

Howard Hughes Medical Institute

Identity Guide

VERSION 4.0 | AUGUST 23, 2012

HHMI

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Clarity, simplicity, and elegance are essential elements in a unified graphic identity. Together, they form a consistent portrayal of HHMI as an innovator in scientific research and education.

INTRODUCTION

Introduction

The Howard Hughes Medical Institute has a unique history as an independent philanthropy whose mission focuses on the betterment of humanity through biomedical research and science education. Innovation and creativity are the hallmarks of research conducted by HHMI scientists in Hughes laboratories around the country, and our Janelia Farm Research Campus.

Our community extends to HHMI funded scientists overseas, graduate students, and future physician scientists. Through our investments in science education, it encompasses undergraduates engaged in hands-on research and the faculty who guide them; teachers seeking better materials and methods to engage their students, and the scientifically curious who seek accurate, engaging information about the world around them.

The Institute's reputation, which rests on a foundation of research excellence, is one of our most valuable assets. The way we present ourselves to the world through communications materials and through the use of our visual identity needs to reinforce that reputation. Clarity, simplicity, and elegance are essential elements in a unified graphic identity – the backbone of the consistent portrayal of HHMI as an innovator in scientific research and education.

We have updated the guidelines for the Institute's graphic identity to reflect the evolving needs of our scientists and to take advantage of new technologies. This guide defines the core elements of HHMI's graphic identity and describes how to use it by providing flexible guidelines and a few simple rules. It also provides templates and resources that will help you communicate effectively on behalf of the Institute.

HHMI's Office of Communications and Public Affairs is available to provide assistance to meet your communication needs. If you have any questions regarding the use of the identity style guide or the template library that are not addressed within this document, please contact: Judy Murphy at 301.215.8884 or by email murphyju@hhmi.org.

A unified identity for a single purpose.

THE HHMI IDENTITY

Signature

Logo:
Trajan

HHMI

Logotype:
Gill Sans

HOWARD HUGHES MEDICAL INSTITUTE

The HHMI signature is the primary expression of our identity and functions as the Institute’s visual shorthand: Its consistent placement on all materials signals the Institute’s “ownership” of each piece. The two elements of the HHMI signature are the logo “HHMI” and the logotype “Howard Hughes Medical Institute”

The logo is created from the typeface Trajan, a modern set of letterforms based on Roman inscriptions from around 50 –120 A.D. The logotype uses a more modern typeface, Gill Sans, which is an early 20th-century design. Expressing tradition and

modernity simultaneously, these typefaces, like our organization, convey a balance between historical achievements and contemporary eminence.

Because of the aesthetic balance between the two elements, the signature should appear in its entirety wherever possible on institutional media.

Artwork and templates are available on my.hhmi.org. Select the *Departments* tab and click on *Communications*.

Spacing, clear space



The spacing of the signature creates a clear and consistent identity that can be recognized in any context or environment.

The distance between the HHMI logo and the logotype is the height of the “H” in “Howard Hughes.” This spacing should never be altered and should always remain proportional to the size of the signature. Using the approved artwork file for the signature, rather than separate logo and logotype files, ensures that this important relationship is preserved.

A generous amount of clear space surrounds the signature. This ensures that the identity has appropriate visual impact and legibility. The clear space is equal to the height of the “H” in “HHMI.”

Signature with department name



The use of the HHMI signature can be expanded to include the department name. The spacing between the HHMI signature and the department name is equal to the height of the “H” in “HHMI.” The cap height of the department name is the same as the “H” in “Howard Hughes.”

For examples of this usage, see *Stationery*, p. 25, and *Meeting covers*, p. 33.

Logo alone



When necessary for size and space limitations, the logo may appear without the logotype. In such cases, wherever possible, the full signature, or logotype, should appear prominently elsewhere on the item.

For examples of how the HHMI logo is used alone, please see [Co-branding](#), p. 23, [Certificates](#), p. 38, [Book spines](#), p. 39, and [Promotional items](#) pp. 40-42.

Minimum size

Primary Signature Minimum Size $\frac{3}{8}$ " or 33 pixels



Alternate Signature Minimum Size $\frac{1}{4}$ " or 22 pixels



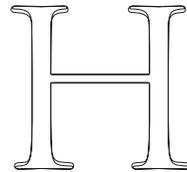
Primary Logo Minimum Size $\frac{1}{4}$ " or 20 pixels



Alternate Logo Minimum Size $\frac{1}{8}$ " or 14 pixels



Comparative Illustration



The use of the HHMI signature and logo at very small scale should be carefully considered, as this may diminish the quality and impact of our identity.

The smallest usable size for the primary HHMI signature artwork is noted above in both inches and pixels. When it is absolutely necessary to reproduce the signature or logo at a size smaller than above (such as on pens or in certain sponsorship materials), please use the approved alternate minimum size signature or logo artwork.

The comparison drawing above illustrates how the logo has been redrawn in the alternate minimum size files to improve legibility and reproduction quality at very small scale.

Note: Do not reproduce the HHMI signature smaller than $\frac{1}{4}$ " in height or the logo at smaller than $\frac{1}{8}$ " in height.

Incorrect uses



WRONG COLOR



WRONG TYPEFACE



WRONG LOCKUP



WRONG PROPORTIONS



MORE THAN ONE COLOR



WRONG FORMAT



MORE THAN ONE LINE

Take care to ensure correct and consistent reproduction of our signature in every application. Incorrect use of the HHMI signature compromises its integrity and effectiveness. Some common misuses are shown here. Although these do

not represent every potential misuse, they reflect common situations to avoid. Always begin by reviewing these guidelines when the HHMI identity (signature, logo, or logotype) is to be used in the design of any item.

Janelia Logo



Positive signature



Reverse signature

The Janelia Farm Research Campus signature consists of a symbol and the wordmark, which are in a fixed relationship to each other known as a “lockup.” Avoid altering this relationship and avoid using the signature elements separately or as parts of other graphic elements.

A general rule to keep in mind is that backgrounds that are approximately 30% black or darker will require a reverse signature.

Primary color palette



HHMI GREEN

PMS 362

C:70 M:0 Y:80 K:10
R:0 G:153 B:51
#009933

HHMI GRAY

PMS Warm Gray 11

C:4 M:4 Y:18 K:61
R:120 G:114 B:105
#787269

BLACK

C:0 M:0 Y:0 K:100
R:0 G:0 B:0
#000000

To allow for flexibility in HHMI communications and to accommodate multiple uses, the HHMI signature may be used in three color variations: HHMI green, HHMI gray, or black. It can also be reversed out of any of these colors. The colors are specified above for various media and color-matching systems (PMS, CMYK, RGB, and Hex color).

Please use the appropriate color specifications for each specific type of reproduction using the HHMI identity.

Pantone® (PMS) is the universal color-matching system used by the printing industry to ensure 100% correct color matches, regardless of where the item is printed.

Pantone-identified color reproduction information has been provided for the guidance of the reader. The colors reproduced herein have not been checked by Pantone, Inc. Refer to current Pantone formula guides for the color standard. Pantone is a registered trademark of Pantone, Inc.

Secondary color palette

Warm Tones

PMS 683 C:4 M:100 Y:0 K:43 R:123 G:1 B:72 #7B0148	25%
PMS 1895 C:0 M:28 Y:6 K:0 R:249 G:196 B:207 #F9C4CF	25%
PMS 138 C:11 M:58 Y:92 K:1 R:221 G:130 B:53 #DD8235	25%
PMS 1675 C:0 M:67 Y:100 K:28 R:185 G:89 B:21 #B95915	25%
PMS 1245 C:0 M:28 Y:100 K:18 R:213 G:159 B:15 #D59F0F	25%
PMS 611 C:0 M:1 Y:92 K:11 R:235 G:215 B:34 #EBD722	25%
PMS WARM GRAY 4 C:0 M:4 Y:9 K:24 R:202 G:194 B:184 #CAC2B8	25%

Cool Tones

PMS 581 C:2 M:0 Y:100 K:72 R:103 G:98 B:0 #676200	25%
PMS 375 C:41 M:0 Y:78 K:0 R:159 G:207 B:103 #9FCF67	25%
PMS 303 C:100 M:11 Y:0 K:74 R:0 G:63 B:95 #003F5F	25%
PMS 5483 C:62 M:0 Y:21 K:31 R:56 G:147 B:155 #38939B	25%
PMS 7472 C:52 M:0 Y:25 K:0 R:110 G:190 B:188 #6EBEBC	25%
PMS 5445 C:100 M:11 Y:0 K:74 R:203 G:214 B:223 #003F5F	25%

In addition to the HHMI identity colors, we have developed a palette of complementary warm and cool tones to add flexibility and variety to our many types of publications both print and online. The colors are specified above for various media and color-matching systems (PMS, CMYK, RGB, and Hex color).

