STM Annual US Conference
The Future Decade of The Researcher

Future Think!

What research institutions think publishers should be thinking about? What do the research institutions want the scholarly publishers to consider now and in the future?

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Director of Institutional Research
Massachusetts Institute of Technology
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Massachusetts Institute of Technology

- A primarily STEM institution located in Cambridge, Massachusetts
- Operates Lincoln Laboratory which is an FFRDC located in Lexington, Massachusetts
- Established in 1961, moved from Boston to Cambridge in 1916
- Annual revenues of about $3.4 billion of which $956 million are attributed to Lincoln Laboratory
- Endowment is over $10 billion
- About 1,000 members of the faculty, over 40% were born outside the US
- 14,700 research, instructional, administrative and service staff
- 4,500 undergraduate students and 6,700 masters and doctoral candidates
Massachusetts Institute of Technology

• Five Schools: Engineering, Science, Humanities Arts & Social Sciences, Architecture and Planning and Sloan School of Management: about 30 academic programs and departments

• MIT’s annual research revenues on campus are about $700 million, slightly less than 70% are from the US Federal Government.

• Historically, MIT Scholars have produced between 4,500 – 5,000 publications and conference proceedings each year

• MIT has recently begun to use Bibliometrics in our external review process.
Scholarly Productivity Measures

**Journal Publications per Faculty Member**

- MIT AERO ASTRO: 15.2
- MIT MechE: 15.2
- MIT ChemE: 10.1
- University of Washington—Aeronautics and Astronautics: 10.5
- University of Minnesota, Twin Cities—Aerospace Engineering and Mechanics: 10.4
- University of Michigan—Aerospace Engineering and Science: 20.2
- University of Illinois at Urbana-Champaign—Aerospace Engineering: 12.7
- University of Colorado at Boulder—Aerospace Engineering Sciences: 16.3
- The Pennsylvania State University—Aerospace Engineering: 12.1
- Stanford University—Aeronautics and Astronautics: 9.6
- Purdue University—Aeronautics & Astronautics: 38.5
- Georgia Institute of Technology—Aerospace Engineering: 21.2
- California Institute of Technology—Aeronautics: 20.3

**Citations per Publication**

- MIT AERO ASTRO: 6.7
- MIT MechE: 2.2
- MIT ChemE: 3.0
- University of Washington—Aeronautics and Astronautics: 2.9
- University of Minnesota, Twin Cities—Aerospace Engineering and Mechanics: 1.2
- University of Michigan—Aerospace Engineering and Science: 4.3
- University of Illinois at Urbana-Champaign—Aerospace Engineering: 6.5
- University of Colorado at Boulder—Aerospace Engineering Sciences: 2.2
- The Pennsylvania State University—Aerospace Engineering: 8.7
- Stanford University—Aeronautics and Astronautics: 4.1
- Purdue University—Aeronautics & Astronautics: 12.0
- Georgia Institute of Technology—Aerospace Engineering: 18.6
- California Institute of Technology—Aeronautics: 4.5
Rankings

- The use of Bibliometrics in international rankings has increased interest in this subject on our campus.

<table>
<thead>
<tr>
<th>Pillar</th>
<th>Metric</th>
<th>Value</th>
<th>Score</th>
<th>Pillar score</th>
<th>Pillar rank</th>
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</thead>
<tbody>
<tr>
<td>Teaching</td>
<td>Doctorate to bachelor awarded</td>
<td>0.56</td>
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<td>78.4</td>
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<td></td>
<td>Doctorate awarded to academic staff</td>
<td>0.47</td>
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<td>76.9</td>
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<td></td>
<td>Teaching reputation</td>
<td></td>
<td></td>
<td>99.9</td>
<td></td>
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<tr>
<td></td>
<td>Institutional income to academic staff</td>
<td>3,999,979 USD</td>
<td>100</td>
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<td></td>
<td>Students to academic staff</td>
<td>8.8</td>
<td>77.7</td>
<td>90.3</td>
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<tr>
<td>Research</td>
<td>Papers to academic staff</td>
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<td>63.3</td>
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<tr>
<td></td>
<td>Research income to academic staff</td>
<td>1,201,961 USD</td>
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<td>Research reputation</td>
<td>100</td>
<td>92.3</td>
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<tr>
<td>Citations</td>
<td>Citation impact</td>
<td>99.9</td>
<td>99.9</td>
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<tr>
<td>Industry income</td>
<td>Industry income to academic staff</td>
<td>88,348 USD</td>
<td>88.4</td>
<td>88.4</td>
<td>55</td>
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<tr>
<td></td>
<td>Percentage of international staff</td>
<td>38%</td>
<td>95.2</td>
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<td></td>
<td>International co-authorship</td>
<td>64.5</td>
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<tr>
<td>International outlook</td>
<td>Percentage of international students</td>
<td>33%</td>
<td>97</td>
<td>85.6</td>
<td>89</td>
</tr>
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</table>
What is important to research institutions?

• The major research universities in the United States are defined by their commitment to research and graduate education

• Measurable outputs
  • Publications, conference proceedings, books
  • Degree recipients and their productivity after they leave MIT
  • Patents, startups
  • Honors and Awards
Challenges for MIT

Establishing a major repository of publications, conference proceedings and books. With about 25% of our scholars participating in our central electronic Professional Record we have

- 115,000+ Publication records
- 7,500+ Honors & Awards
- 10,000+ Grants
- 50,700+ Student Thesis Supervision
- 43,700+ Student Research/Other Supervision
- 23,400+ Patents