Research Report Publishing Platform

Welcome to the **Research Report Publishing Platform** - a modern framework for creating interactive data visualizations and professional research reports. This platform combines the power of Observable Framework with sophisticated PDF generation to bridge the gap between dynamic web dashboards and traditional academic publishing.

Platform Overview

This demonstration site showcases the capabilities of combining **Observable Framework** with academic research workflows. Navigate through the examples in the sidebar to explore different visualization types and report formats.

Quick Statistics Dashboard

Publications

1,247 Total papers

Citations

8,934 Total citations

h-index

42 Research impact

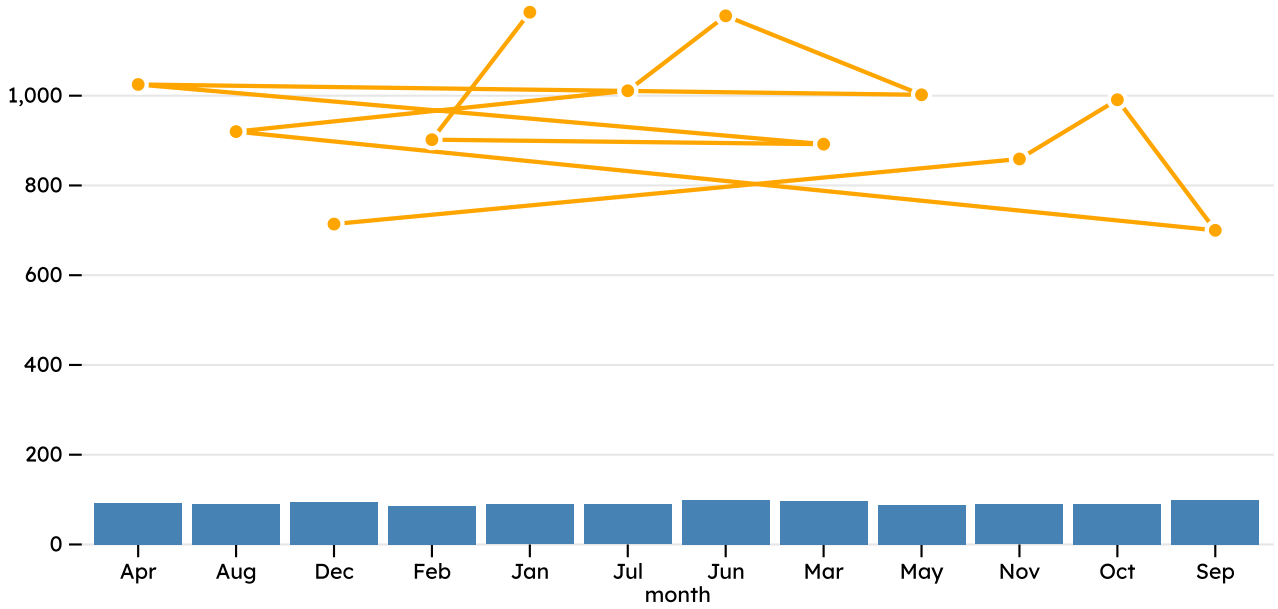
Collaborators

186 Co-authors

Research Output Trends

Monthly Research Metrics (2024)

Publications and citations by month



Key Features

Rich Data Visualizations

Explore our comprehensive visualization examples including statistical plots, time series analysis, geographic maps, and network diagrams[1]. Each example demonstrates best practices for academic data presentation.

