A New Interest Indicator Based on Researcher Behavior in the Web of Science

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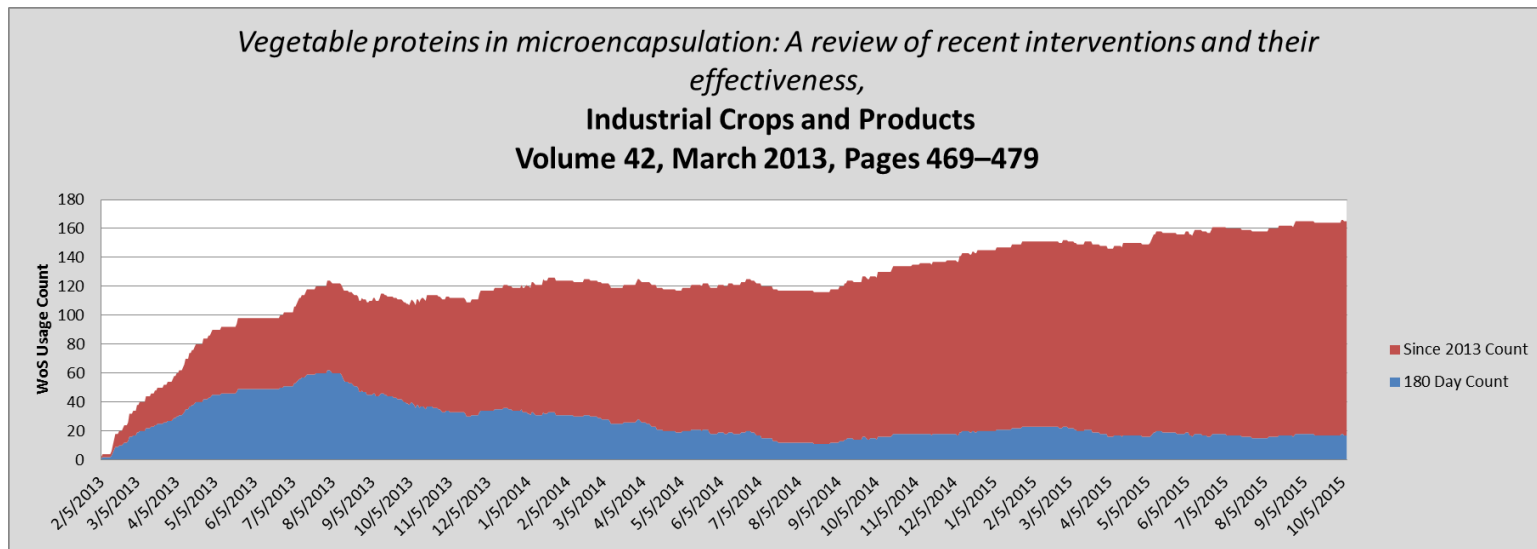
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Background

- Researchers seek new indicators to complement citations.
  - Earlier, before citations accumulate
  - Broader, in fields where citations are sparse
  - Different, to complement citations by showing other forms of influence
- Altmetrics have emerged to meet this need
  - Downloads and views from publisher sites
  - Social media mentions
- Questions for altmetrics remain
  - Standardization and provenance
  - Relationship to reading and citation
  - Challenges of gaming and automated traffic

Definition

WoS Usage Counts: Designed for article discovery. Potentially a standard article indicator across disciplines, years, collections, and document types

- Counts of actions that indicate user interest in an item on the WoS platform.
  - Click through from metadata records to full-text
  - Exports to bibliographic management tools or in formats for later import.
- Not Counted
  - Batch operations indicating analysis of large data sets
  - API usage
  - Usage generated by "bots" or other automated behaviors
- Scope
  - Formal counting began February 1, 2013
  - Usage can accrue to all years and across all collections in WoS

What does it look like at the article level?