Together, consistent use of these colors and a standard typography along with the HHMI signature will support the ease of recognition of the HHMI identity. Please refer to the current Pantone Color Publications for the color standard for PMS colors.

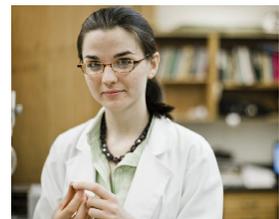
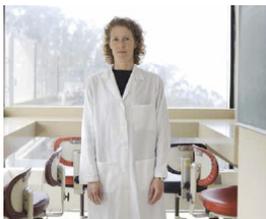
Photography and illustration



Architectural



Seasonal



Portraits

The HHMI photo and illustration style complements our brand attributes, positioning, and culture. Our culture is honest and straightforward, and our photography and illustration reflects these characteristics.. Architectural, seasonal, portrait, science, science research and education, and benefits, training and deadline reminder photography are all appropriate choices.

Architectural

Straightforward images with natural light or overhead images are both good choices. Repetition or pattern may play a prominent role. Avoid adding unnatural colors, or shooting with extra wide angle lenses.

Seasonal

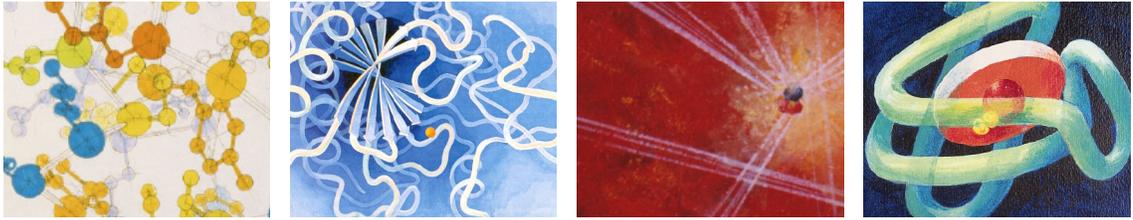
Let one or two colors dominate the seasonal photos. Consider point-of-view: 1) long shot, aerial, terrain, 2) middle shot, dramatic angle, and 3) close-up, abstract, detail.

Portraits

People should be depicted with a high degree of realism, appearing in natural settings with available light if possible. The photos should have warmth and character. Activities should appear real and not staged.

A catalog of approved, licensed images is maintained, archived, and made available by HHMI's Office of Communications and Public Affairs.

Photography and illustration



Science (Irving Geis Illustrations)



Science Research and Education



Benefits, Training, and Deadline Reminders

Science, Science Research and Education

Choose photography, paintings, sketches and drawings that enable audiences to visualize many of biology's most important structures, settings, and processes. A collection of illustrated work by Irving Geis is available.

Benefits, Training, and Deadline Reminders

A catalog of approved, licensed images is maintained by the Office of Communications and Public Affairs. Both high-resolution for quality printing and low-resolution for PowerPoint and Web display are archived and available.

*A key component of an effective identity program
is the consistent use of a distinctive typographic
style throughout all applications.*

HHMI TYPOGRAPHY

Primary typeface, print

Garamond MT

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz 1234567890

Garamond MT Italic

*ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz 1234567890*

Garamond MT Bold

**ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz 1234567890**

Alternate typeface (selected internal publications, PowerPoint, business correspondence)

Times New Roman

ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz 1234567890

Times New Roman Italic

ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz 1234567890

Garamond, used throughout this document for body copy and titles, is our primary typeface for print publications. It is a classic, easy-to-read typeface. Our preferred version of Garamond (for use by design professionals) is the font developed by Monotype (MT), available online at www.fonts.com.

A TrueType version of Garamond is supplied with most versions of Microsoft Office and may be used for internal publications, PowerPoint, and business correspondence. Times New Roman may also be used.

Note: The typeface Trajan is reserved for the signature only. Trajan should not be used elsewhere in any materials.

Secondary typeface, print

GILL SANS LIGHT

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz | 1234567890

GILL SANS REGULAR

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz | 1234567890

GILL SANS BOLD

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz | 1234567890

Alternate typeface (selected internal publications, PowerPoint, business correspondence)

Arial

ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz 1234567890

Arial Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz 1234567890

Gill Sans, used throughout this document for headlines, callouts, charts, and diagrams, is our secondary typeface. Gill Sans should not be used for large blocks of text or body copy.

For internal publications, PowerPoint, and business correspondence, Arial should be used as a replacement for Gill Sans.

Typographic examples, print

Extract
30/32 Garamond MT Regular

We live in an era of discovery.
Each day, scientists bring us
closer to understanding

Head 1
16/18 Garamond MT Regular
PMS Warm Gray 11

We live in an era of discovery. Each day, scientists bring us closer to understanding fundamental questions about human life. How does the brain process information and store knowledge? How

Head 2
14/18 Gill Sans Regular

Line spacing
6pt

Copy
10/12 Garamond MT Regular
PMS Warm Gray 11

What You Need to Know

We live in an era of discovery. Each day, scientists bring us closer to understanding fundamental questions about human life. How does the brain process information and store knowledge? How do mutations in key genes cause disease? How do cells communicate? The challenge of solving these and other questions – as well as the promise of what those answers might yield – drives the quest for knowledge at the heart of our work at the Howard Hughes Medical Institute.

Head 3
9/12 Gill Sans Bold
PMS Warm Gray 11

Line spacing
6pt

Copy
10/12 Garamond MT Regular
PMS Warm Gray 11

What You Need to Know

We live in an era of discovery. Each day, scientists bring us closer to understanding fundamental questions about human life. How does the brain process information and store knowledge? How do mutations in key genes cause disease? How do cells communicate? The challenge of solving these and other questions – as well as the promise of what those answers might yield – drives the quest for knowledge at the heart of our work at the

Footnote/Caption Copy
8/10 Gill Sans Light
PMS Warm Gray 11

We live in an era of discovery. Each day, scientists bring us closer to understanding fundamental questions about human life. How does the brain process information and store knowledge? How do mutations in key genes cause disease? How do cells communicate? The challenge of solving these and other questions – as well as the promise of what those answers might yield – drives the quest for knowledge at the heart of our work at the Howard Hughes Medical Institute.

There are two basic groups of typefaces: headline type and text type. Text (or body copy) type is smaller and appears in the main body of information. Headline type is larger and/or bolder and is used for heads, subheads and titles.

Primary typeface, web

Verdana

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz 1234567890

Verdana Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz 1234567890

Alternate typeface (selected websites, including Janelia.org)

Helvetica

ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz 1234567890

Helvetica Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz 1234567890

Verdana is our primary typeface for current website, as well as on Bulletin's main site. It is a simple, legible typeface that is easy on the eyes when on the screen. Its large x-height and wide proportions allow for legibility at smaller sizes.

In circumstances where hierarchy is needed to be established, use Verdana bold. Also, Helvetica is a

suitable substitute when determining the consequent font-family value in cases where users may not have Verdana on their computers.

Secondary typeface, web

Arial

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz 1234567890

Arial Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz 1234567890

Alternate typeface (in instances where Verdana and Arial are not available on screen, users of the Bulletin app will see this typeface)

Helvetica

ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz 1234567890

Helvetica Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz 1234567890

Arial is our secondary typeface in circumstances where Verdana or Helvetica are not easily available. For internal emails especially, Arial should be used in place of Verdana or Helvetica.

For examples of this usage, see [HTML emails p. 43](#).

