Taking Impact Metrics to the Next Level at the National Institute of Standards and Technology

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NIST Information Services Office

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SLA Contributed Papers

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ISO
INFORMATION
SERVICES
OFFICE

MANAGEMENT RESOURCES

Presentation Outline

- Overview of NIST

- Evolution of our metrics

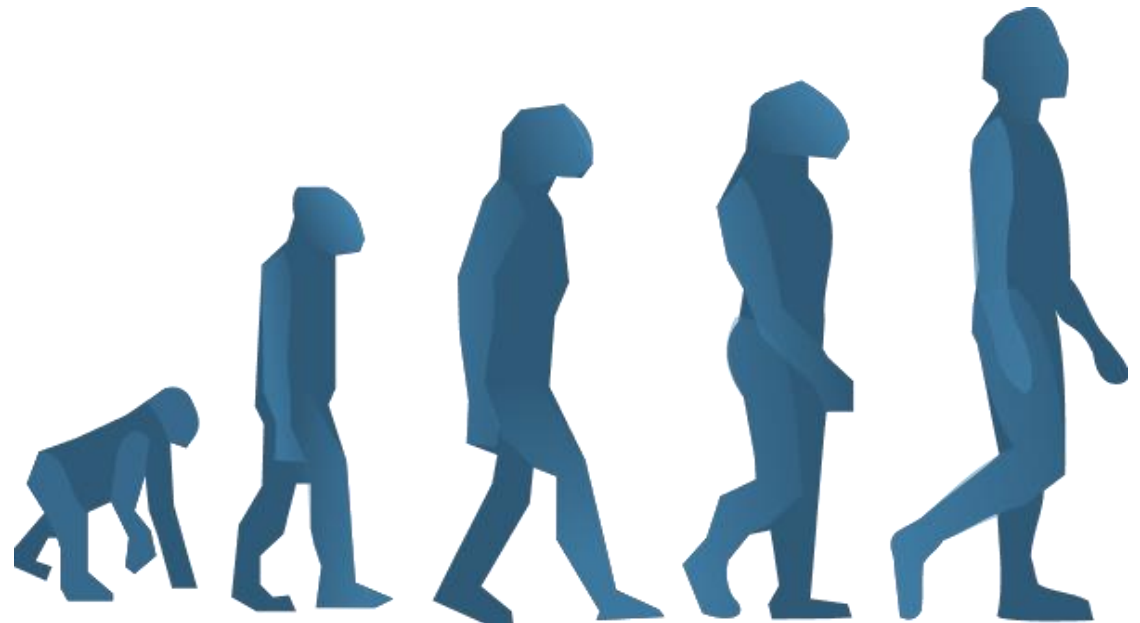- Becoming Strategic Research Partners

- Next steps

National Institute of Standards and Technology

- Non-regulatory federal agency made up of about 3,000 science and technology researchers

- NIST promotes U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology

- The Information Services Office (ISO) supports and enhances research activities of the NIST scientific community through a comprehensive program of knowledge management
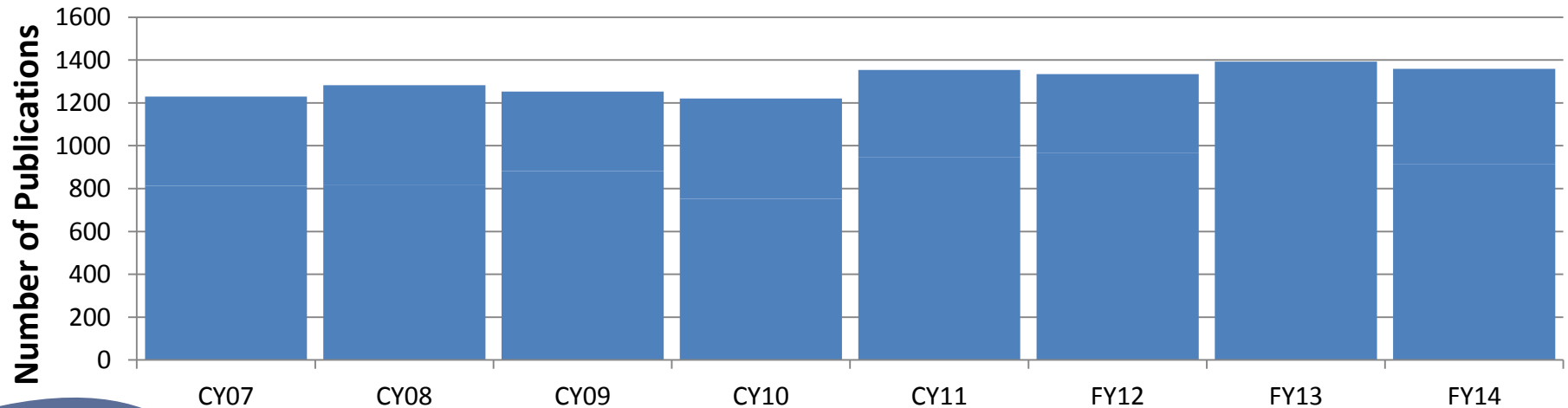
Our Evolution

