

WORKSHOP: Leveraging Data for Better U/I Research Collaborations

UIDP Irvine

October 3rd, 2023



Wellspring

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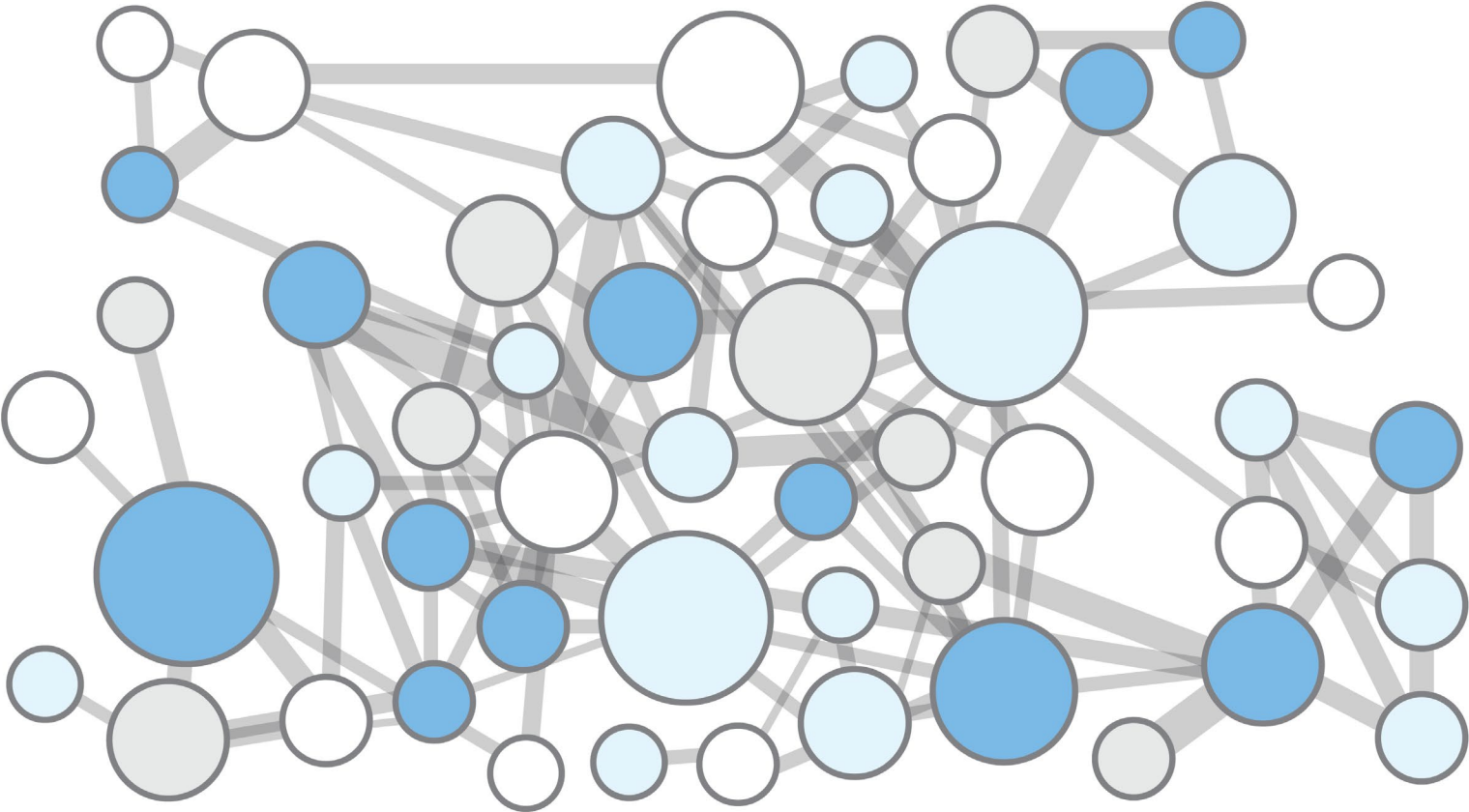
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Today's agenda

