

Section 508 Compliance

This statement formally confirms that the offerer conforms to Section 508 standards for Electronic and Information Technology Accessibility, as described in HHSAR 352.239-73(a).

Our product consists of websites offering biological resources for pathogen researchers and clinicians. It is not a telecommunication product, is not a closed product and is not hardware equipment. Therefore tables 1194.23, 1194.25 and 1194.26 are not applicable. Given the nature of our websites the disabilities we need to address are visual and mobility impairment (not hearing or speech). To address visual impairment our sites need to work with blindness and low-vision, which might have different requirements. For example, while color contrast is required for low-vision, it is not an issue for blindness. In order to address visual impairment our sites need to work with two kinds of assistive technology: screen readers and screen magnifiers. Mobility impairment includes fine motor control limitations or limited reach and strength. The way to support persons with mobility disabilities is by making our sites keyboard accessible. In an attempt to ensure that students, researchers and clinicians are able to access our websites, we will add a specific link in our header to encourage communication, provide support and promote collaboration and human evaluation of our sites accessibility. Also, we are aware of ongoing work for a [Section 508 Refresh](#) in the next year to better address rich user interfaces with dynamic content, making it compatible with accessibility standards abroad (<http://www.w3.org/TR/WCAG20>); we will be developing code with an eye toward supporting the new requirements. Exceptions below correspond to third party visualization software "GBrowse" from [GMOD](#). We expect future GBrowse versions help with accessibility. In the meantime, we are exploring other genome browser tools and are open to collaborate and provide access, possibly "through equivalent facilitation".

Summary Table (based on [ITIC Best Practices](#)).

Criteria	Supporting Features	Remarks and explanations
Section 1194.21 Software Applications and Operating Systems	Supports with Exceptions	Current system: We are missing some of the requirements. Proposal: Make our websites keyboard accessible, including all forms; make focus clear at all times; describe every element in the page and ensure that color is not the only way to convey meaning. Exception: Some elements of 3 rd party "GBrowse" software (alt, label, etc) may not be fully accessible due to lack of description.
Section 1194.22 Web-based internet information and applications	Supports with Exceptions	Current system: We are missing some of the requirements. Proposal: All graphical images have a textual version that describes the data in them; make javascript keyboard accessible and improve navigation with screen reader by adding "skip" links. Exception: Some elements of 3 rd party "GBrowse" software (alt, label, etc) may not be fully accessible due to lack of description.
Section 1194.23 Telecommunications Products	Not Applicable	
Section 1194.24 Video and Multi-media Products	Supports	Current system: This only applies to our tutorial videos, currently done in youtube. These currently have audio and text. Proposal: We are constantly generating new tutorials and upgrading old ones. We will ensure text and audio explain page structure and available interactions shown in video.
Section 1194.25 Self-Contained, Closed Products	Not Applicable	
Section 1194.26 Desktop and Portable Computers	Not Applicable	
** Section 1194.31 Functional Performance Criteria	Supports with Exceptions	Current system: Understanding some pages with a screen reader is difficult and some content is hidden. Some colors in header link menus lack contrast. Our website is not currently totally accessible

		<p>using a keyboard.</p> <p>Proposal: Will make our pages easier to navigate, better described and with access to all necessary content and interaction. Will add contrast on colored links. Website will be keyboard accessible.</p> <p>Exception: Some elements of 3rd party “GBrowse” software (alt, label, etc) may not be fully accessible due to lack of description.</p>
** Section 1194.41 Information, documentation, and support.	Supports	<p>Current system: We do not have any explanation on accessibility in our sites.</p> <p>Proposal: Add link the header to an “Accessibility” page that includes our commitment and a link to the 508 template in accessible format.</p>

Section 1194.21 Software Applications and Operating Systems

(refer to <http://www.access-board.gov/sec508/guide/1194.21.htm>)