- Expanding our skill set

- Creating innovative metrics

- Becoming a key player within NIST

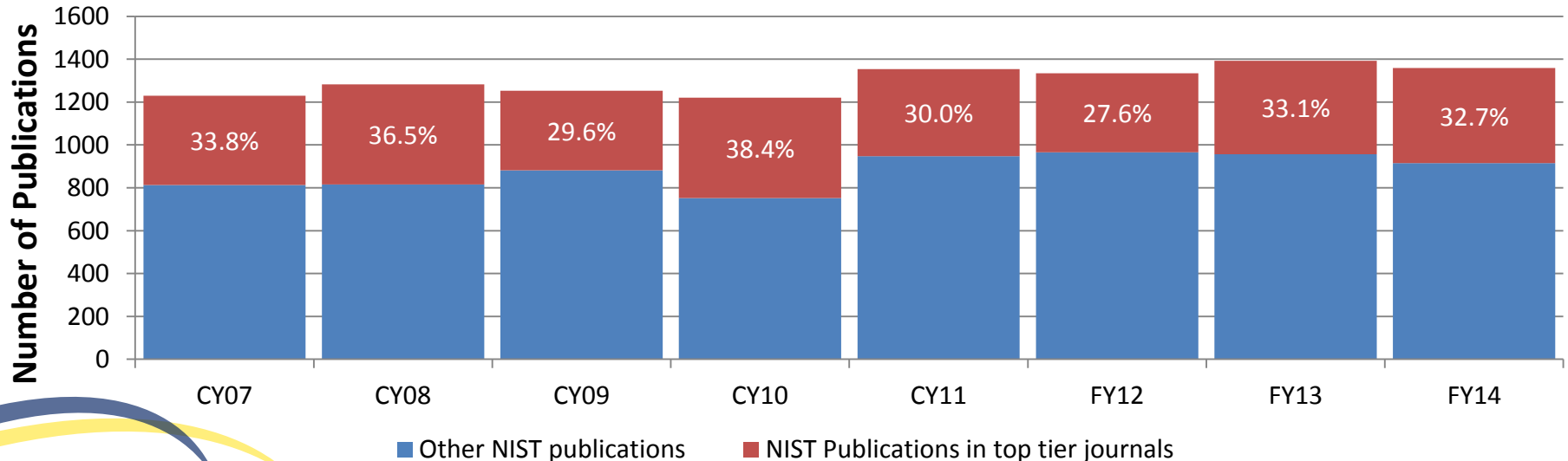http://www.clipshrine.com/Darwin-evolution-theory-2618-medium.html