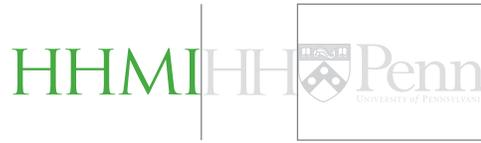
*In the company of equals... the two institutions'
logos should appear visually balanced with each other.*

HHMI CO-BRANDING

Co-branding



Sized by height



Sized by width



HHMI is a co-sponsor of many programs and events. These guidelines demonstrate the correct way of displaying the HHMI identity when used with logos of other institutions. Using these guidelines will ensure that both HHMI and the associated institution are given equal importance on all program materials. These materials could include brochures, booklets, web sites, scientific poster presentations and power point, and invitations.

Host institution

In a similar fashion, the HHMI logo may be locked up with that of a host institution for meetings, conferences, etc. Here again, the other logo has been sized to equal the width of the HHMI logo.

Sized by height

The diagrams above illustrate how to scale and lock up the HHMI logo with another logo. The two logos should be separated by a space equal to the width of

the “HH” in “HHMI.” Depending upon the shape (tall or wide) of the other logo, it should be sized to either three times the height or equal to the width of the HHMI logo. In the case above, the other logo has been sized to three times the height of the HHMI logo.

Sized by width

In the co-branding situation illustrated above, the other logo has been sized to equal the width of the HHMI logo.

Whenever possible, the full name “Howard Hughes Medical Institute” should appear elsewhere in the various applications being prepared. Grantees should take particular note that the use of the full signature is not required. Where desired and in the presence of another institutional logo, only the HHMI logo should appear.

For guidelines on minimum size usage of the HHMI logo, see p. 9.

These materials are often the first impression an organization makes on an audience, and are the best opportunity to communicate a clear identity signal.

HHMI STATIONERY

Letterhead

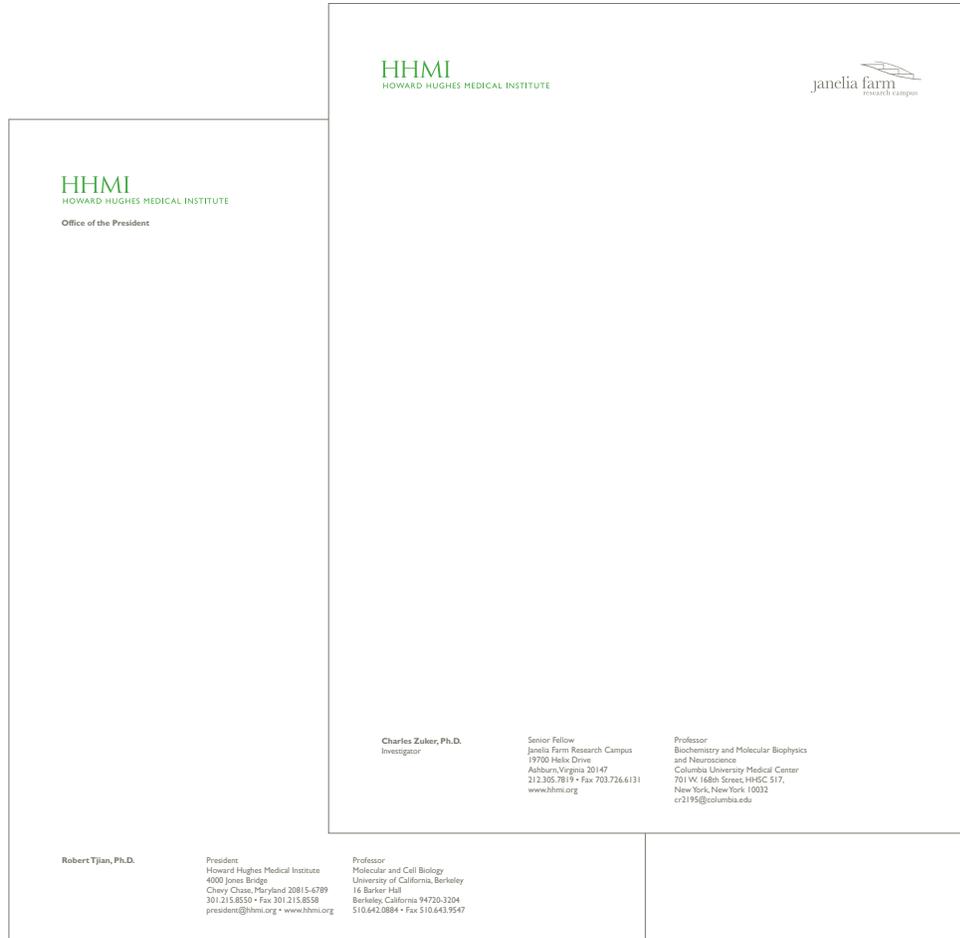


The design of our institutional, departmental, and personalized letterhead is crisp and modern, and communicates all necessary correspondence information.

Artwork and templates are available on my.hhmi.org. Select the *Departments* tab and click on *Communications*.

Please refer to Procurement of Stationery policy PO-450 on my.hhmi.org. Select the *Documents* tab and click on *Policies*.

Letterhead with multiple addresses



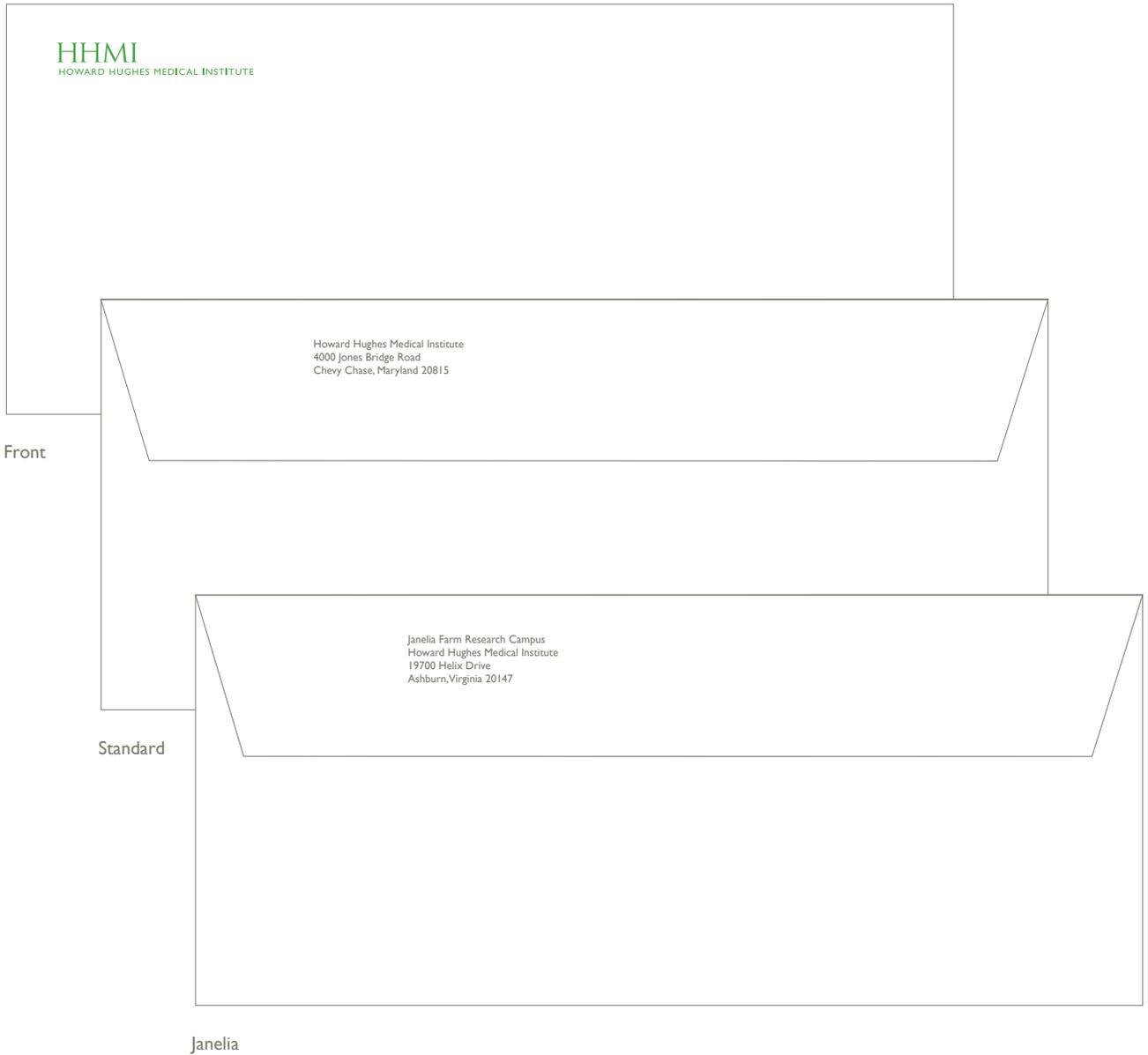
Personalized

People associated with more than one institution can have both on the letterhead.

