Creating and Maintaining Sustainable Scientific Resources

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Phoenix Bioinformatics Corporation (TAIR)
Research Database Lifecycle

- Initial grant funding
- Additional rounds of grant funding
- Static resource (no further updates)
- Discontinued, website no longer available
- Becomes for-profit company
- Data transferred to another resource
- Data lost
- Data unavailable to many academic researchers
- Additional rounds of grant funding
## TAIR Worldwide Usage

<table>
<thead>
<tr>
<th>Country / Territory</th>
<th>Visits</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>517,964</td>
<td>22.94%</td>
</tr>
<tr>
<td>China</td>
<td>394,727</td>
<td>17.48%</td>
</tr>
<tr>
<td>Japan</td>
<td>196,765</td>
<td>8.72%</td>
</tr>
<tr>
<td>Germany</td>
<td>155,797</td>
<td>6.90%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>97,745</td>
<td>4.33%</td>
</tr>
<tr>
<td>France</td>
<td>83,142</td>
<td>3.68%</td>
</tr>
<tr>
<td>Canada</td>
<td>71,225</td>
<td>3.16%</td>
</tr>
<tr>
<td>India</td>
<td>69,277</td>
<td>3.07%</td>
</tr>
<tr>
<td>South Korea</td>
<td>67,564</td>
<td>2.99%</td>
</tr>
<tr>
<td>Spain</td>
<td>57,850</td>
<td>2.56%</td>
</tr>
</tbody>
</table>
Increasing Usage Since 1999
Researchers, Labs, Institutions

- 25,000 registered individual researchers
- 9,900 registered research labs
- 680 universities, nonprofit research organizations, and government labs
- 10 Ag-biotech companies
A Fair Approach to Subscription

![Graph showing the relationship between subscription price and number of subscriptions per lab.](image.png)
Fair Subscriptions

- Most labs will share 1-2 individual subscriptions rather than buying one for each researcher
- If the price is over $95 many labs won’t subscribe
- Institution-wide subscriptions preferred
  - Cover all faculty, staff, students
  - Allow access based on IP address
  - Provide access to casual users
  - Shifts cost from grants to university library budget
- Lab subscription
  - Requires individual login and password
  - PI signs up multiple individuals with discount
The Bottom Line

- Company subscriptions $5K-$25K based on usage/size
- Institutional Subscriptions 4 tiers $500-$7,500 based on usage
- Lab Subscriptions $85 for 2 or more subscriptions
- Individual Subscriptions $95
- Free Subscriptions for high school, college courses, others
- Metered content up to 10 accesses before requiring subscription
- Crowdfunding, donations, foundation grants, subcontracts
Phoenix Vision

We envision the global community using all relevant knowledge gained from previous research to accelerate scientific discovery. The body of scientific knowledge is integrated, computable, evolving, sustainable, and available to all researchers. Scientists use this body of integrated knowledge to find novel connections and to make revolutionary breakthroughs.
Phoenix Mission

• Develop an economically and technologically sustainable business model and platform that provides the resources to allow scientific databases to persist, grow, and prosper.

• Integrate and systematically organize trusted data into knowledge bases and develop tools that enable reuse of and create knowledge from data.

• Build an interactive, computable learning environment where researchers explore relevant knowledge and build testable hypotheses.
Phoenix Bioinformatics: Who We Are

- Eva Huala, Executive Director
- Bob Muller, CFO/CTO
- Tanya Berardini, Director of Curation
- Donghui Li, Director of Product Marketing
- David Huang, Senior Software Developer

- www.phoenixbioinformatics.org
- www.arabidopsis.org