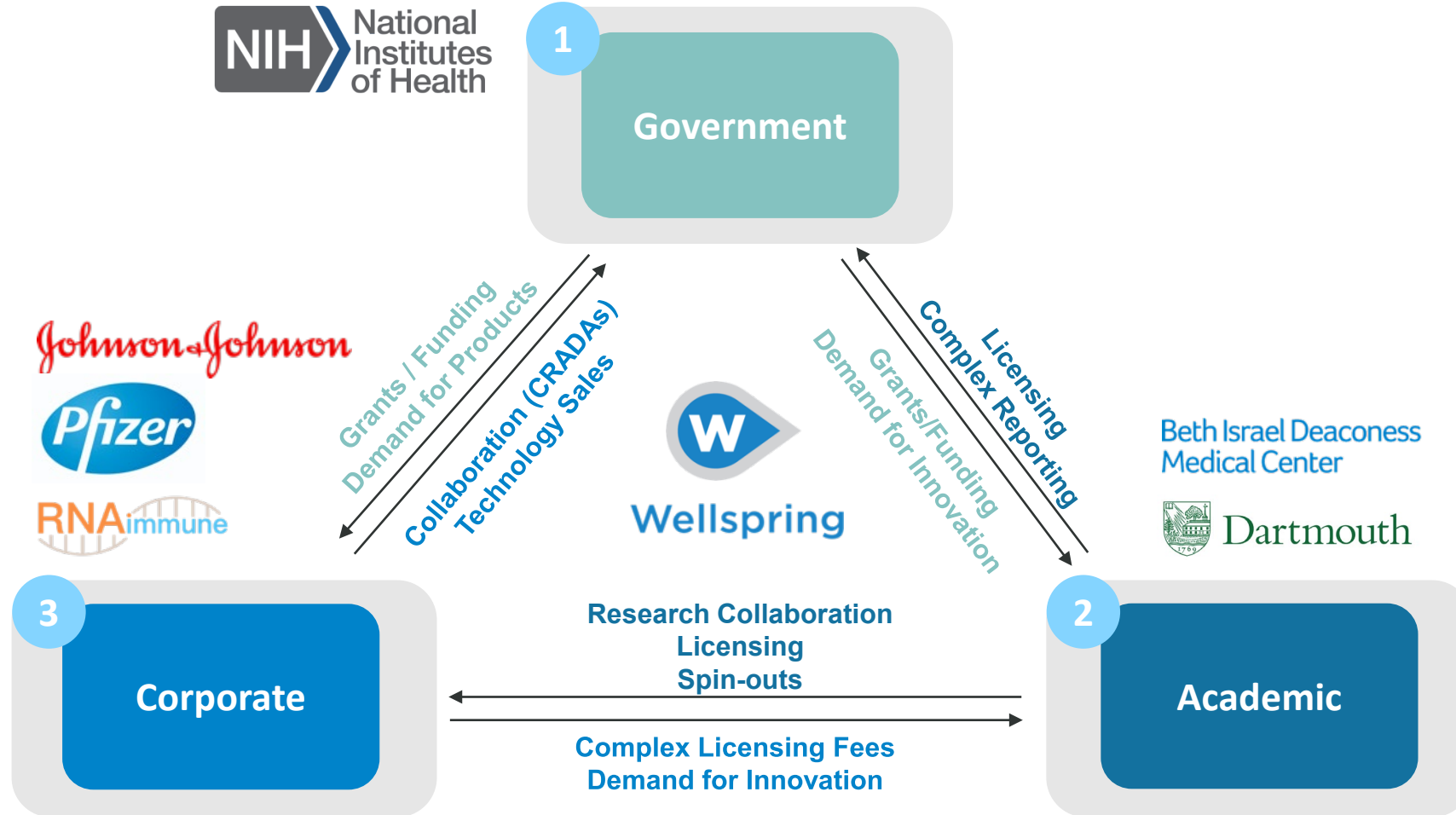


- Introduction (30 min)
- Scout overview (30 min)
- Exercise 1: Discovering Companies (30 min)
- BREAK (15 min)
- Exercise 2: Discovering Researchers (30 min)
- Exercise 3: Discovering Institutions (30 min)
- Wrap-up / Q&A (15 min)

This is What Modern Innovation Looks Like



COVID-19 Vaccine Represents a Successful Innovation Supply Chain



How do you find research partners?