Professional PDF Export

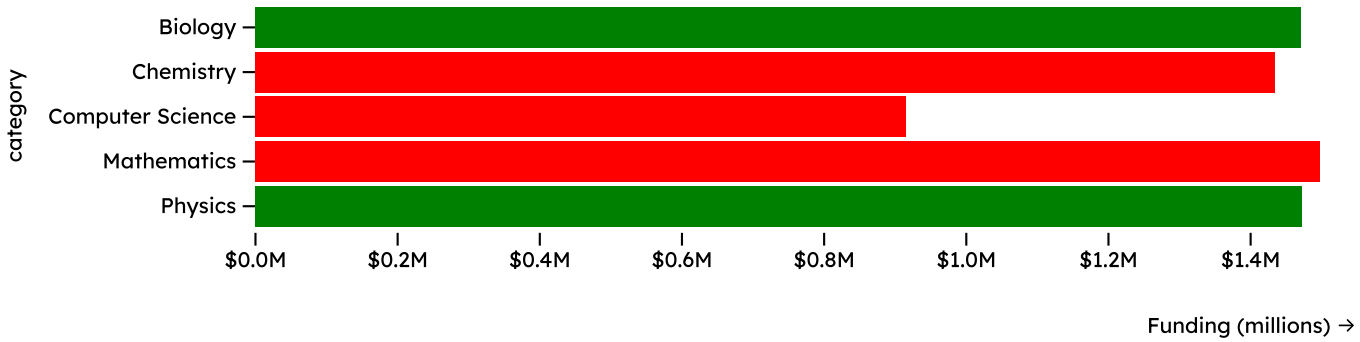
Every page on this site can be exported to PDF with automatic formatting, page breaks, and QR codes linking back to the interactive version[2]. The export system handles complex layouts including multi-page tables and figures.

Reproducible Research

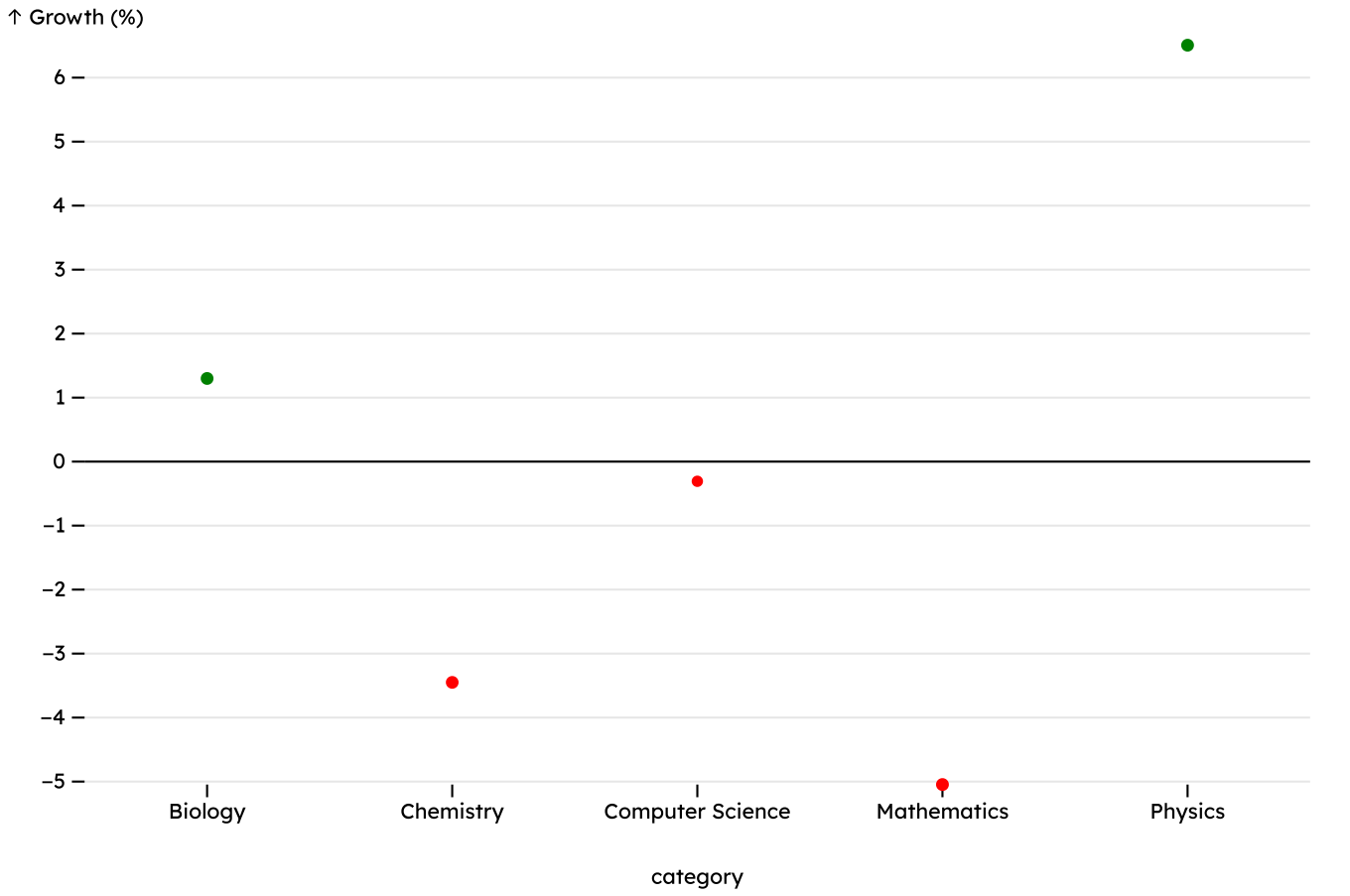
All data processing happens at build time using JavaScript data loaders, ensuring reproducibility and version control[3]. View the source code for any visualization directly in your browser.