Please refer to Procurement of Stationery policy PO-450 on my.hhmi.org. Select the *Documents* tab and click on *Policies*.

Artwork and templates are available on my.hhmi.org. Select the *Departments* tab and click on *Communications*.

Envelope



The #10 envelope has been designed to coordinate with the institutional letterhead.

Envelope



Personalized

Business cards

HHMI
HOWARD HUGHES MEDICAL INSTITUTE

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Standard

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HHMI
janelia farm
research campus

Janelia

Business cards are an essential communication tool. This design allows greater flexibility in displaying titles at host institutions. When necessary, the back of the card should present the Janelia Farm Research Campus identifier.

Business cards with multiple addresses

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Standard

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george.daley@childrens.harvard.edu • www.childrenshospital.org

Samuel E. Lux, IV Professor of Hematology
Director of Stem Cell Transplantation Program
Professor of Biological Chemistry and Molecular Pharmacology
Professor of Pediatrics
Harvard Medical School

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New York, New York 10032
212.305.7918 • Fax 703.726.6131
cr2195@columbia.edu • www.neuroscience.columbia.edu

HHMI
janelia farm
research campus

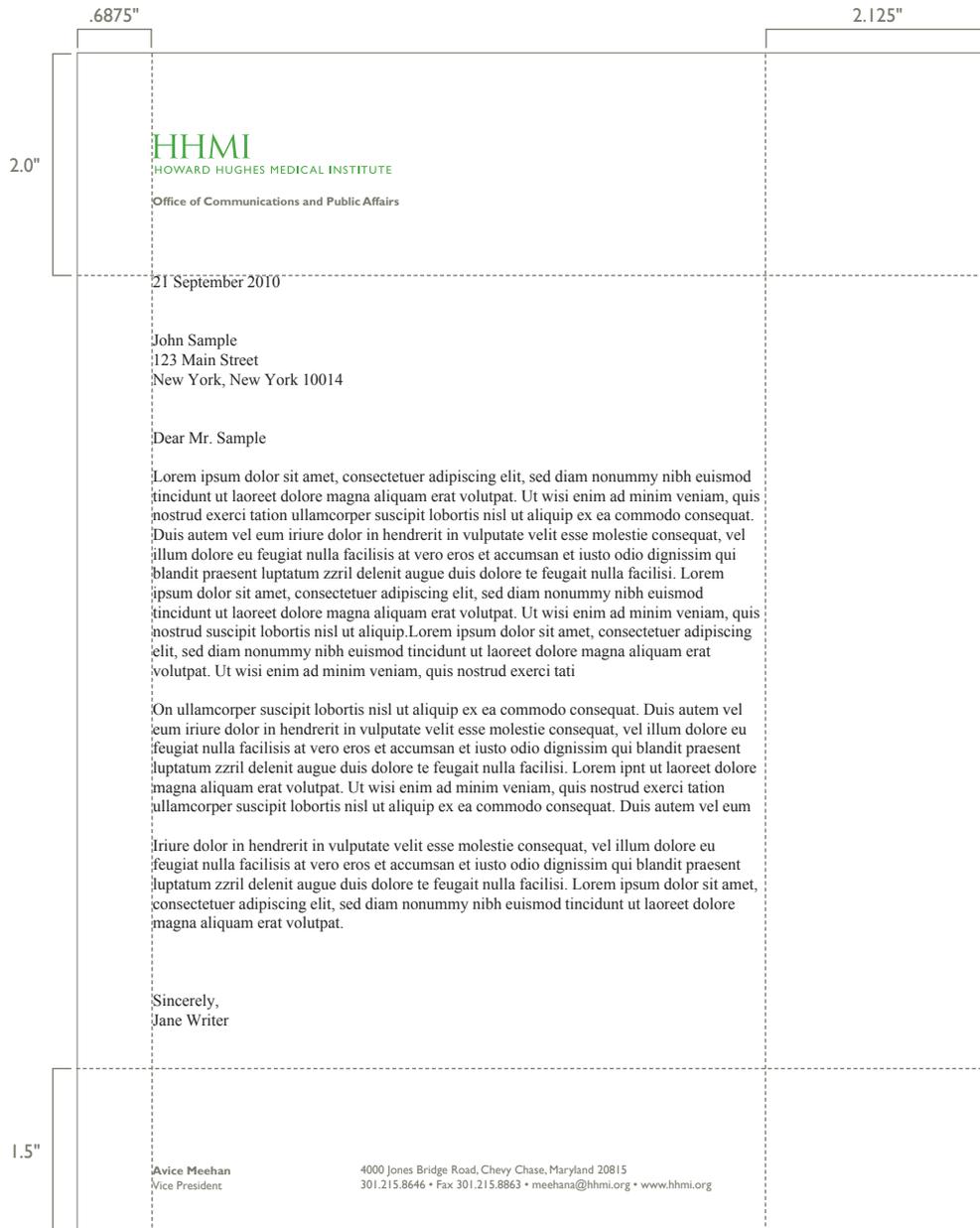
Senior Fellow
Janelia Farm Research Campus
19700 Helix Drive
Ashburn, Virginia 20147

Janelia

People associated with more than one institution can have both institutions included on the business card. Several two-sided formats have been defined in anticipation of varying business needs. This design allows greater flexibility in displaying titles at host institutions.

To be clear and professional, the front of the card should present primary contact information (i.e., title, institution, business address, phone number, fax, e-mail, and Web address). The back of the card should present additional correspondence information (i.e., additional title, institution, business address, and Janelia Farm Research Campus identifier).

Typing guide for letterhead



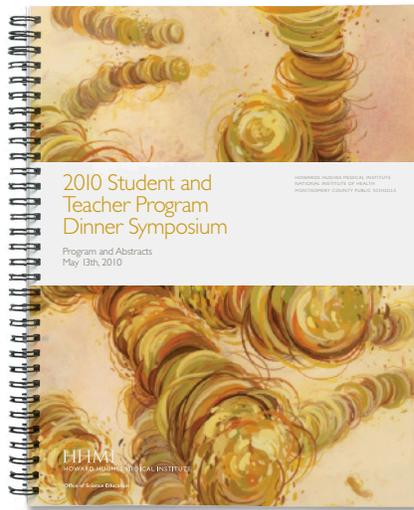
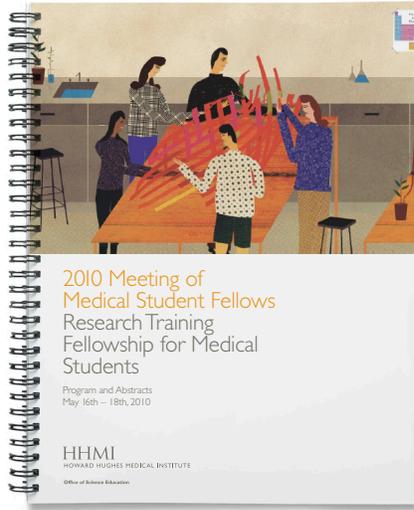
When writing a letter on the HHMI letterhead, please use the approved Word letter template to ensure proper formatting. If the template is not available, use Format/Document to set margins at .6875" left, 2.125" right, 2.0" top and 1.5" bottom, use Format/Font to set the font at 11 point

Garamond or Times New Roman and use Format/Paragraph to set line spacing to exactly 13 points. When using Arial set the font size at 10 points. The type layout has been designed to give the HHMI logo emphasis on the page and aligns the letter with the name and/or address information at the bottom.