Criteria	Supporting Features	Remarks and explanations
(a) When software is designed to run on a system that has a keyboard, product functions shall be executable from a keyboard where the function itself or the result of performing a function can be discerned textually.	Supports with Exceptions	<p>Current system: With the right browser settings a tab key can access currently the basic functionality in the strategy system but some content is hidden.</p> <p>Proposal: Will activate tab key to access: dropdown menus, popups, mouse-overs, and all that is needed.</p> <p>Exception: Third party software “GBrowse”: popups generated via javascript are not accessible by keyboard.</p>
(b) Applications shall not disrupt or disable activated features of other products that are identified as accessibility features, where those features are developed and documented according to industry standards. Applications also shall not disrupt or disable activated features of any operating system that are identified as accessibility features where the application programming interface for those accessibility features has been documented by the manufacturer of the operating system and is available to the product developer.	Supports	Our css does not override user settings for browser, screen reader or user css. Only exception is font size but low-vision users can zoom using browser keys.
(c) A well-defined on-screen indication of the current focus shall be provided that moves among interactive interface elements as the input focus changes. The focus shall be programmatically exposed so that Assistive Technology can track focus and focus changes.	Supports with Exceptions	<p>Current system: Visual focus is lost on sidebar and bubbles in home page. Visual focus is also lost in the results page.</p> <p>Proposal: Will make focus clear both visually and to screen reader in all pages.</p> <p>Exception: Focus of 3rd party “GBrowse” software is not always clear visually.</p>
(d) Sufficient information about a user interface element including the identity, operation and state of the element shall be available to Assistive Technology. When an image represents a program element, the information conveyed by the image must also be available in text.	Supports with Exceptions	<p>Current system: Most of our elements are tagged with alt or label describing the element function.</p> <p>Proposal: Every icon, image, link, button, input box will have an alt, label that describes (1) state, (2) function.</p> <p>Exception: Some elements of 3rd party “GBrowse” software (alt, label, etc) may not be fully accessible due to lack of description.</p>

(e) When bitmap images are used to identify controls, status indicators, or other programmatic elements, the meaning assigned to those images shall be consistent throughout an application's performance.	Supports	We are consistent on the use/purpose of icons, and buttons such as the basket icon.
(f) Textual information shall be provided through operating system functions for displaying text. The minimum information that shall be made available is text content, text input caret location, and text attributes.	Supports	We do not apply unique display techniques; we rely on browser's.
(g) Applications shall not override user selected contrast and color selections and other individual display attributes.	Supports	Supported by honoring user's browser settings and user style sheets with respect to color.
(h) When animation is displayed, the information shall be displayable in at least one non-animated presentation mode at the option of the user.	Not Applicable	We do not have animation.
(i) Color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.	Supports	Current system: Actions and selections always have a textual representation (example: selected step). We always provide tabular data corresponding to any scientific graph. The basket icon changes color when selected and a mouseover describes its state. GBrowse uses shape with color and popups that explain the icons. Proposal: Ensure that where color conveys information there is textual information: the filters highlighting, basket icon, the genome view strandness.
(j) When a product permits a user to adjust color and contrast settings, a variety of color selections capable of producing a range of contrast levels shall be provided.	Not Applicable	We do not offer such a feature.
(k) Software shall not use flashing or blinking text, objects, or other elements having a flash or blink frequency greater than 2 Hz and lower than 55 Hz.	Supports	Our sites have no flashing or blinking text, objects or other elements.
(l) When electronic forms are used, the form shall allow people using Assistive Technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.	Supports with Exceptions	Current system: Some parameters in a form do not provide visual focus so their keyboard accessibility is compromised. Proposal: Ensure that all forms are accessible and all components described. Exception: Some elements of 3 rd party "GBrowse" software may not be fully accessible due to lack of description.

Section 1194.22 Web-based Internet information and applicationsrefer to (<http://www.access-board.gov/sec508/guide/1194.22.htm>)

Criteria	Supporting Features	Remarks and explanations
(a) A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content).	Supports with Exceptions	Current system: Most of our elements are tagged with alt or label describing the element function.

