

Accessibility Evaluation Report:

World Scientific

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Conducted by: Accessiblü, LLC

For: Library Accessibility Alliance (LAA)

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Summary of Accessibility Findings

Accessiblü conducted a **high-level accessibility evaluation** of the World Scientific platform to assess its usability for individuals with disabilities. The review was conducted using the JAWS screen reader, keyboard-only navigation, and manual inspection for conformance to select WCAG 2.2 AA success criteria.

Key Findings

The World Scientific platform presents significant accessibility challenges that may create substantial barriers for users with disabilities, particularly screen reader users and keyboard-only users. During our testing, we encountered numerous critical issues that may prevent users from effectively navigating the site, searching for scholarly content, and accessing resources.

The testing revealed issues such as improper heading structures, missing alternative text for images, inadequate focus management, inaccessible dynamic content updates, and poorly structured navigation. These problems not only hinder platform usability but often render essential functionality entirely inaccessible for people with disabilities.

However, the platform does demonstrate some accessibility strengths, including properly announced modal dialogs, functional checkboxes for access filters, and correctly implemented tab navigation in the advanced search interface. Addressing the identified concerns would significantly improve the experience for persons with disabilities and users of assistive technology, allowing them to access the extensive scholarly and scientific resources that World Scientific provides.

Top 3 Issues Identified

1. Improper Heading Structure and Missing Landmarks

- Brief description: The platform lacks proper heading hierarchy (no H1, H2, H3 elements), and navigation landmarks are not properly announced to screen readers.
- Impact: Screen reader users cannot efficiently navigate the page structure or understand the content organization.
- WCAG Success Criteria: 1.3.1 Info and Relationships (A), 2.4.1 Bypass Blocks (A), 2.4.6 Headings and Labels (AA)

2. Inadequate Search Results and Dynamic Content Announcements

- Brief description: Search results are not announced to screen readers, and dynamic content changes when applying filters or changing tabs are not communicated.

- Impact: Users with visual impairments have no indication when search operations complete or when page content updates, making the search functionality essentially unusable.
- WCAG Success Criteria: 4.1.3 Status Messages (AA), 3.2.2 On Input (A)

3. **Missing and Incorrect Alternative Text for Images**

- Brief description: Many images lack proper alternative text, and some announce code fragments instead of meaningful descriptions.
- Impact: Screen reader users cannot access visual information conveyed by images, including important scholarly content and navigation elements.
- WCAG Success Criteria: 1.1.1 Non-text Content (A)

Disabilities Impacted

Blind and Low-Vision Users

- **Issues:** Missing alternative text for images, improper heading structures, unlabeled interface elements, inadequate search result announcements, missing live region updates, and focus management problems.
- **Impact:** Screen reader users struggle to understand page content, navigate effectively, or use core search functionality. The platform fails to communicate dynamic changes, creating confusion and preventing completion of research tasks.

Users with Motor Disabilities

- **Issues:** Focus management problems when navigating between search tabs and filters, inconsistent keyboard accessibility, and unpredictable focus movement.
- **Impact:** Keyboard-only users experience difficulty maintaining context when performing searches and may become disoriented when focus moves unexpectedly to different page sections.

Neurodiverse Users

- **Issues:** Inconsistent interface patterns, unpredictable behavior when activating controls, lack of clear feedback for user actions, and complex navigation without proper structure.
- **Impact:** Users with cognitive disabilities struggle to develop effective mental models of the interface due to inconsistent behavior and lack of clear feedback, making scholarly research tasks more challenging.

Page-Specific Findings and Impact Analysis

World Scientific Landing Page

Issue	WCAG Success Criteria	Description	Example
Heading Structure	2.4.6 Headings and Labels (AA), 1.3.1 Info and Relationships (A)	Page lacks proper heading hierarchy, starting with H4 instead of H1	No H1, H2, or H3 elements found; first heading is "Browse by subject" at H4 level
Navigation Landmarks	2.4.1 Bypass Blocks (A), 1.3.1 Info and Relationships (A)	Navigation regions not properly announced to screen readers	Main navigation announced as "Menu Bar with 7 items" instead of proper nav landmark
Missing Alt Text	1.1.1 Non-text Content (A)	Images lack meaningful alternative text descriptions	World Scientific logo announced as generic "graphic" without descriptive text
List Structure	1.3.1 Info and Relationships (A)	Navigation lists only announced when using tab navigation, not with arrow keys	Footer links identified as lists only through tab navigation, not semantic markup
Static Text Links	4.1.2 Name, Role, Value (A)	Subject category links announced as static text instead of interactive elements	Subject categories like "Chemistry" and "Physics" read as static text rather than clickable links

Impact Summary: The landing page creates significant navigation challenges for screen reader users due to the lack of proper structural markup. Users cannot efficiently navigate the page content or understand the relationship between different sections. The missing semantic structure makes it difficult to locate specific content areas or understand the page organization, severely impacting the ability to begin scholarly research tasks.