Is it clear the material has been produced by HHMI?

HHMI USAGE EXAMPLES

Meeting covers



A design style for meeting covers, as illustrated above, has been developed to lend a more consistent appearance to the publications used at HHMI events. Whenever possible, an attractive illustration or photo should be used on the cover. The event title, date, and related information is

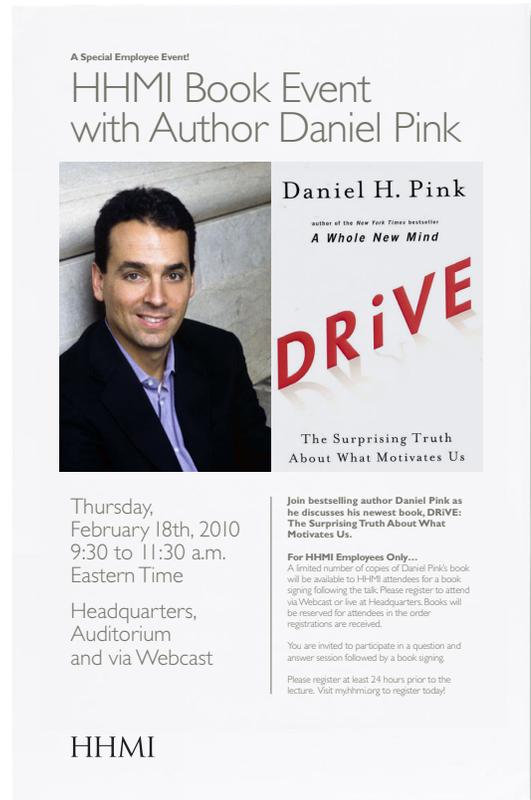
set in Gill Sans Light. The HHMI signature or signature plus department is placed in the lower left corner.

On the back cover, the HHMI signature and address is placed in the lower left corner.

Posters



Poster Style 1



Poster Style 2

The design of the posters should instantly grab the viewer's attention. The sample announcement poster uses a large field of color to highlight the main message. Other information is placed below on white. Consider using high-contrast colors for more impact and readability.

A related photograph and/or graphic specific to the event (e.g., portrait, book cover, etc.) should be used on the event poster for visual impact when available.

Artwork and templates are available on my.hhmi.org. Select the *Departments* tab and click on *Communications*.

Postcards



Postcard Style 1



Postcard Style 2



As illustrated above, postcard style 1 uses an attractive photo or illustration from the approved HHMI library. This design uses Garamond MT regular.

Artwork and templates are available on my.hhmi.org. Select the *Departments* tab and click on *Communications*.

In postcard style 2, the design is simply colored type on a full-bleed colored background. Colors should be chosen with consideration of the message. Gill Sans Light is used.

Certificates



A design style has been developed for program certificates, as illustrated above. The name and academic institutions can be added calligraphically and the logos can be blind-embossed or engraved.

Blank certificates (with green rule) can be ordered through the Office of Communications and Public Affairs.

Book spines

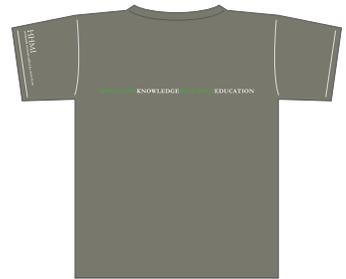


Large book spines

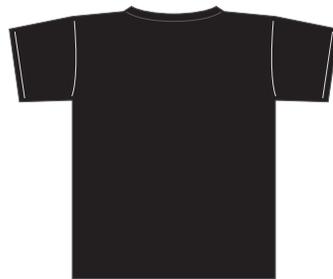
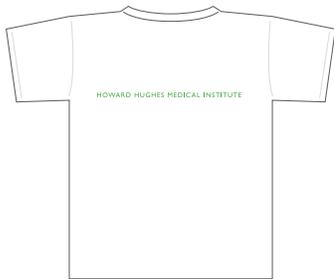


Book spines smaller than $\frac{3}{4}$ "

Promotional items



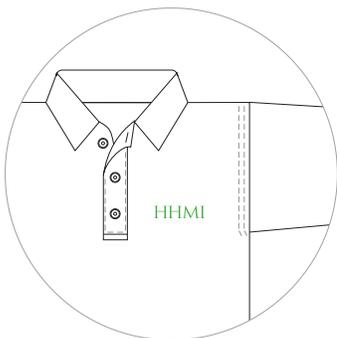
Front



Back (two-sided)

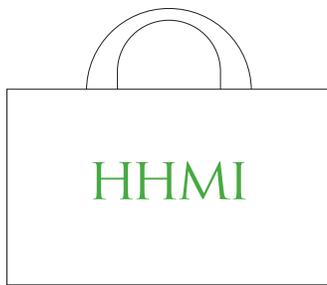
(one-sided)

(two-sided)

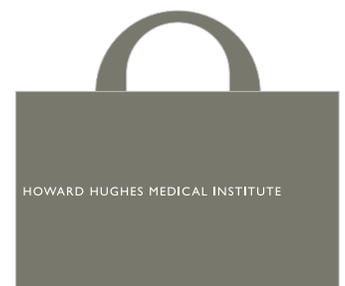
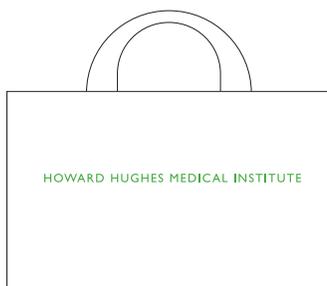


Note: On textiles, the logo and logotype should always print in either PMS 362, PMS Warm Gray 11, white, or black, whichever provides good contrast and legibility on the base color.

Promotional items



Front



Back

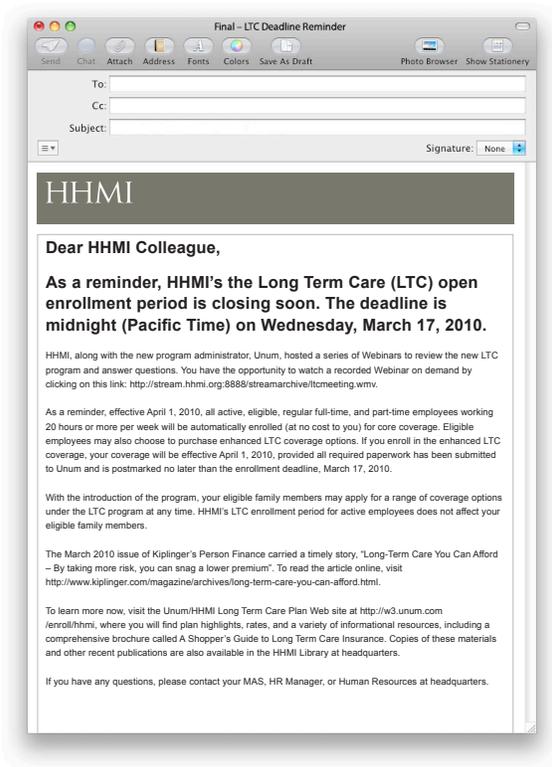
Promotional items



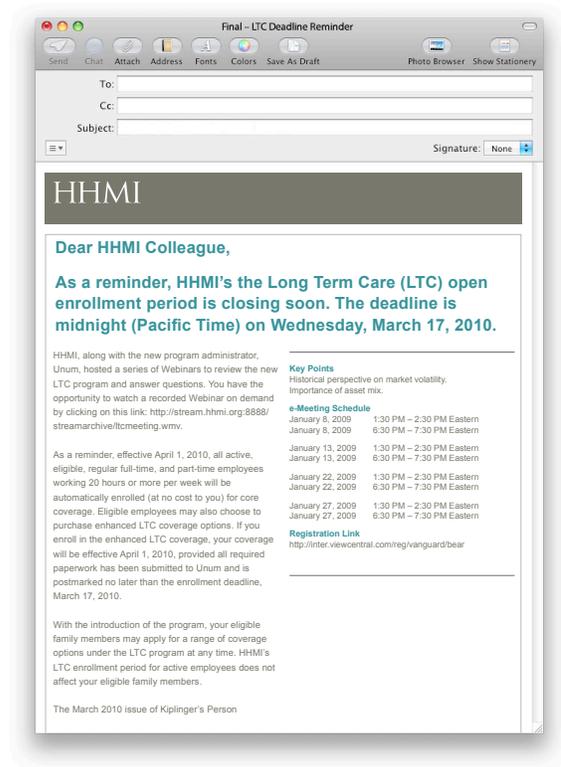
For size only



HTML e-mail banners



One column format / Black text



Two column format / Color text for emphasis

A design style for HTML e-mails has been developed to lend a consistent appearance to online communications.