Conferences



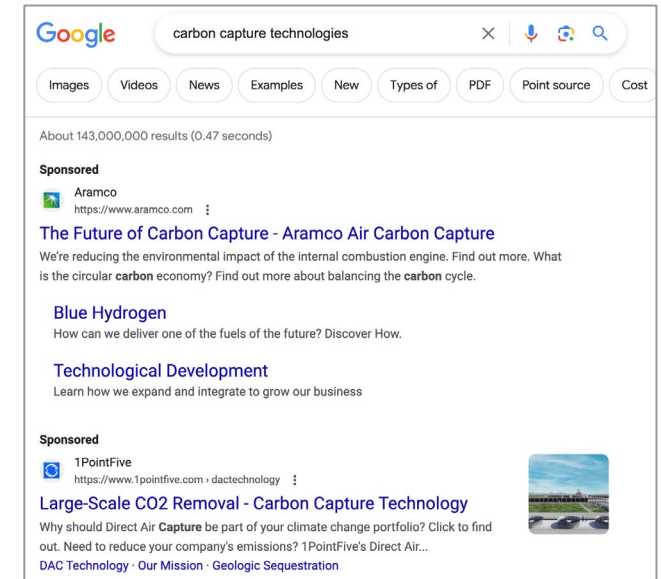
“Our team goes to dozens of conferences every year.”

Networking



“We know VCs who help us spot new opportunities.”

Google



“Google isn’t a great fit, but it’s better than nothing.”

Are we missing opportunities?



Company

“Beyond the top 3-5 institutions, we have no idea who to contact.”

University

“We’re not even aware of all the research happening within our own institution.”

Everyone

“We know we’re missing a lot of value – but lack the levers to change.”

Who's got time for comprehensive research?



Company

“We’re a small team. Mostly, we just go to conferences and work our networks.”

University

“We only have time to actively market our top 1% of PIs and/or inventions.”

Everyone

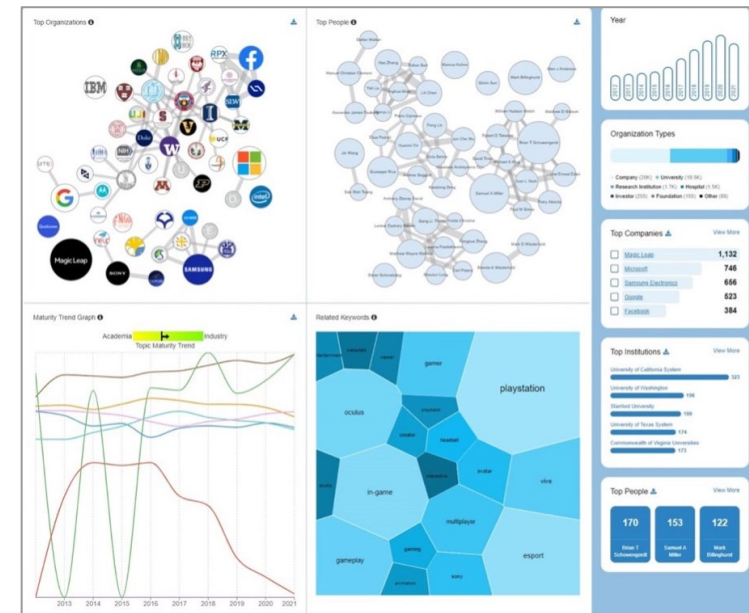
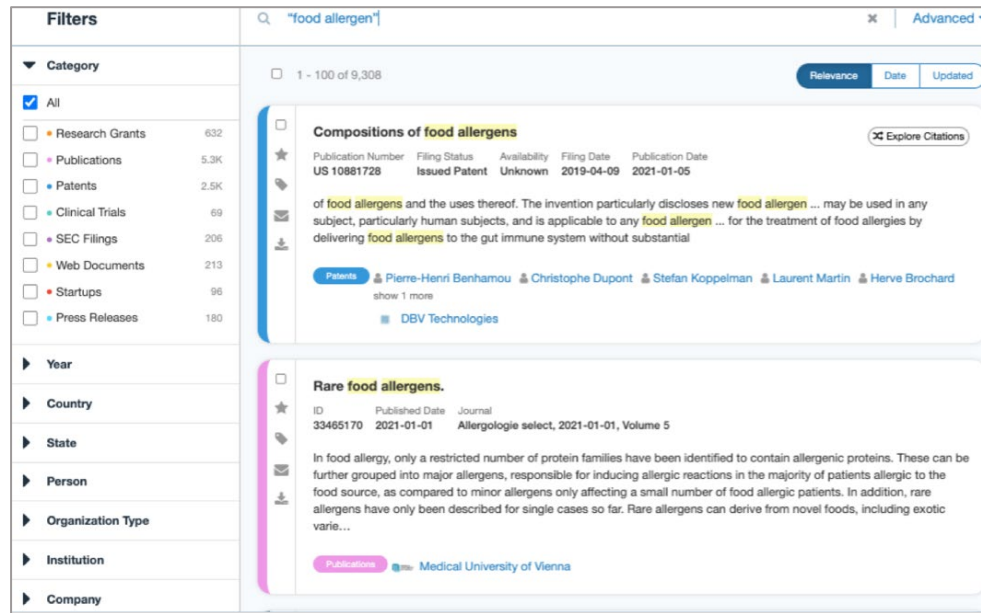
“We know we’re missing a lot of value – but lack the levers to change.”