A Simple Start

- Overall publication output
- Web of Science used to determine publication counts
- Plain bar chart of publication counts
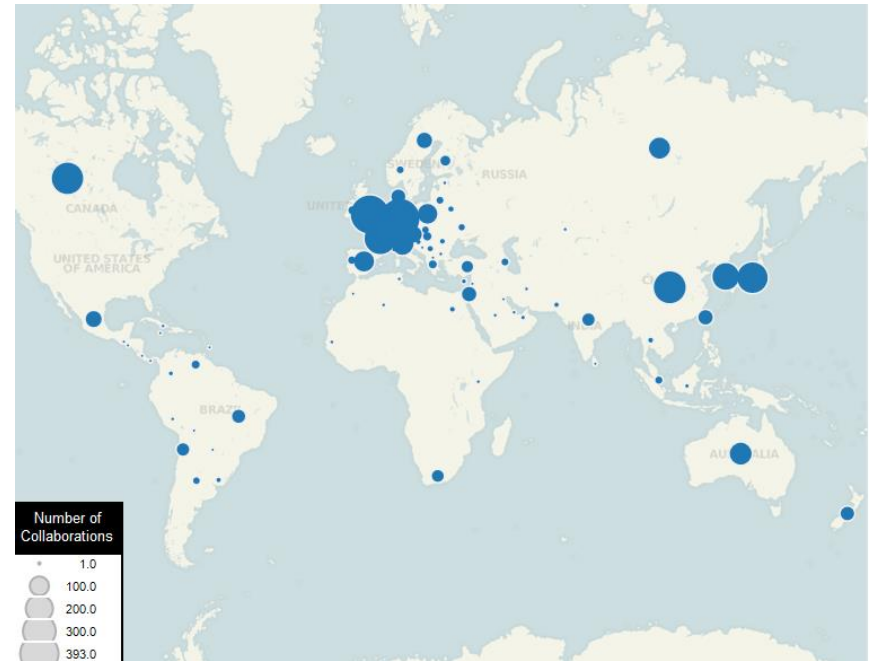- Included in NIST's report to Office of Management & Budget (OMB)

Developing Depth

- What is the quality of those papers?
  - Used Journal Citation Reports to establish top ten percent of journals (by impact factor) in each of 173 categories and created a master journal list (updated annually)
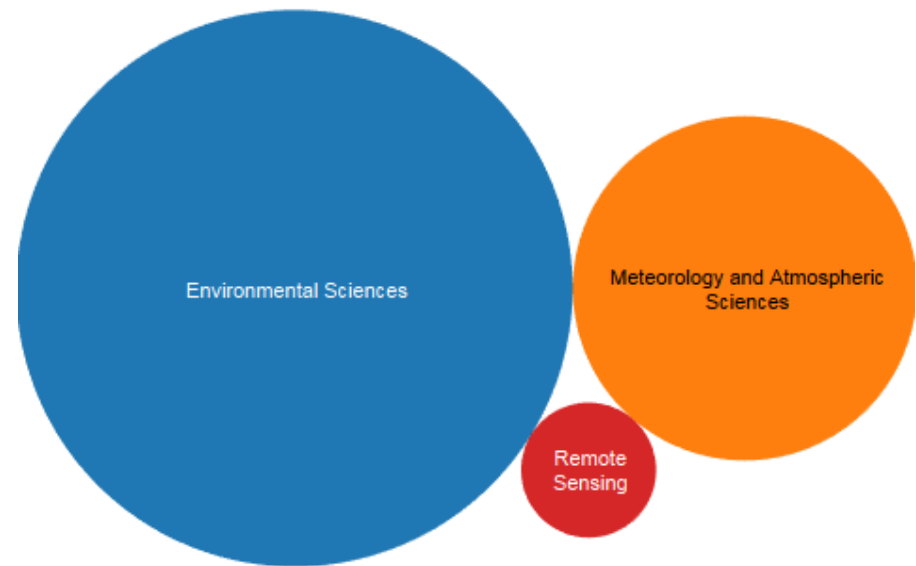 - Compared NIST journal papers to the top tier journal list

Providing Insight

- Identifying and assessing collaborations
  - Organization
  - Country
  - Author

- Used Web of Science outputs

- Manual manipulation to identify unique collaborating authors

Number of Collaborations
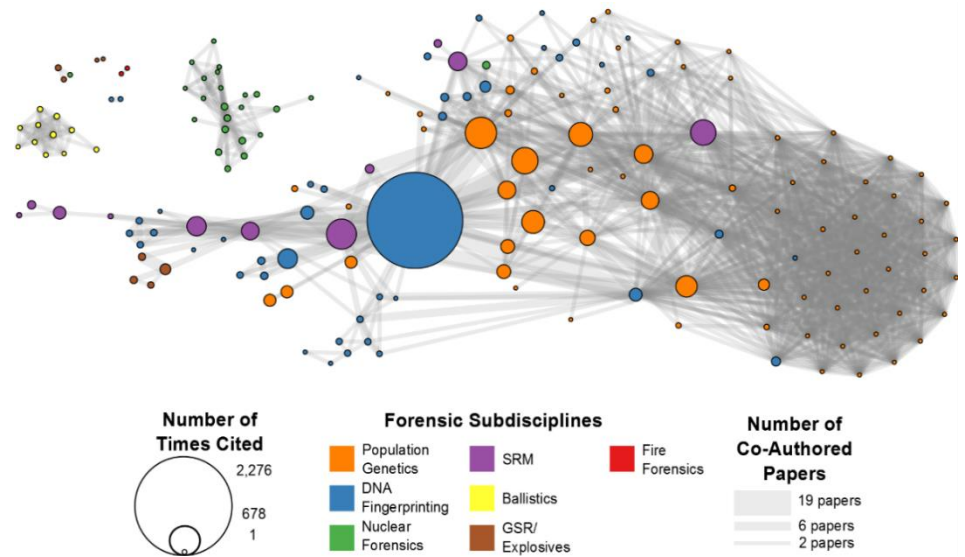- 1.0
- 100.0
- 200.0
- 300.0
- 393.0