The examples above illustrate a standard e-mail banner, appropriate for many uses. A colored bar in HHMI Warm Gray 11 is used. The HHMI logo is located in the upper left corner and reverses to white. For additional information on banners, see p. 48.

Large text in Arial is used for emphasis and as an introduction. The remaining text should use the Arial typeface. Minimum recommended font sizes are 14 pt. for large text and 11 pt. for remaining text to allow for maximum legibility on smart phone displays.

The two column format allows for different types of information (e.g., charts, graphs, photos, etc.).

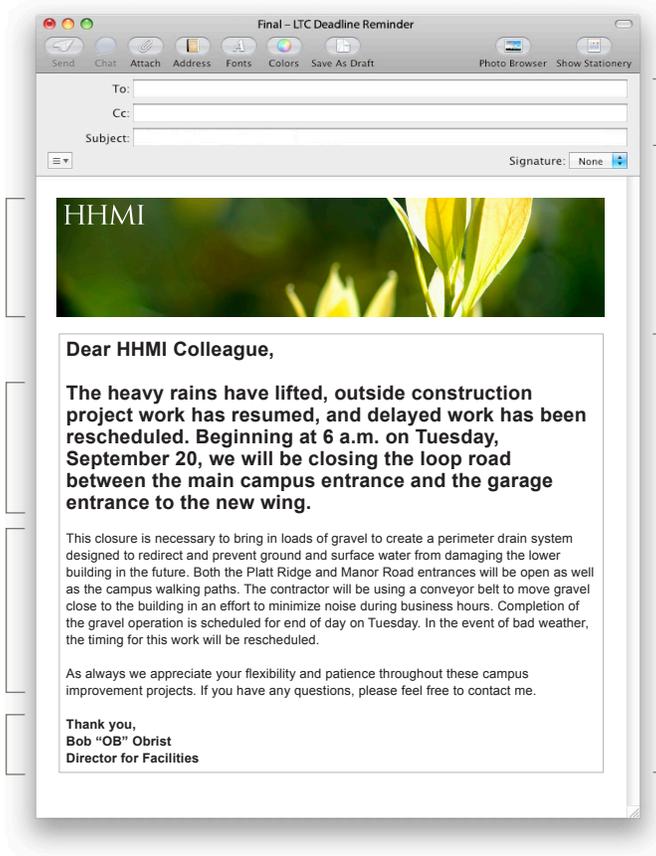
A quick guide to formatting your e-mail message

Step 6. Select 'insert picture' to insert the banner or copy and paste your source artwork. Click on the image and select the 'format' menu to size the picture at 7" wide.

Step 8. For the initial paragraph, select the 'format menu' to format it for emphasis. Select line spacing at multiple lines, and type in 1.15. Use bold type sparingly for emphasis.

Step 9. Use 'single' line spacing for all other paragraphs. Instead of selecting a set amount of space between paragraphs, use hard returns to create line spacing between paragraphs.

Step 10. Always include a point of contact and a signature instead of sending messages anonymously from a department or project e-mail address to allow for responses or questions.



Steps 1–5, see below.

Step 7. Insert a text box (also 7" wide) and type in your text.

Use the font Arial no smaller than 11 or 12 pt for optimal legibility on all your devices.

Select 'shape' on the 'format' menu, click on 'line' and use a light color to create a border to the copy.

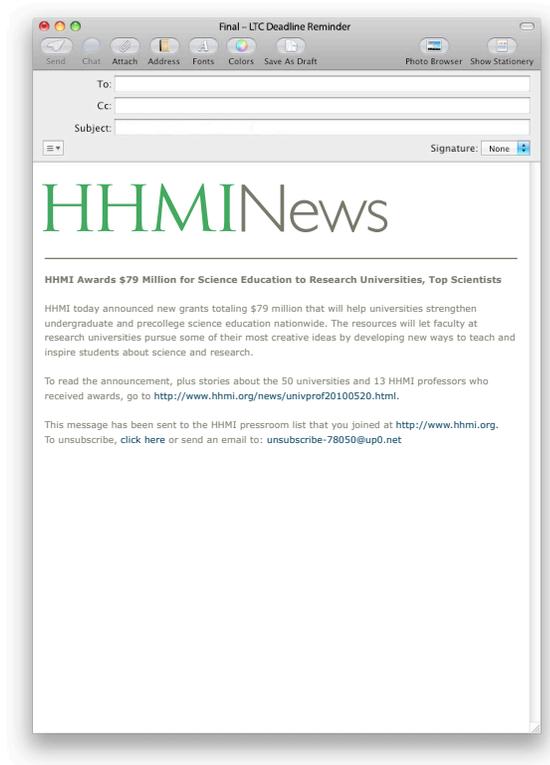
A design style for HTML e-mails has been developed to lend a consistent appearance to online communications.

The examples above illustrate a standard e-mail banner, appropriate for many uses. A colored bar in HHMI Warm Gray 11 is used. The HHMI logo is located in the upper left corner and reverses to white.

Large text in Arial is used for emphasis and as an introduction. The remaining text should use the Arial typeface. Minimum recommended font sizes are 14 pt. for large text and 11 pt. for remaining text to allow for maximum legibility on smart phone displays.

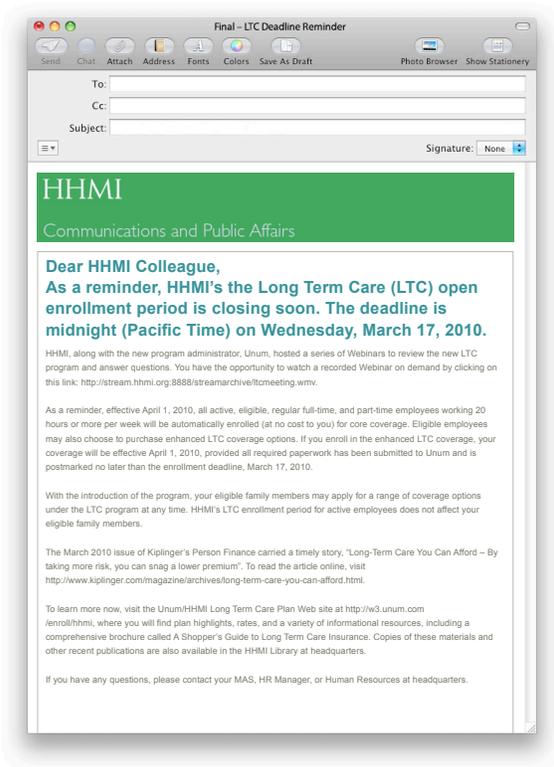
The two column format allows for different types of information (e.g., charts, graphs, photos, etc.).

