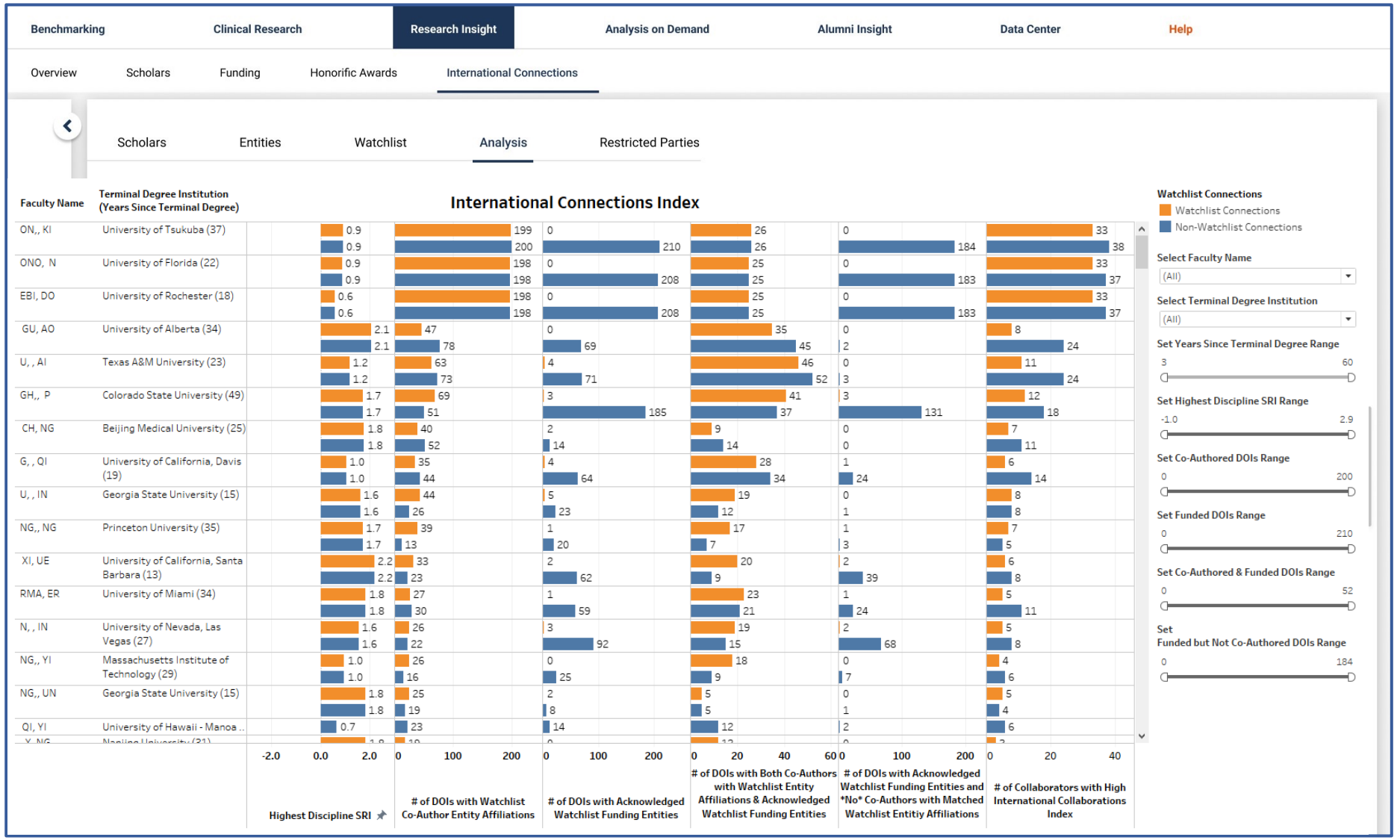
Tools Overview - Analysis Tool

***The Analysis Tool** offers pre-built Tableau dashboards.*



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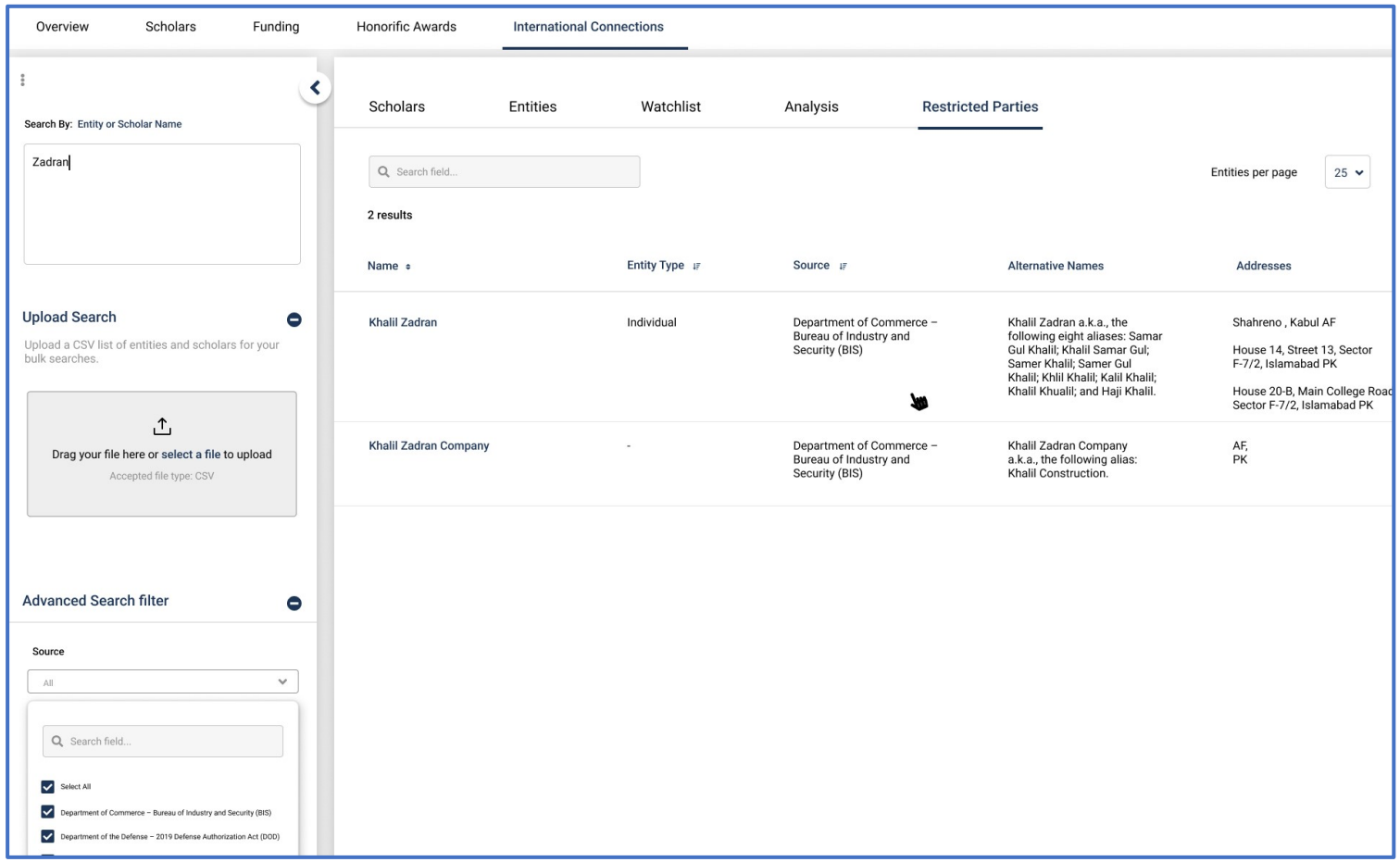
Tools Overview – Restricted Parties Search Tool

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



- **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.*

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

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Data Sources – Funding Example

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

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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

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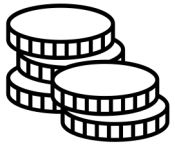

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Current employment of
doctoral trainees and post-docs

Clinical trials

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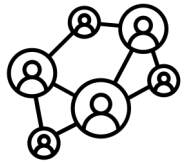
International Patents
Co-inventors



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International collaborators
Current and historic

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FEEDBACK

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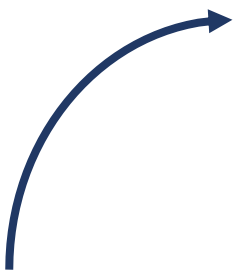
Jonathan Fink, Business Development Manager, Academic Analytics

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