Benchmarking

- Requested by another Federal agency

- Used Web of Science analysis function to study Research Areas of interest

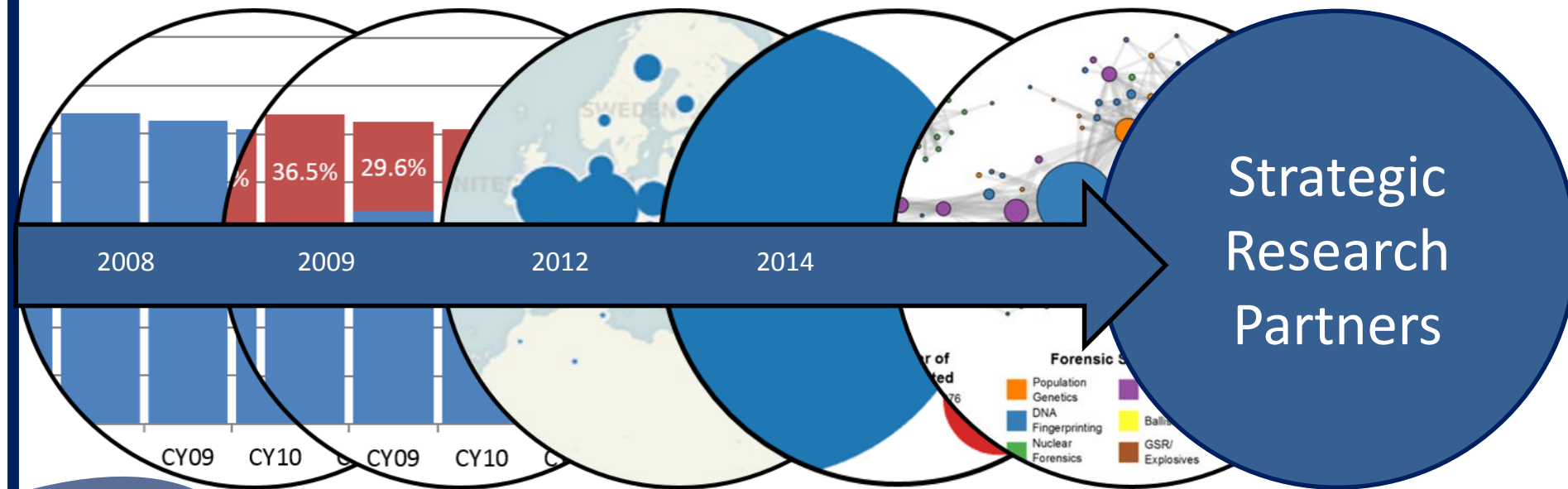- Provide quarterly assessment reports that track trend analysis

Applying Innovative Metrics

- Forensics@NIST Symposium

- Tools Used:
  - Web of Science

  - Sci^2

  - Gephi

  - Tableau

Number of Times Cited

2,276

678

1

Forensic Subdisciplines

- Population Genetics
- DNA Fingerprinting
- Nuclear Forensics
- SRM
- Ballistics
- GSR/ Explosives
- Fire Forensics

Number of Co-Authored Papers

19 papers

6 papers

2 papers

- Resulted in multiple requests for similar research studies

Strategic Research Partners

- Evolving ISO's skill sets
- Positioning ourselves to anticipate future needs and questions and begin to drive the research questions

Next Steps

- Continue re-skilling
  - Data tools
  - Altmetrics
  - Data analysis

- Future projects
  - Standard Reference Data (SRD) assessment
  - Internal NIST collaborations
  - Protein Data Bank (PDB) study

Questions?

More presentations available at:

http://www.nist.gov/nvl

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