Sample Visualizations Gallery

Research Funding by Field



Funding Growth Rate



Mathematical Equations

The platform supports mathematical notation using TeX. For example, the normal distribution probability density function:

$$f(x) = \frac{1}{\sigma\sqrt{2\pi}} e^{-\frac{1}{2}\left(\frac{x-\mu}{\sigma}\right)^2}$$

Or inline equations like the correlation coefficient: $r = \frac{\sum_{i=1}^{n}(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^{n}(x_i - \bar{x})^2}\sqrt{\sum_{i=1}^{n}(y_i - \bar{y})^2}}$

Interactive Controls

Year

Field of Study

You selected: **Physics** in **2024**

Data Tables

	Research Field	▾Annual Funding	YoY Growth	Researchers	Publications
	Computer Science	$914,985	−0.3%	1,467	3,272
	Mathematics	$1,497,363	−5.0%	1,305	3,676
	Physics	$1,472,791	+6.5%	687	3,142
	Biology	$1,471,039	+1.3%	1,494	3,462
	Chemistry	$1,433,937	−3.4%	1,476	4,218

Getting Started

For Researchers

1. **Explore the examples** - Navigate through the sidebar to see different visualization types
2. **View the source** - Click on any code block to see how visualizations are created
3. **Export to PDF** - Use the PDF export feature to create print-ready reports

For Developers

1. **Clone the repository**:

```
git clone https://github.com/SustainableDevelopmentReform/reseа bas
report.git
```

2. **Install dependencies**:

```
npm install && cd pdf-export && npm install bas
```

3. **Start developing**:

```
npm run dev bas
```

Platform Architecture

This platform combines several powerful technologies:

- **Observable Framework** - Reactive data visualizations and notebooks[4]
- **D3.js** - Low-level visualization primitives

- **Observable Plot** - High-level grammar of graphics
- **Puppeteer** - Automated PDF generation
- **GitHub Pages** - Free hosting for public research

Citations and References

This demonstration uses synthetic data for illustration purposes. In real research applications, you would load your actual datasets and include proper citations[5].

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1. Observable Framework provides a reactive programming model where visualizations automatically update when data changes. This is particularly useful for exploratory data analysis and interactive dashboards.
2. The PDF export pipeline uses Puppeteer to render pages with print-specific CSS, ensuring that tables don't break across pages and figures are properly captioned. QR codes are automatically injected to link print versions to their interactive counterparts.
3. Data loaders run at build time, not runtime, which means your data processing is version-controlled and reproducible. This follows best practices for computational reproducibility in research.
4. The architecture is inspired by computational notebooks like Jupyter, but with better support for web deployment and interactivity. See **Observable Framework documentation** for technical details.
5. For real research projects, we recommend using a reference manager like Zotero or Mendeley to maintain your bibliography, then importing formatted citations into your markdown files.