Modern data & analytics is changing the game

Large, complementary data sets

Advanced AI/ML techniques

Integrated analytics capabilities



Where can systematic data help the most?

Companies

Academic Relations

Identify the best researchers / PIs

Compare strengths across institutions

External Innovation

Find and vet research partners & startups

Perform technology landscaping

Track competitors' innovation bets

Institutions

Corporate Engagement

Find and vet corporate partners

Prioritize funding opportunities

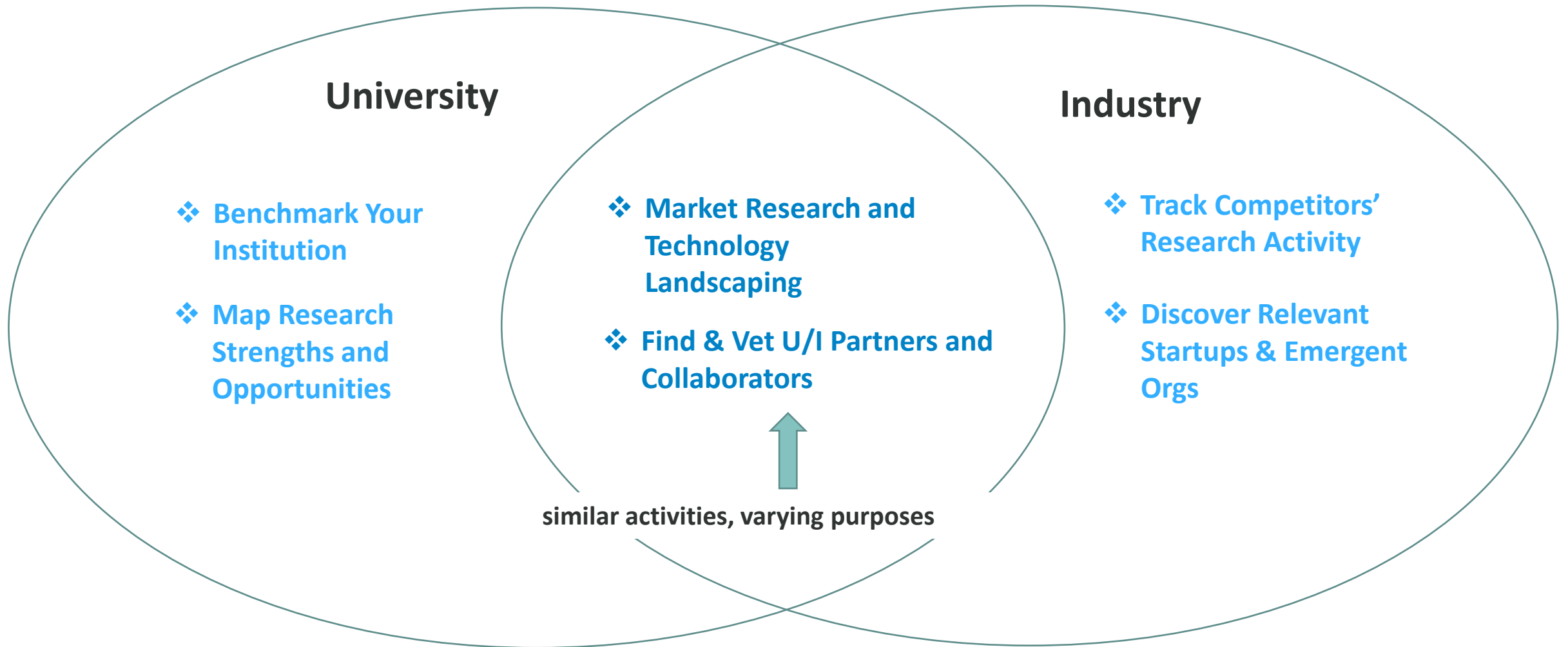
Showcase our research strengths

Technology Transfer

Find and vet potential licensees

Assess the market for an invention

Academia & Industry have overlapping objectives



The Industry perspective: Pete Ellingson (P&G)



Pete Ellingson

P&G: R&D Director / Open Innovation, 1994-present

University of Wisconsin: PhD Physical Chemistry, 1994



Sam Azeba

P&G: R&D Sr. Scientist / Open Innovation, 2022-present

Thermo Fisher Scientific: Formulation/Business Mgmt, 2012-22

University of Cincinnati: MS Pharmaceutical Science

Xavier University: MBA

The Industry perspective: Pete Ellingson (P&G)



Our Wellspring Journey:

- Year 1 Pilot – FY 22/23. 15 seat licenses
 - ✓ R&D – primarily C+D team, Upstream R&D teams, Infolytics
 - ✓ Feedback: powerful landscaping tool...
 - Interface ease of use
 - Quickly find information
 - Create centralized databases linked to sources
 - Easy to share findings w/ teammates
 - “One Stop Shop”
- Year 2 Pilot – FY 23/24. 55 seat licenses
 - ✓ R&D – broader cross section of users

The Industry perspective: Pete Ellingson (P&G)



Searches of Interest



The University perspective: Todd Cleland (UW)



Todd Cleland

UIDP: Senior Fellow, 2022-present

University of Washington: Corporate Relations, 2010-2021

HP: Strategic Business Development, 2003-2010

University Perspective Value Proposition

- Allows rapid, data-driven exploration and decision making to support
 - Benchmarking
 - Identification of potential partners for new collaborations or business opportunities
- Trying to extract the same information from siloed databases would be much more difficult and time-consuming

University Perspective – Use Cases

- Office of Research, Dean's Office