HTML e-mail news banner

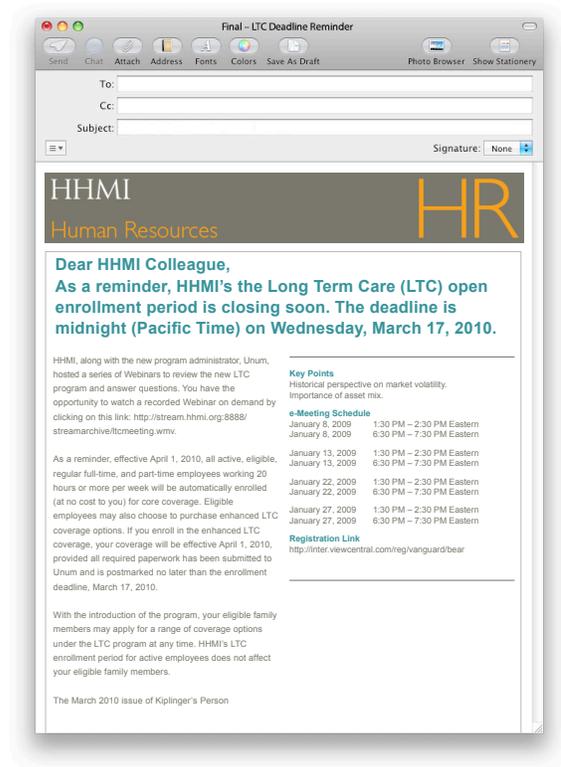


The large “HHMI News” banner is simple and conveys importance and immediacy. The Arial typeface should be used for body copy and bolded for the headline.

HTML e-mail with departments and programs/initiatives banners



One column format



Two column format

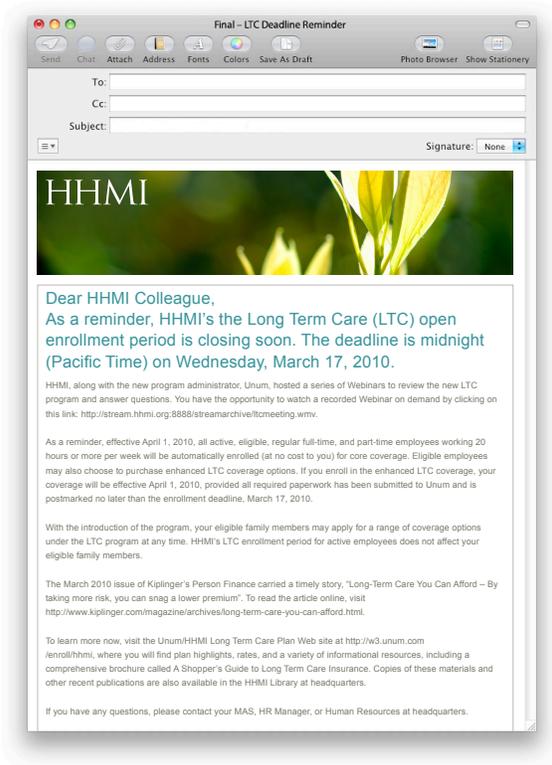
The examples above illustrate e-mail banners that have been developed for each unique department and program/initiative. The HHMI logo appears in the upper left corner of the banner.

Large text in Gill Sans Light acts as an introduction. The remaining text should use the Arial typeface. Minimum recommended font sizes are 14 pt. for large text and 12 pt. for remaining text to allow for maximum legibility on smart phone displays.

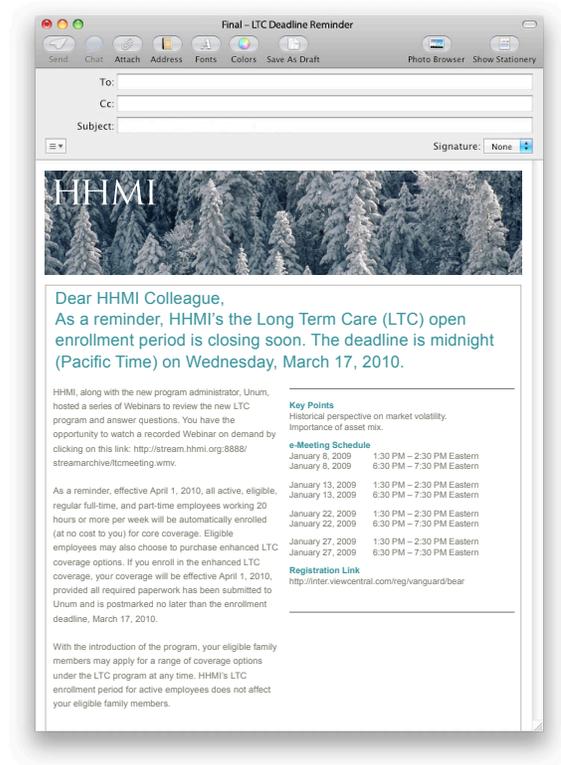
The two column format allows for different types of information (e.g., charts, graphs, photos, etc.).

For examples of these banners, see [Departments and programs/initiatives](#), p. 47.

HTML e-mail with seasonal photography banners



One column format



Two column format

If seasonal photography is used, the HHMI logo appears in the upper left corner of the banner.

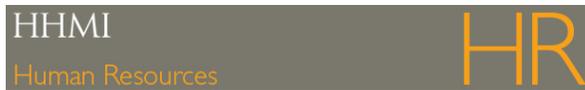
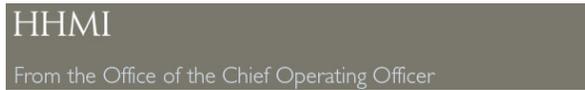
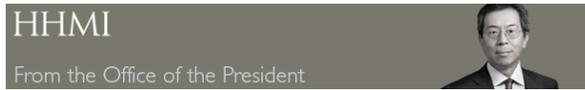
Large text in Gill Sans Light acts as an introduction. The remaining text should use the Arial typeface. Minimum recommended font sizes are 14 pt. for large text and 12 pt. for remaining text to allow for maximum legibility on smart phone displays.

The two column format allows for different types of information (e.g., charts, graphs, photos, etc.).

For examples of these banners, see [Seasonal photography](#), p. 48.

Departments and programs/initiatives banners

Departments



Programs / Initiatives



For each department and program/initiative, a unique personality is highlighted through the use of color, typography and, in some cases, graphics.

Artwork and templates are available on my.hhmi.org. Select the *Departments* tab and click on *Communications*.

Seasonal photography banners

Winter



Spring



Summer



Fall

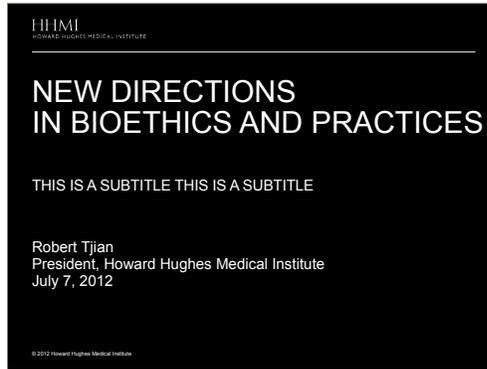


For each season, three point-of-views have been considered: 1) close-up, abstract, detail, 2) medium shot, dramatic angle, and 3) long shot, aerial, terrain.

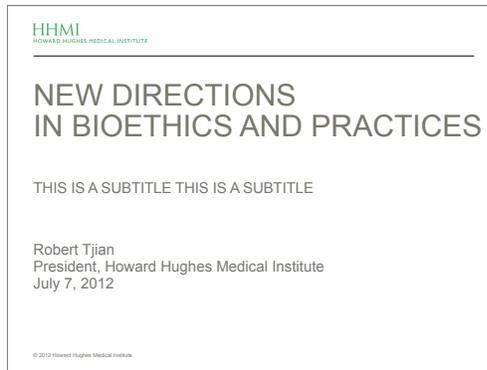
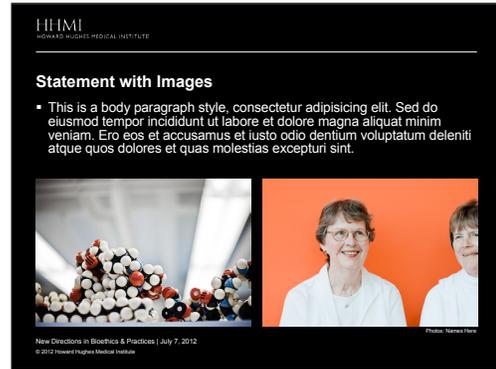
A catalog of approved, licensed images is maintained, archived, and made available by the Office of Communications and Public Affairs.