Vegetable proteins in microencapsulation: A review of recent interventions and their effectiveness,
Industrial Crops and Products
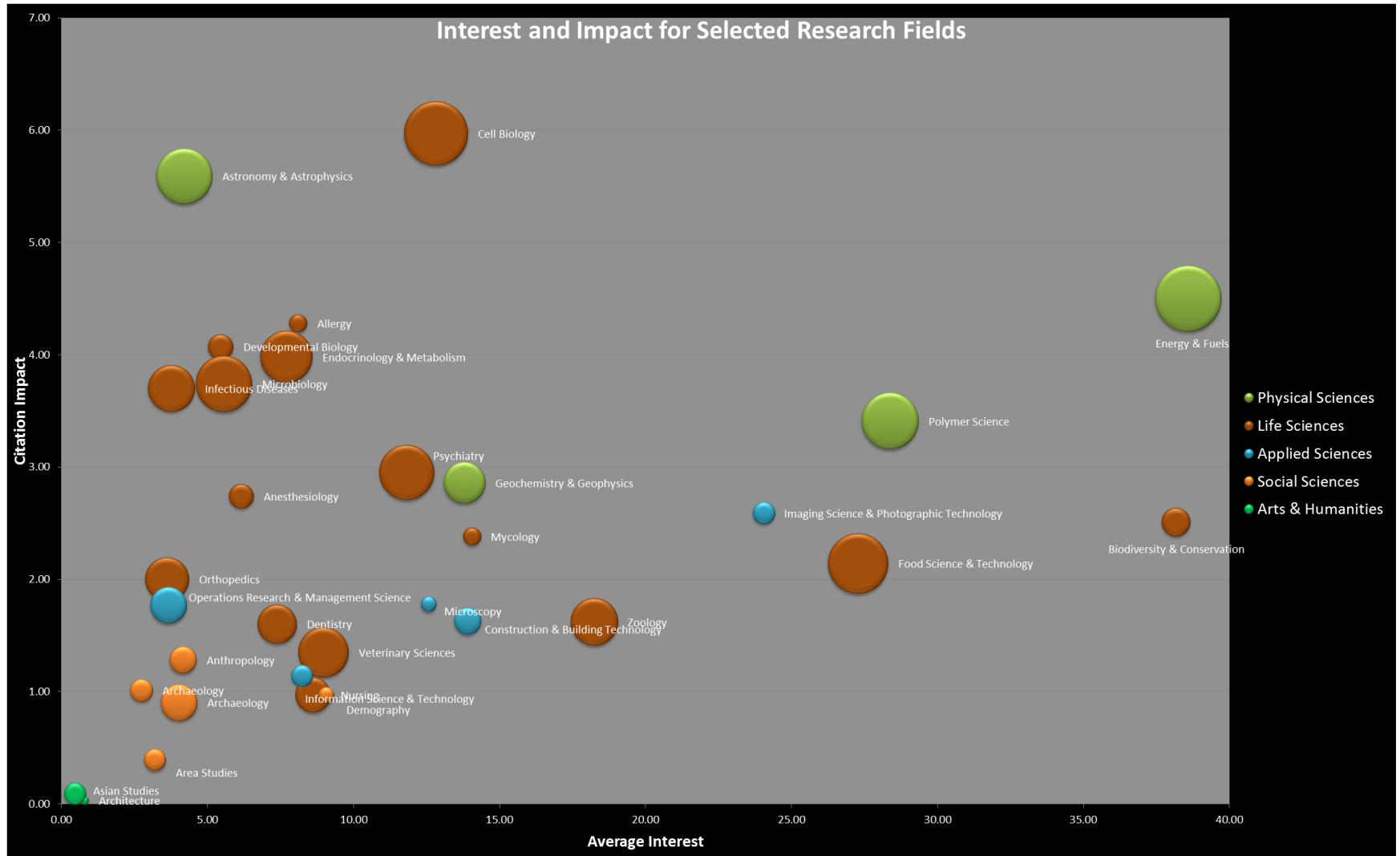**Volume 42, March 2013, Pages 469–479**

- 2013-2014: 80% of articles had at least one interest event.
- Usage builds quickly, then declines in a long tail.