 1. Benchmark your institution in specific technical areas
 - Understand strengths & weaknesses vs. peers
 - Identify gaps and targets for hiring
 - Identify opportunities for big grant applications
 2. Build research teams for new projects and funding opportunities
 - At your institution (across units)
 - At other schools (big, multi-institution grants)
- Corporate Relations
 1. Identify potential industry partners for a researcher or lab
 2. Identify faculty at your institution for industry campus visits
- Tech Transfer Office
 1. Patent Landscape Work
 2. Identify potential licensees for university IP

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- BREAK (15 min)
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- Exercise 3: Discovering Institutions (30 min)
- Wrap-up / Q&A (15 min)

Process workflow: data-driven partner searches

1. State your objective(s)
2. Define search parameters
3. Conduct and refine searches
4. Assemble a longlist of options



Today's exercises

5. Create evaluation criteria
6. Reduce options to a shortlist
7. Prioritize outreach targets
8. (repeat)



Don't forget these steps!

Example: key objective & evaluation criteria

Key Objective

Find university research partner(s) to co-develop next-gen carbon capture methods.

Desired Results

Core IP secured within the next 3 years.
Technology in production within the next 5 years.

Research Coverage (40%)

How closely do the university's research strengths match your needs? Which labs / PIs are worth considering? How long have they been active?

Bench Depth (15%)

Does the university have one superstar faculty member, or multiple labs attacking related aspects of the domain?

Industry Experience (35%)

Does the university have a track record of successful corporate partnerships? What about the specific labs / PIs you are considering?

Strategic Fit (10%)

How well does the university align with your overall mission and goals? How much does regional proximity matter?

Report-out (at workshop's conclusion): what did you find?

Pick one (or more) of today's three exercises and tell us how it went.

Today's exercise

- What were your Key Objectives and Desired Results?
- Which search tactic(s) worked best in generating a longlist?