World Scientific Landing Page Screenshot

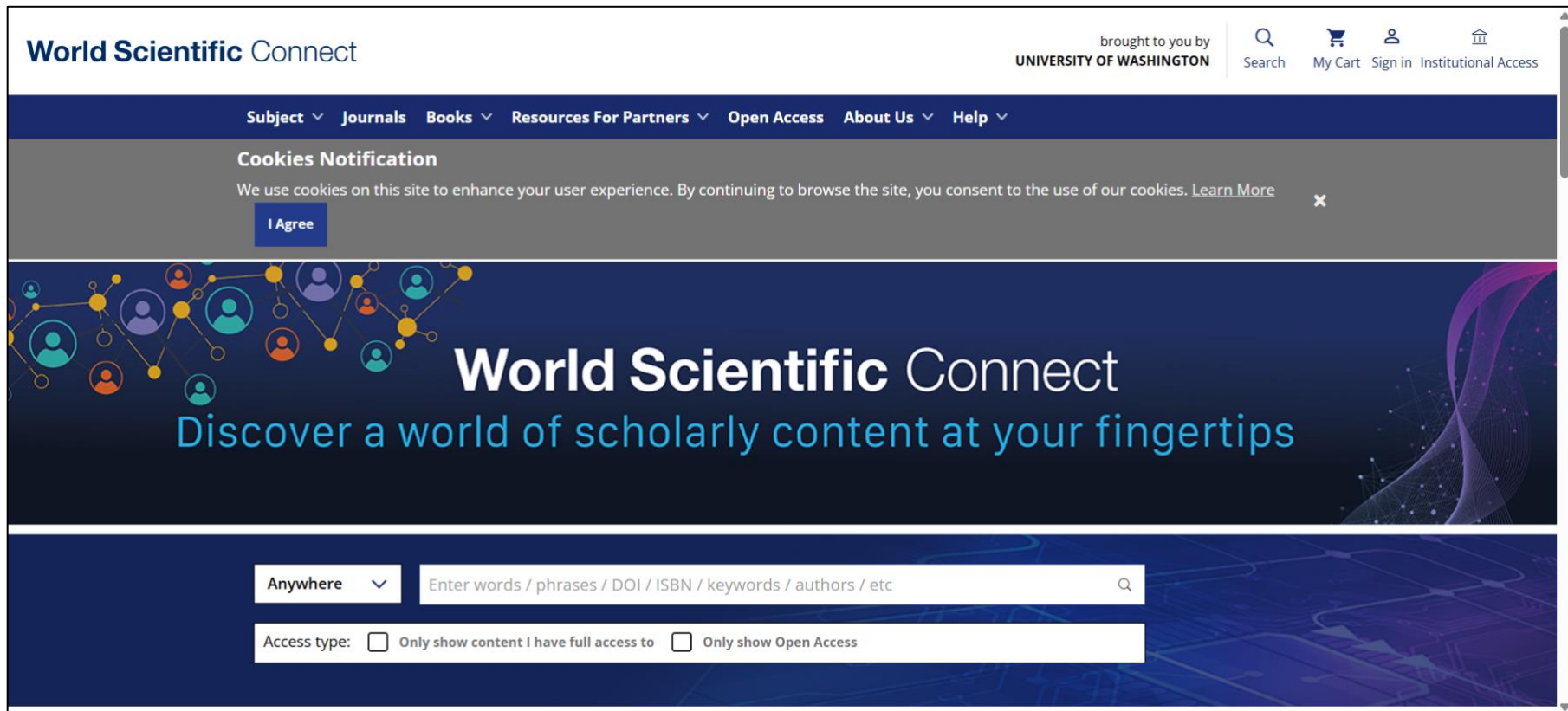


Figure 1. The World Scientific Connect landing page features a search bar, access type checkboxes, and browse by subject links, with a prominent header image displaying "Discover a world of scholarly content at your fingertips."