		<p>Proposal: Label every icon, image, link, button, input box in a form with an alt, label describing (1) state & (2) function.</p> <p>Exception: Some elements of 3rd party “GBrowse” software (img,input) not fully accessible due to lack of description.</p>
(b) Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation	Supports	Our video tutorials are described in table 1194.24
(c) Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup.	Supports	<p>Current system: Actions and selections always have a textual representation (example: selected step). We always provide tabular data corresponding to any scientific graph. The basket icon changes color when selected and a mouseover describes its state.</p> <p>GBrowse uses shape with color and popups that explain the icons.</p> <p>Proposal: Review where we use color to convey information: the filters high-lighting, basket icon, the genome view strandness.</p>
(d) Documents shall be organized so they are readable without requiring an associated style sheet.	Supports	<p>Current system: Our site works with css disabled but visually it is difficult to parse.</p> <p>Proposal: Our site will be visually clear with no css.</p>
(e) Redundant text links shall be provided for each active region of a server-side image map.	Not Applicable	
(f) Client-side image maps shall be provided instead of server-side image maps except where the regions cannot be defined with an available geometric shape.	Supports	We do not use server-side image maps.
(g) Row and column headers shall be identified for data tables.	Supports	Tables use the correct markup.
(h) Markup shall be used to associate data cells and header cells for data tables that have two or more logical levels of row or column headers.	Supports	Tables use the correct markup.
(i) Frames shall be titled with text that facilitates frame identification and navigation	Supports	We do not use frames other than main one.
(j) Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.	Supports	Our pages do not cause screen flicker with a frequency greater than 2 Hz and lower than 55 Hz.
(k) A text-only page, with equivalent information or functionality, shall be provided to make a web site comply with the provisions of this part, when compliance cannot be accomplished in any other way. The content of the text-only page shall be updated whenever the primary page changes.	Supports	<p>Current system: Some graphic components in our sites have a textual version, a table or a file:</p> <ul style="list-style-type: none"> • Metabolic Pathway maps • Expression graphs in record pages <p>Proposal: Add the textual version to all graphical components:</p> <ul style="list-style-type: none"> • Genome View in results page: need to provide corresponding data • Strategy panel: add description of strategy

		<ul style="list-style-type: none"> • GBrowse: all track images will have track descriptions
(l) When pages utilize scripting languages to display content, or to create interface elements, the information provided by the script shall be identified with functional text that can be read by Assistive Technology.	Supports with Exceptions	<p>Current system: Some parts of our javascript are not accessible. For example: drop down menus are not accessible by keyboard.</p> <p>Proposal: We will make our javascript accessible such that a screen reader can make sense of what is happening on the page and such that a keyboard can navigate and interact while the focus is clear at all times.</p> <p>Exception: 3rd party "GBrowse" javascript might not be fully accessible.</p>
(m) When a web page requires that an applet, plug-in or other application be present on the client system to interpret page content, the page must provide a link to a plug-in or applet that complies with 1194.21(a) through (l).	Supports	<p>Current system: We only have an applet brought by a third party service: "ClustalW".</p> <p>Proposal: We will add note on the results page about plugin requirements and link to get it.</p>
(n) When electronic forms are designed to be completed on-line, the form shall allow people using Assistive Technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.	Supports with Exceptions	<p>Current system: Some parameters in a form do not provide visual focus so their keyboard accessibility is compromised.</p> <p>Proposal: Will ensure that all our forms are accessible and all components described.</p> <p>Exception: 3rd party "GBrowse": input elements might lack description.</p>
(o) A method shall be provided that permits users to skip repetitive navigation links.	Supports	Proposal: Will add this type of links at the top of each page to skip the header, and at the beginning of every section in a page.
(p) When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.	Not Applicable	Our forms do not time out on user.

Note to 1194.22: The Board interprets paragraphs (a) through (k) of this section as consistent with the following priority 1 Checkpoints of the Web Content Accessibility Guidelines 1.0 (WCAG 1.0) (May 5 1999) published by the Web Accessibility Initiative of the World Wide Web Consortium: Paragraph (a) - 1.1, (b) - 1.4, (c) - 2.1, (d) - 6.1, (e) - 1.2, (f) - 9.1, (g) - 5.1, (h) - 5.2, (i) - 12.1, (j) - 7.1, (k) - 11.4.