Next steps

- What would be your evaluation criteria?
- What were the top three options you identified?

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Exercise 1: Discovering Companies

Process workflow: Discovering Companies

1. State your objective(s)
2. Define search parameters
3. Conduct and refine searches
4. Assemble a longlist of options

5. Create evaluation criteria
6. Reduce options to a shortlist
7. Prioritize outreach targets
8. (repeat)

Carbon Capture

Key Objective

Find corporate research partner(s) to sponsor next-gen carbon capture research program.

Desired Results

Sponsorship(s) secured this year. Publications and/or patents within the next 3 years.

Search Parameters

- Keywords = “carbon capture” sorbent
- Category = Publications, Patents; Grants
- Org Type = Corporation
- Year = 2021, 2022, 2023

Step-by-step: Discovering Companies

1. Search: "carbon capture" sorbent

2. Set filters:

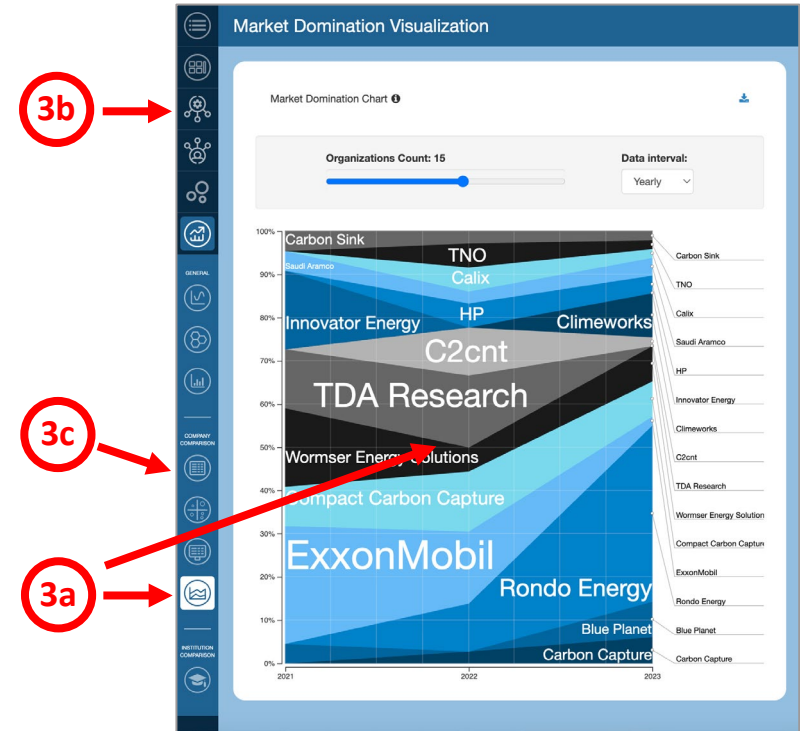
- a. Category = Publications, Patents
- b. Year = 2021, 2022, 2023
- c. Org Type = Company

3. Scan for promising options

- a. Market Domination
- b. Industry Networks
- c. Emergent Organization Ranking

4. Scan company profiles

5. Tag to longlist



Extra credit: browse by organizational fit / interest

1. View a patent or publication of interest
2. Scroll down to bottom right
3. Browse the sidebar item "Companies Interested in this Work"

Synthesis Process for Solid Carbon Capture Materials Patents

★ Star Tag Share Queue

Publication Number	US 20220387969
Assignees	THE REGENTS OF THE UNIVERSITY OF COLORADO, A BODY CORPORATE ARIZONA BOARD OF REGENTS ON BEHALF OF ARIZONA STATE UNIVERSITY
Filing Status	Patent Application
US PAIR Status	Docketed New Case - Ready for Examination
US PAIR Status Date	Sep. 28, 2022
Application Number	17/775992
Filing Date	Nov. 11, 2020
Publication Date	Dec. 8, 2022

View Records
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[Assignment History](#)
[Google Patents](#)

Citations
References: 0
Scientific References: 0.0%

Disruption Score Incremental

Abstract
A method for forming an amine-functionalized solid CO2 sorbent for carbon capture may include providing a support material and applying at least one cycle of molecular layer deposition (MLD) with an amine precursor onto the surface of the support material. An amine layer formed on the support material contains amine groups/amine-containing ligands to adsorb CO2 onto the support material in a low temperature operating window for adsorption and desorption without the loss of active sites.