Any Item in Web of Science May Hold Interest
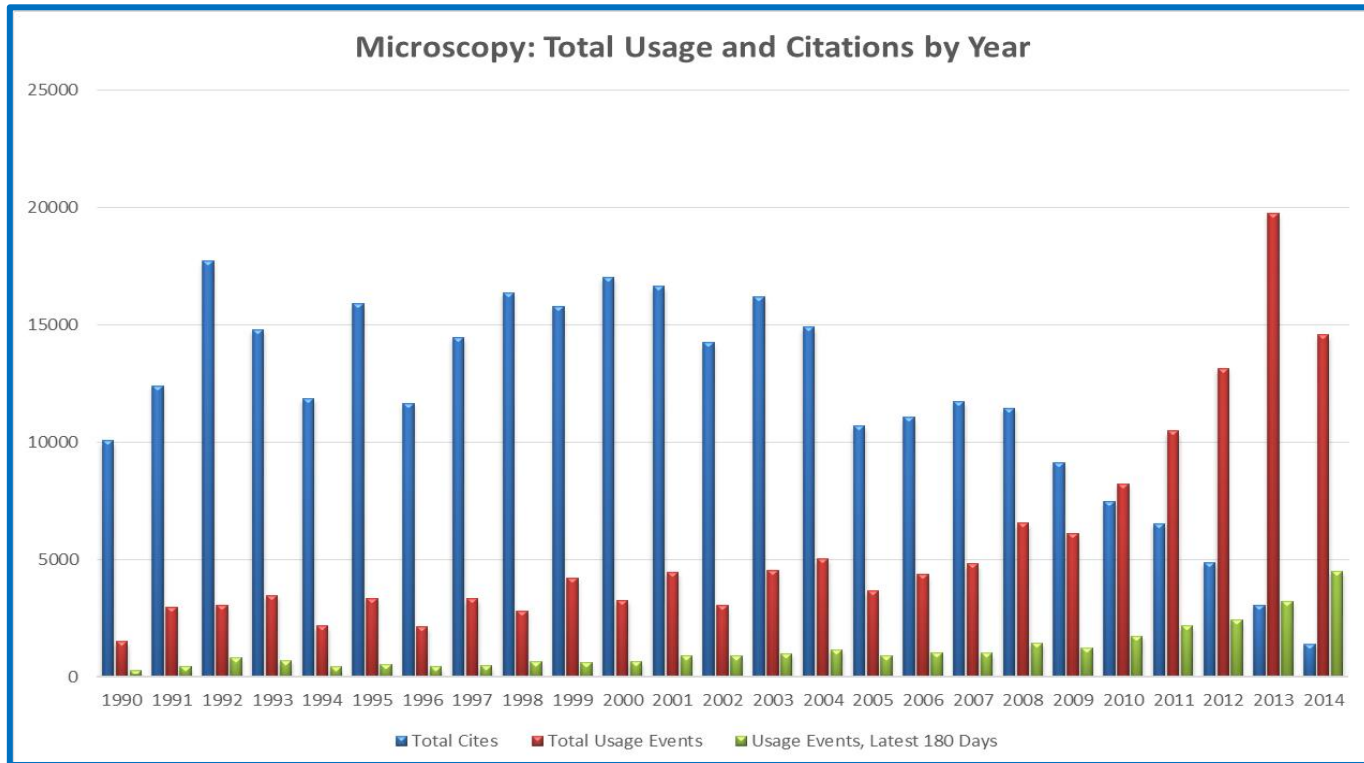
- Interest events—higher velocity than citations
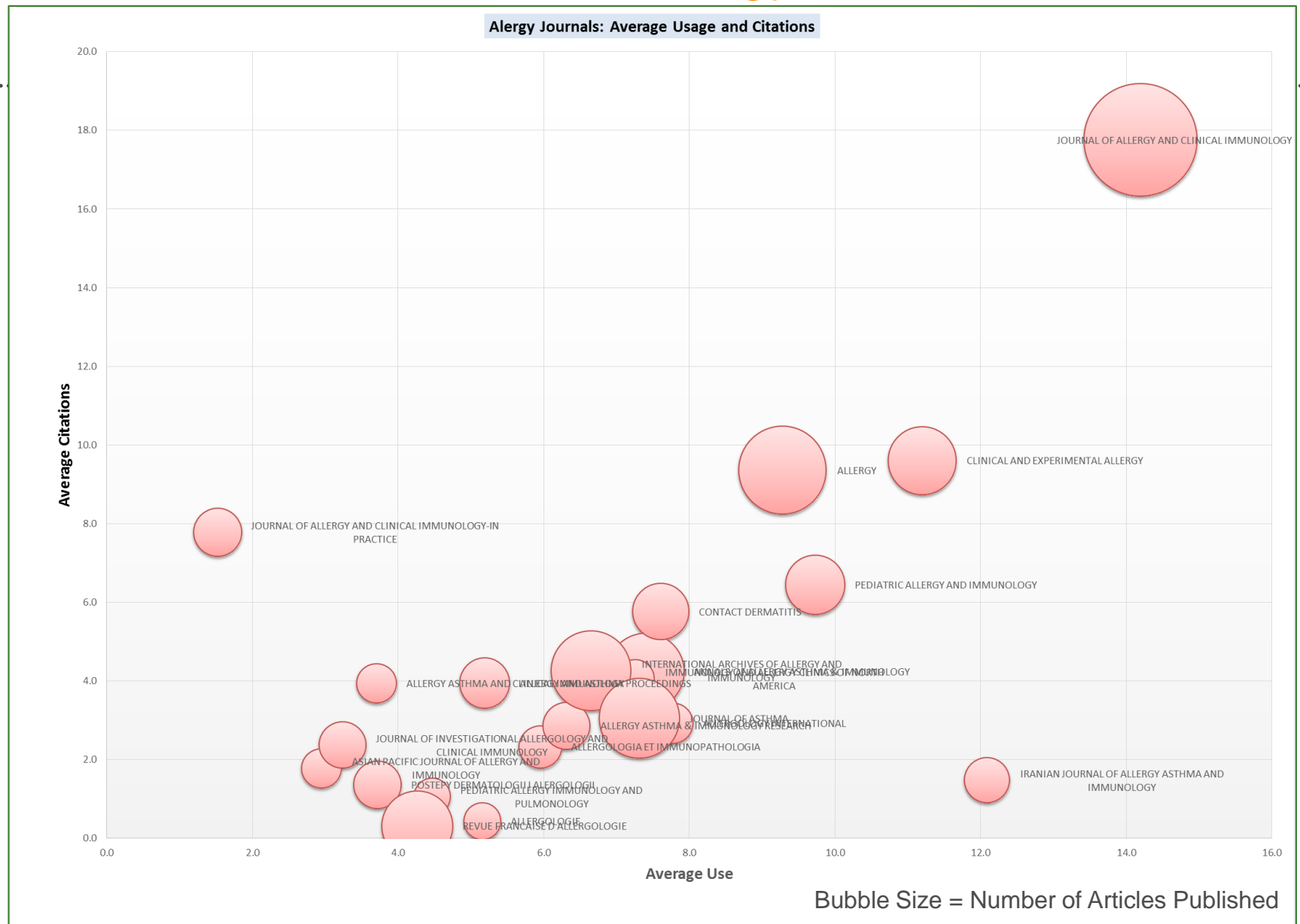- "Half Life" of article interest (Microscopy Example) ≈ *7 years*
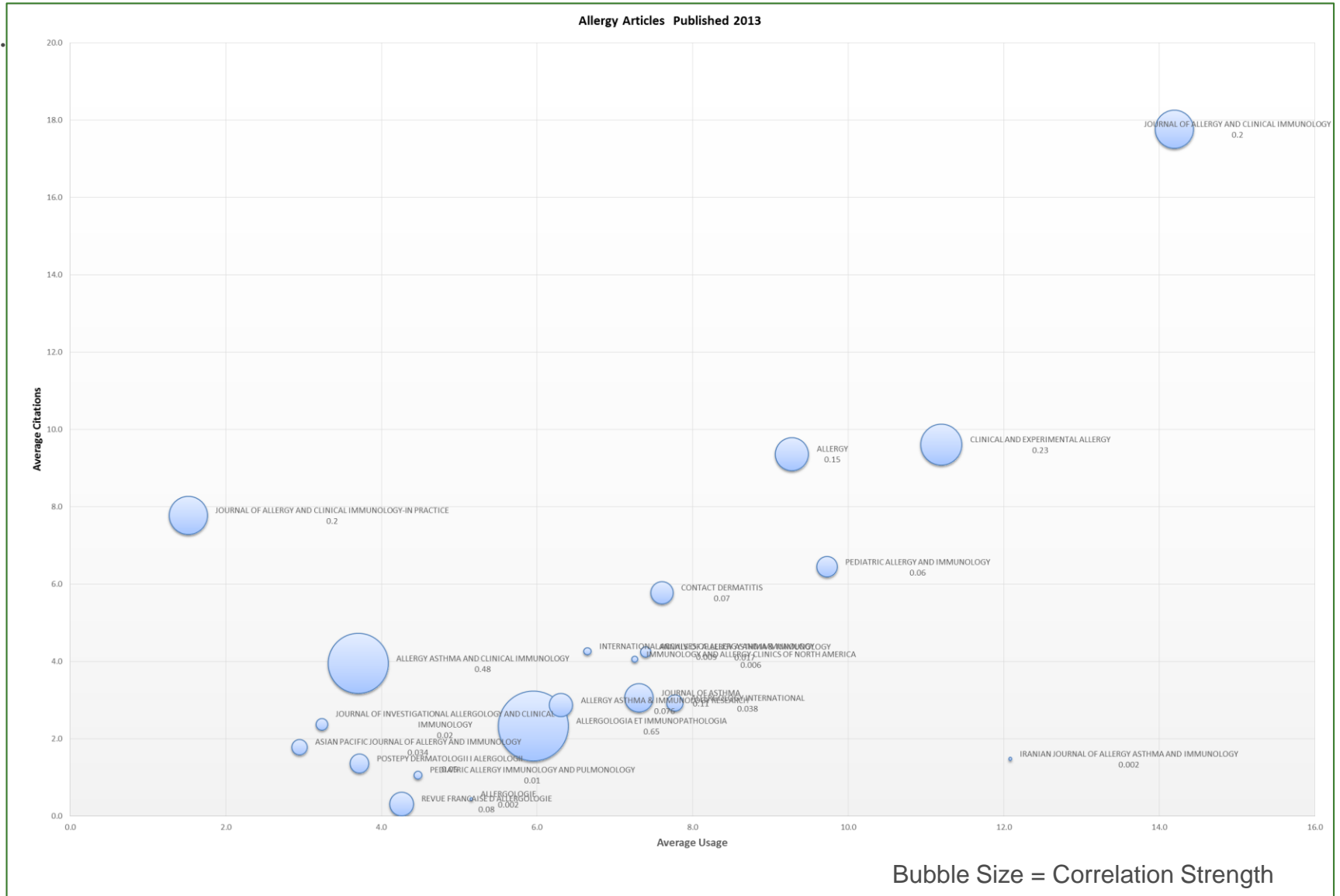
Disciplinary Variances Between Interest and Impact

Are Interest and Citation Impact Related?

- Discipline level—moderate correlation
  - Examples: Mycology (r = .40) Microscopy (r = .37) and Allergy (r = .47)
  - Behavior resembles online reference managers more than social media.
- Prestige journals-strong correlation
  - Nature (r = .73); Science (r = .69)
  - Temporal dimension/causality not yet clear.
- Large variations at journal level within disciplines
  - No clear pattern
  - Journal characteristics (e.g. audience, brand, editorial policy) important focus for future investigation.

Journal Level Variations: Allergy Example

Alergy Journals: Average Usage and Citations

Bubble Size = Number of Articles Published

Journal Level Variations: Allergy Example

Allergy Articles Published 2013

Bubble Size = Correlation Strength

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Very Preliminary Conclusions

- A new, consistent and standardized way to explore articles, journals, and fields.
- Adds breadth, temporal depth, and currency
- Appears more similar to online reference managers than social media, but broader in scope
- Reveals understandable patterns among fields and prestige journals, but many unexpected twists.
  - Journals—audience and editorial practice?
  - Fields—differences in researcher "journey" and its outcomes?

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