Search Results Page

Issue	WCAG Success Criteria	Description	Example
Missing Search Announcements	4.1.3 Status Messages (AA)	Search results are not announced when page updates	After searching for "artificial intelligence," no announcement of result count or status
Focus Management	2.4.3 Focus Order (A), 3.2.2 On Input (A)	Focus moves unpredictably when switching between result tabs	Selecting "Book Titles" tab moves focus back to filters instead of search results
Dynamic Content Updates	4.1.3 Status Messages (AA)	Filter applications do not announce page changes to screen readers	Applying "Last 6 months" filter updates content without notification
Code in Alt Text	1.1.1 Non-text Content (A)	Book cover images announce HTML code instead of meaningful descriptions	Cover images read "less span class equals quote Hlf, Ld dash, title"
Inactive Filter Links	4.1.2 Name, Role, Value (A)	Some filter options announced as links but provide no functionality	"Astronomy and Physics" filter link does not respond to activation

Impact Summary: The search functionality, core to scholarly research, is largely inaccessible to screen reader users. The lack of search result announcements combined with problematic focus management makes it extremely difficult to understand search outcomes or effectively refine searches. Users cannot determine if their search was successful or access filtered results efficiently.

Search Results Page Screenshot

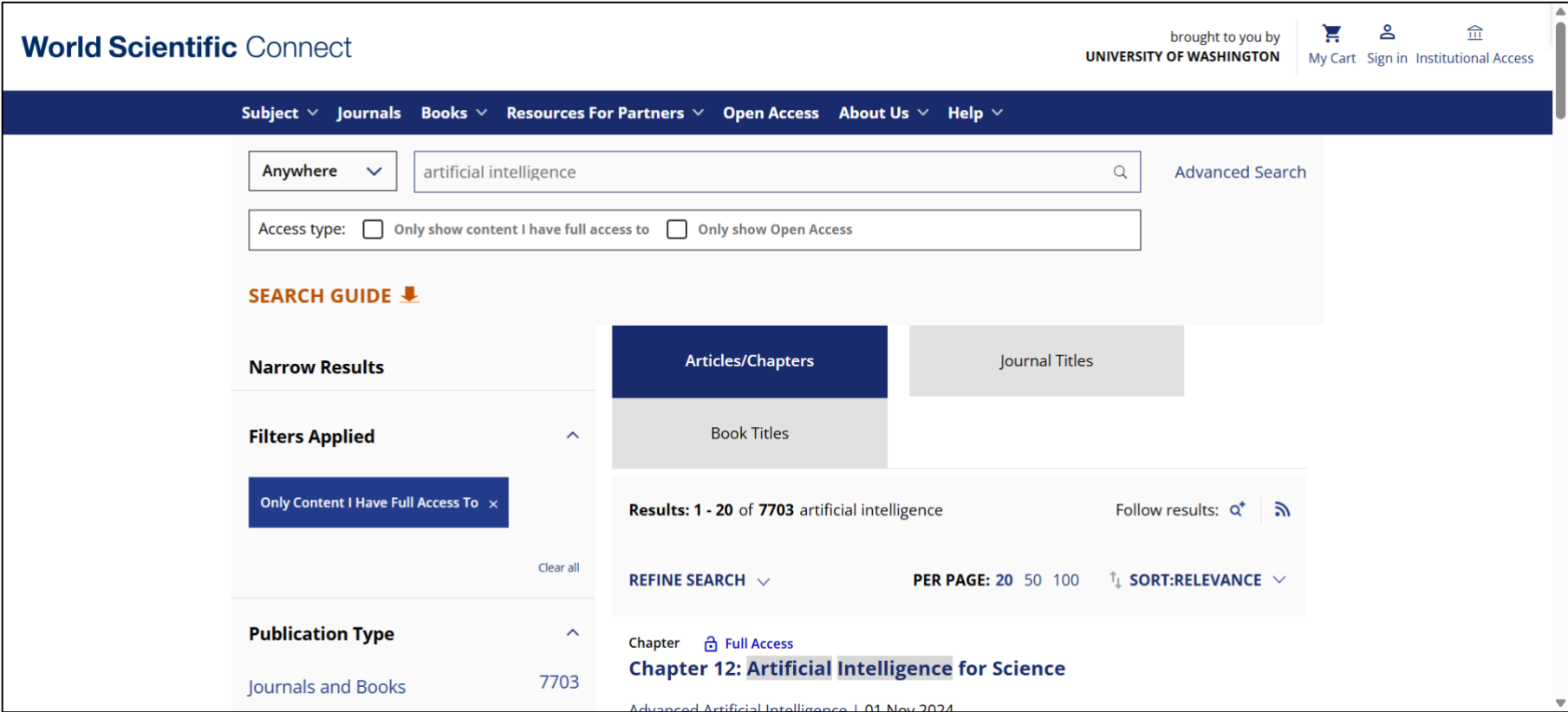


Figure 2. The search results page shows filtered results for "artificial intelligence" with tabs for Articles/Chapters, Journal Titles, and Book Titles, along with sidebar filters for narrowing results by publication type, date, and subject.