Companies Interested in this Work Download

- ExxonMobil**
10
- Mitsubishi Heavy Industries Compressor Corporation**
9
- Kansai Electric Power**
5
- Federal Labs (FLC)**
4
- Shell Global**
4
- and 5 more

Exercise 2: Discovering Researchers

Process workflow: Discovering Researchers

1. State your objective(s)
2. Define search parameters
3. Conduct and refine searches
4. Assemble a longlist of options

5. Create evaluation criteria
6. Reduce options to a shortlist
7. Prioritize outreach targets
8. (repeat)

Glucose Monitoring

Key Objective

Find PIs / labs to work with for technologies related to glucose monitoring devices.

Desired Results

Sponsorship(s) secured this year. Publications and/or patents within the next 3 years.

Search Parameters

- Keywords = “glucose monitoring”
- Category = Grants, Publications, Patents
- Org Type = Corporation
- Year = 2021, 2022, 2023

Step-by-step: Discovering Researchers

1. Search: "glucose monitoring"
2. Set filters:
 - a. Category = Grants, Publications, Patents
 - b. Year = 2021, 2022, 2023
3. Scan for promising options
 - a. Industry Networks -> Specific Institution(s) -> Top People
 - b. Researcher Networks
4. Scan researcher profiles
 - a. Corporate affiliations
 - b. Research history
5. Tag to longlist

This screenshot shows the Scout search interface. A search bar at the top contains the query "glucose monitoring". On the left, a 'Filters' sidebar is visible, with a red circle '1' around the search bar and '2a' around the filter categories. The main area displays 'Profile Matches' for GlucoActive and Apollon Inc. Below this, a search result for a patent titled 'Glucose monitor' is shown, with a red circle '2b' around the search bar area.

This screenshot shows the 'Industry Networks' visualization. It features a network graph of various organizations, including Samsung, GlucoActive, Apollon, and others. Red arrows labeled '3a' and '3b' point to the network visualization and the 'Top Organizations' header, respectively.

This screenshot shows the profile of Boris P Kovatchev. The 'Filters' sidebar on the left is expanded to show 'Year' with 2021, 2022, and 2023 selected. The main area displays a list of research results, including a patent titled 'IMPROVED ACCURACY CONTINUOUS GLUCOSE MONITORING METHOD, SYSTEM, AND DEVICE'. A red circle '4b' is placed around the search bar at the top of the profile page.

This screenshot shows the 'Affiliations' and 'Portfolio Summary' sections of Boris P Kovatchev's profile. The 'Affiliations' list includes Abbott Laboratories, Amrylin Pharmaceuticals, and Cilag GmbH International. The 'Portfolio Summary' shows 528 documents, with a bar chart of research grants from 2013 to 2023. A red circle '4a' is placed around the 'Affiliations' section.

Exercise 3: Discovering Institutions

Process workflow: Discovering Institutions

1. State your objective(s)
2. Define search parameters
3. Conduct and refine searches
4. Assemble a longlist of options

5. Create evaluation criteria
6. Reduce options to a shortlist
7. Prioritize outreach targets
8. (repeat)

Renewable Energy

Key Objective

Win a multi-party NSF ERC grant for long-term research into renewable energy.

Desired Results

Win grant award this year. Launch funded research center next year.

Search Parameters

- Keywords = “Renewable Energy”
- Category = Grants; Publications, Patents
- Org Type = University, Research Institution
- Year = 2021, 2022, 2023

Step-by-step: Discovering Institutions

1. Search: "Renewable Energy"
2. Set filters:
 - a. Org Type = University, Research Institution
 - b. Year = 2021, 2022, 2023
3. Academic Ranking
4. Scan for industry collaboration experience
 - a. Category = Publications, Patents
 - b. Industry Networks
5. Scan for NSF grant experience
 - a. Category = Grants
 - b. Granting agency = DOE, NSF
6. Scan institution profiles
7. Tag to longlist

1

5a

5b

4a

2b

2a

The screenshot shows the Scout search interface. The search term is "renewable energy". The filters on the left include:

- Category: Research Grants (542)
- Funding Source: National Science Foundation (527), Department of Energy (15), Community Resources (164)
- Program: Publications (54.4K), Patents (4.1K), Clinical Trials (1), SEC Filings (6), Fintbox Opportunities (579), Web Documents (6.6K), Press (56.2K)
- Date: Year (2022: 162, 2023: 194, 2021: 186)
- Country, State, Person
- Organization Type: University (539), Research Institution (23), Company (164)

 The search results on the right show several grants related to renewable energy, including "Non-Gaussian Multivariate Processes for Renewable Energy and Finance" and "Renewable energy, mining, and extraction governance".