Section 1194.24 Video and Multi-media Products

refer to (<http://www.access-board.gov/sec508/guide/1194.24.htm>)

Criteria	Supporting Features	Remarks and explanations
(a) All analog television displays 13 inches and larger, and computer equipment that includes analog television receiver or display circuitry, shall be equipped with caption decoder circuitry which appropriately receives, decodes, and displays closed captions from broadcast, cable, videotape, and DVD signals. As soon as practicable, but not later than July 1, 2002, widescreen digital television (DTV) displays measuring at least 7.8 inches vertically, DTV sets with conventional displays measuring at least 13 inches vertically, and stand-alone DTV tuners,	Not Applicable	

whether or not they are marketed with display screens, and computer equipment that includes DTV receiver or display circuitry, shall be equipped with caption decoder circuitry which appropriately receives, decodes, and displays closed captions from broadcast, cable, videotape, and DVD signals.		
(b) Television tuners, including tuner cards for use in computers, shall be equipped with secondary audio program playback circuitry.	Not Applicable	
(c) All training and informational video and multimedia productions which support the agency's mission, regardless of format, that contain speech or other audio information necessary for the comprehension of the content, shall be open or closed captioned.	Supports	We use open captioned (text same track as audio) video.
(d) All training and informational video and multimedia productions which support the agency's mission, regardless of format, that contain visual information necessary for the comprehension of the content, shall be audio described.	Supports	Current system: Contains audio describing how to use website with a mouse. Proposal: We will ensure text and audio explain page structure and available interactions shown in video.
(e) Display or presentation of alternate text presentation or audio descriptions shall be user-selectable unless permanent.	Supports	It is currently permanent.

Section 1194.31 Functional Performance Criteria

Criteria	Supporting Features	Remarks and explanations
(a) At least one mode of operation and information retrieval that does not require user vision shall be provided, or support for Assistive Technology used by people who are blind or visually impaired shall be provided.	Supports with Exceptions	Current system: Understanding our pages with a screen reader is difficult and some content is hidden. Proposal: Our pages will be easier to navigate, better described and with access to all necessary content and interaction. Will ensure Gbrowse tracks contain a description. Exception: 3 rd party software "GBrowse": track images and their popups might not be accessible with keyboard and/or screen reader.
(b) At least one mode of operation and information retrieval that does not require visual acuity greater than 20/70 shall be provided in audio and enlarged print output working together or independently, or support for Assistive Technology used by people who are visually impaired shall be provided.	Supports with Exceptions	Current system: Some colors in header link menus lack contrast. Proposal: Add contrast on colored links. Exception: 3 rd party software "GBrowse": track images and their popups might not be accessible with screen reader.
(c) At least one mode of operation and information retrieval that does not require user hearing shall be provided, or support for Assistive Technology used by people who are deaf or hard of hearing shall be provided	Supports	This only applies to our tutorial videos described in table 1194.24 above. We offer text together with video and audio.
(d) Where audio information is important for the use of a product, at least one mode of operation	Supports	This only applies to our tutorial videos described in table 1194.24 above. We offer

and information retrieval shall be provided in an enhanced auditory fashion, or support for assistive hearing devices shall be provided.		text together with video and audio.
(e) At least one mode of operation and information retrieval that does not require user speech shall be provided, or support for Assistive Technology used by people with disabilities shall be provided.	Not Applicable	Our website does not require use of speech.
(f) At least one mode of operation and information retrieval that does not require fine motor control or simultaneous actions and that is operable with limited reach and strength shall be provided.	Supports with Exceptions	Current system: Our website is not currently totally accessible using a keyboard. Proposal: Website will be accessible with only keyboard. GBrowse: will ensure that forms to select tracks are keyboard accessible. Exception: 3 rd party software "GBrowse": some track images, popups and links might lack focus and not be keyboard accessible.

Section 1194.41 Information, documentation, and support.

Criteria	Supporting Features	Remarks and explanations
(a) Product support documentation provided to end-users shall be made available in alternate formats upon request, at no additional charge.	Supports	We provide electronic versions of all product support documentation.
(b) End-users shall have access to a description of the accessibility and compatibility features of products in alternate formats or alternate methods upon request, at no additional charge.	Supports	Current system: We do not have any explanation on accessibility in our sites. Proposal: Add a link in the header to an "Accessibility" page that includes our commitment and a link to the 508 template in accessible format.
(c) Support services for products shall accommodate the communication needs of end-users with disabilities.	Supports	Support services are provided by the website "Contact Us" form and by email, both accessible.