Individual Book Page

Issue	WCAG Success Criteria	Description	Example
Missing Tab Panel Structure	4.1.2 Name, Role, Value (A), 1.3.1 Info and Relationships (A)	Book information tabs not properly coded as tab panels	Description, Chapters, Reviews tabs lack proper ARIA tab implementation
Focus Management	2.4.3 Focus Order (A)	Focus jumps unexpectedly to footer when attempting to access book content	"View Full Book" link redirects focus to page footer instead of book content
Incomplete ARIA States	4.1.2 Name, Role, Value (A)	Interactive elements lack proper state announcements	"Tools" and "Share" buttons do not announce expanded/collapsed states
Action Feedback	4.1.3 Status Messages (AA)	User actions do not provide adequate feedback	"Save for later" action changes text but does not announce success programmatically
Inaccessible Content	2.1.1 Keyboard (A)	Main book content not accessible via keyboard navigation	Book details and full content not reachable through standard navigation methods

Impact Summary: Individual book pages contain critical scholarly information but are largely inaccessible due to improper tab implementation and focus management issues. Users cannot effectively navigate between different types of book information or access the full content, preventing them from conducting thorough research or accessing purchased materials.

Individual Book Page Screenshot

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Agentic Artificial Intelligence

Harnessing AI Agents to Reinvent Business, Work, and Life

<https://doi-org.offcampus.lib.washington.edu/10.1142/14380> | July 2025

Pages: 572

By (author): Pascal Bornet and Jochen Wirtz (*National University Singapore, Singapore*)

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ISBN: 978-981-98-1566-1 (hardcover)	USD 30.90
ISBN: 978-981-98-1622-4 (softcover)	USD 23.90
ISBN: 978-981-98-1568-5 (ebook)	USD 9.99

Figure 3. The book detail page for "Agentic Artificial Intelligence" displays the book cover, author information, ISBN details, pricing options, and action buttons for viewing, sharing, and saving the content.

Advanced Search Page

Issue	WCAG Success Criteria	Description	Example
Form Field Labels	3.3.2 Labels or Instructions (A), 1.3.1 Info and Relationships (A)	Search fields lack clear, associated labels	Search term field reads confusing label "context for search term one"
Radio Button Grouping	1.3.1 Info and Relationships (A), 3.3.2 Labels or Instructions (A)	Publication date radio buttons not properly grouped with related controls	"Last" radio button not clearly associated with dropdown selection
Combo Box States	4.1.2 Name, Role, Value (A)	Dropdown controls announced as collapsed but appear expanded	"Anywhere" dropdown shows as "collapsed" while visually expanded
Unavailable Controls	4.1.2 Name, Role, Value (A)	Form controls marked as unavailable without clear reasoning	Custom date range dropdowns announced as "unavailable"
Heading Structure	2.4.6 Headings and Labels (AA)	Inconsistent heading levels throughout search tips section	Headings jump from H3 to H5 without logical progression

Impact Summary: The advanced search interface, designed for precise scholarly queries, presents significant usability challenges due to unclear form labeling and improper control grouping. Users cannot effectively construct complex searches or understand the relationships between different search parameters, limiting their ability to perform sophisticated research queries.

Advanced Search Page Screenshot

World Scientific Connect

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Advanced Search Search History Saved Searches

Anywhere Enter Search term

Published in e.g. Journal of Theoretical Biology

Publication Date ☒ All Dates

☐ Last Select

☐ Custom Range Month Year Month Year

Advanced

Search

SEARCH GUIDE

Search Tips

Boolean searches

You can use the Boolean Operators AND, OR and NOT within search fields. By default an AND relationship is assumed between search terms unless another operator is specified.

Searching for authors

To search for multiple authors, separate each author name with either AND or OR. Using AND will search for content that has been co-authored by the authors. Using OR will search for content that has been authored by either of the authors.

Figure 4. The advanced search interface provides multiple search fields, publication date filters with radio button options, and detailed search tips for Boolean operators and author searching.