4b

3

The screenshot shows the Academic Ranking table. The table has columns for Rank, Organization, Publications, Patents, Licensable Opportunities, Total Funding, and Top Collaborators. The top entries are:

Rank	Organization	Publications	Patents	Licensable Opportunities	Total Funding	Top Collaborators
1	University of Michigan	66	28	4	\$259,700,000	Hypercatal National Renewable Energy Lab (NREL) United States Department of Energy (DOE)
2	Argonne National Laboratory	167	14	2	\$19,700,000	National Renewable Energy Lab (NREL) Oak Ridge National Laboratory United States Department of Energy (DOE)
3	Oak Ridge National Laboratory	251	40	11	\$5,000,000	National Renewable Energy Lab (NREL) United States Department of Energy (DOE) University of Tennessee
4	Georgia Institute of Technology	185	11	6	\$12,479,614	National Renewable Energy Lab (NREL) University of Chinese Academy of Sciences University of Colorado
5	University of Arkansas	92	12	2	\$30,050,000	Asaborg University Chongqing University North China Electric Power University
6	Sandia National Laboratories	190	31	14	\$3,900,000	Honeywell International National Renewable Energy Lab (NREL)

7

The screenshot shows two institution profiles. The top profile is for the University of Kentucky, and the bottom profile is for the Georgia Institute of Technology. Both profiles show the institution's name, logo, and a tag for "carbon capture".

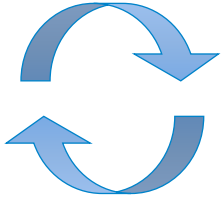
6

The screenshot shows the Scout search interface with filters set to Publications (39), Patents (600), and Research Grants (41). The search results on the right show a publication titled "Planning decentralized urban renewable energy systems using algal cultivation for closed-loop and resilient communities".

Parting Thoughts

The big picture: an iterative process

The screenshot shows the Scout research database interface. The search query is "carbon capture" sorbent. The left sidebar contains filters for Category (Research Grants, Publications, Patents), Funding Source, Program, Type, Journal, MeSH Term, Forward Citations, Filing Status, US PARI Status, Jurisdiction, USPC Class, IPC Class, Derivation Score, Web Documents, Date, Year, Country (SA - Saudi Arabia, KR - South Korea, ES - Spain, IN - India, SG - Singapore, DE - Germany, NL - Netherlands), State, Person, and Organization Type (University, Research Institution, Company). The main content area displays search results with titles like "Carbon Capture, Utilization and Storage (CCUS) - The Energy source of the future", "Controlled Synthesis of Metal-Organic Frameworks in Scalable Open-Porous Contactor for Maximizing Carbon Capture Efficiency", "Upcycling Mask Waste to Carbon Capture Sorbents: A Combined Experimental and Computational Study", "Advanced Carbon Capture for steel industries integrated in CCUS Clusters", "Carbon Dioxide Capture from Biomass Pyrolysis Gas as an Enabling Step of Biogenic Carbon Nanotube Synthesis and Hydrogen Recovery", and "Readily regenerable amine-free CO2 sorbent based on a solid-supported carboxylate ionic liquid". The right sidebar includes a Year bar chart, Organization Types, Top Companies, Top Institutions, and Top People.



Complete the process with discipline & structure

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THE SEARCH ENGINE FOR INNOVATION

WELLSPRING SCOUT is a cloud-based scouting solution that connects organizations to innovation ecosystems and allows them to see disruption before it happens. R&D groups, tech scouts, innovation teams, and more use Scout to identify trends, discover emerging technologies, find startups, and foster corporate partnerships in a centralized system. Scout's federated search engine aggregates over **400 million records** from over **2,000 proprietary and public databases** across 10 different IP categories.



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