Code Snippets

Missing Heading Structure (2.4.6, 1.3.1)

html

```
<!-- Current problematic implementation -->  
<div class="section-header">Browse by subject</div>  
<div class="main-title">World Scientific Connect</div>
```

```
<!-- Recommended fix -->  
<h1>World Scientific Connect</h1>  
<h2>Browse by subject</h2>
```

Missing Search Result Announcements (4.1.3)

html

```
<!-- Current problematic implementation -->  
<div id="search-results">  
  <!-- Results updated via JavaScript without announcement -->  
</div>  
  
<!-- Recommended fix -->  
<div id="search-results" aria-live="polite" aria-label="Search results">  
  <div role="status">Showing 1,307 results for "artificial intelligence"</div>  
  <!-- Results content -->  
</div>
```

Improper Navigation Landmarks (2.4.1, 1.3.1)

html

<!-- Current problematic implementation -->

```
<div class="menu-bar">
  <a href="/subjects">Subject</a>
  <a href="/journals">Journals</a>
</div>
```

<!-- Recommended fix -->

```
<nav aria-label="Main navigation">
  <ul>
    <li><a href="/subjects">Subject</a></li>
    <li><a href="/journals">Journals</a></li>
  </ul>
</nav>
```

Missing Alternative Text (1.1.1)

html

<!-- Current problematic implementation -->

```

```

<!-- Recommended fix -->

```

```

Improper Tab Implementation (4.1.2, 1.3.1)

html

```
<!-- Current problematic implementation -->
```

```
<div class="tabs">
```

```
  <a href="#description">Description</a>
```

```
  <a href="#chapters">Chapters</a>
```

```
</div>
```

```
<!-- Recommended fix -->
```

```
<div role="tablist" aria-label="Book information">
```

```
  <button role="tab" aria-selected="true" aria-controls="description-panel">Description</button>
```

```
  <button role="tab" aria-selected="false" aria-controls="chapters-panel">Chapters</button>
```

```
</div>
```

```
<div role="tabpanel" id="description-panel">
```

```
  <!-- Description content -->
```

```
</div>
```

Final Thoughts and Recommendations

The World Scientific platform contains valuable scholarly resources but requires significant accessibility improvements to serve users with disabilities effectively. While some elements like modal dialogs and basic form controls function correctly, fundamental issues with page structure, search functionality, and content navigation create substantial barriers.

The platform shows promise in certain areas, such as functional checkbox controls and properly announced tab selections in the advanced search interface. However, the core research workflows—searching, filtering, and accessing content—require immediate attention to become truly accessible.

Recommended Fixes

- **Implement proper heading hierarchy:** Establish a logical H1-H6 structure starting with a clear page title and organizing content into logical sections.
- **Add comprehensive ARIA landmarks and live regions:** Properly mark navigation areas, main content, and search results with appropriate landmarks and status announcements.
- **Fix search result announcements:** Implement live regions to announce search results, filter applications, and dynamic content updates.
- **Provide meaningful alternative text:** Replace all generic or code-based alt text with descriptive alternatives that convey the purpose and content of images.
- **Improve focus management:** Ensure focus moves logically through interfaces and remains in context when switching between tabs or applying filters.
- **Implement proper tab panel structure:** Convert book information sections to properly coded tab panels with appropriate ARIA attributes.
- **Enhance form labeling:** Provide clear, descriptive labels for all form controls and group related elements appropriately.
- **Add status messages for user actions:** Implement programmatic feedback for actions like saving items, applying filters, and completing searches.

The scholarly research process requires precision and efficiency. Addressing these accessibility concerns will enable researchers with disabilities to access World Scientific's extensive collection of academic resources effectively, supporting inclusive scholarly communities.

Disclaimer

Accessiblü prepared this report as a high-level accessibility evaluation of the World Scientific platform. The evaluation utilized industry-standard testing methodologies, including screen reader testing (JAWS 2025), keyboard-only navigation, and manual inspection for select WCAG 2.2 AA success criteria.

This report does not represent a comprehensive WCAG compliance audit and should not be seen as a certification of accessibility compliance. While we have identified significant accessibility concerns and usability barriers, this evaluation was limited in scope and may not encompass all accessibility issues on the platform.

No Legal Liability:

Accessiblü offers this report for informational purposes only. It assumes no legal responsibility for accessibility violations or compliance failures resulting from its use. Organizations seeking formal certification should conduct a comprehensive audit and user testing with individuals with disabilities.

Limitations of Testing:

This evaluation was conducted at a specific time, and platform updates may have occurred after testing was completed. Additionally, while automated tools and expert reviews were utilized, real-world users with disabilities determine the true measure of accessibility.