Artwork and templates are available on my.hhmi.org. Select the *Departments* tab and click on *Communications*.

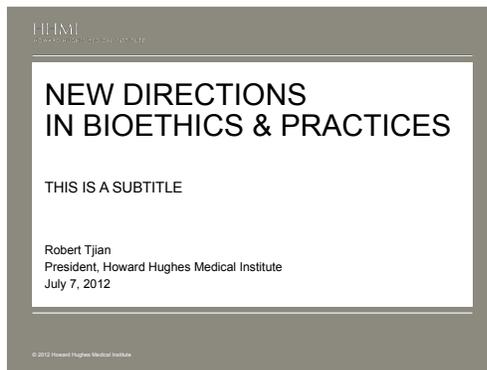
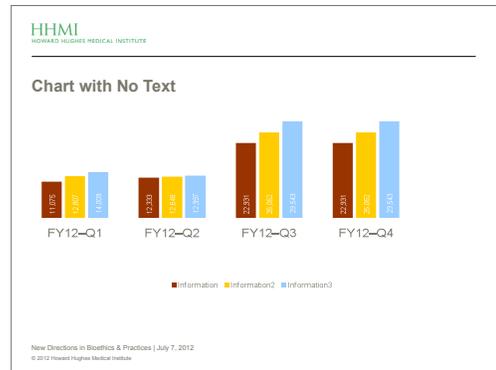
PowerPoint, HHMI



PPT Style 1 recommended for presentations



PPT Style 2 recommended for handouts



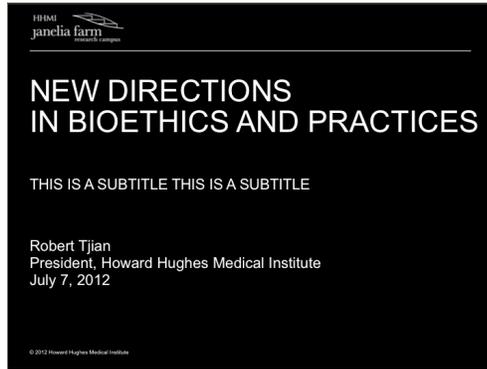
PPT Style 3



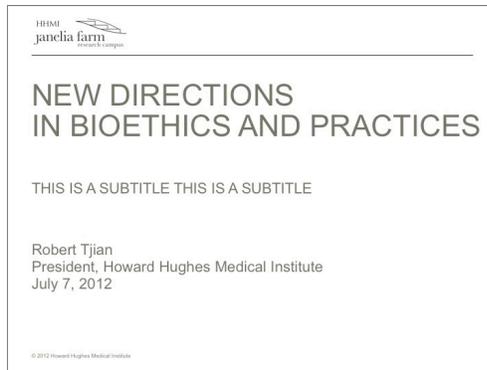
Three new PowerPoint templates have been designed to provide different design and layout options. Each template clearly communicates the HHMI identity but may fit different occasions and preferences.

Artwork and templates are available on my.hhmi.org. Select the *Departments* tab and click on *Communications*.

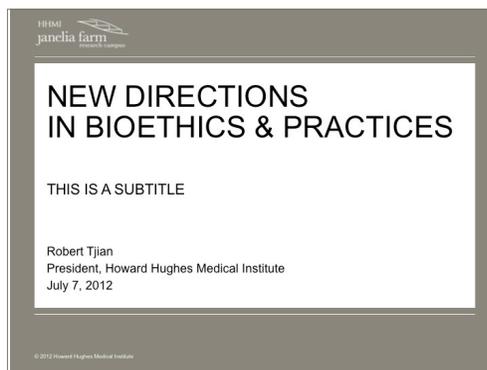
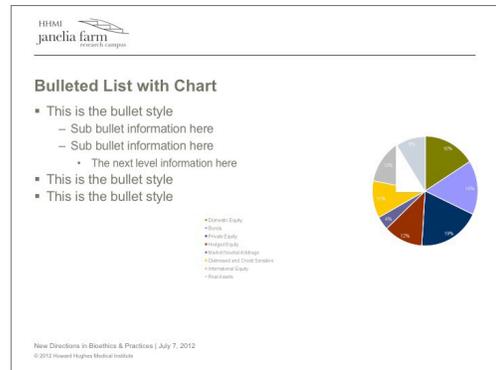
PowerPoint, Janelia



PPT Style 1 recommended for presentations



PPT Style 2 recommended for handouts



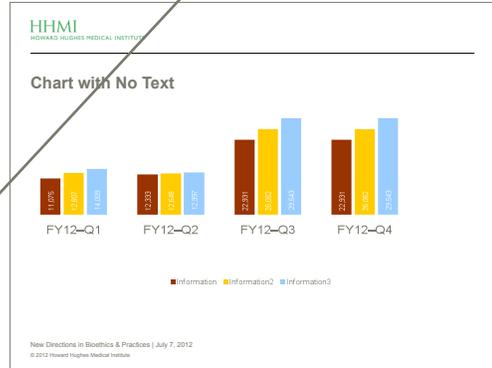
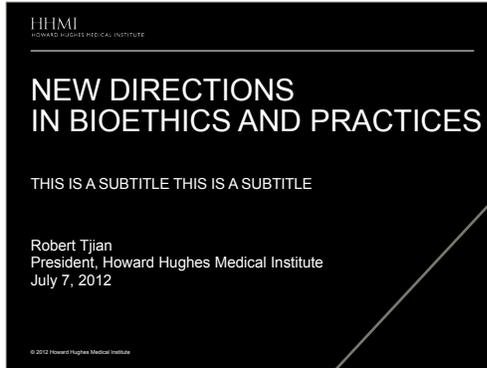
PPT Style 3



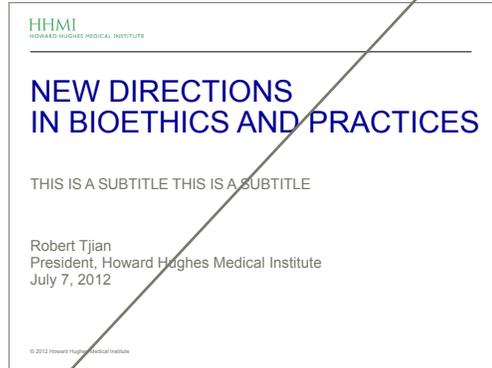
Three new PowerPoint templates have been designed to provide different design and layout options. Each template clearly communicates the HHMI identity but may fit different occasions and preferences.

Artwork and templates are available on my.hhmi.org. Select the *Departments* tab and click on *Communications*.

Incorrect Uses



MIXING TEMPLATES



REMOVING THE LOGO



CHANGING THE TEXT COLOR



CHANGING CHARACTER STYLES

PLACING IMAGES ON TOP, MOVING TEXT

Three new PowerPoint templates have been designed to provide different design and layout options. Each template clearly communicates the HHMI identity but may fit different occasions and preferences.

Artwork and templates are available on my.hhmi.org. Select the *Departments* tab and click on *Communications*.

Audio slideshow

HHMI SEA: National Genomics Research Initiative
**Students from the
First Year Share
Their Experience**



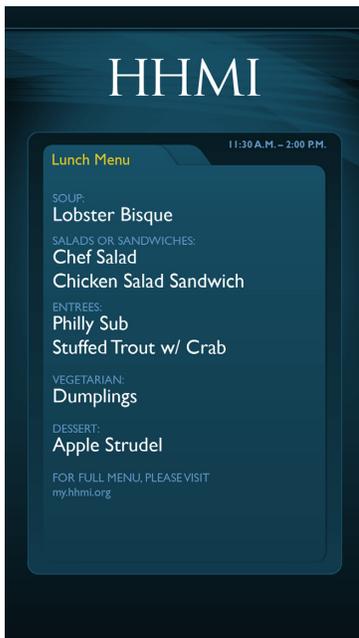
**Analyzing
the
Genome**

For more information about the Howard Hughes Medical Institute (HHMI), the Science Education Alliance (SEA), or the National Genomics Research Initiative (NGRI), please visit www.hhmi.org/grants/sea
For specific questions about the SEA or the NGRI, send an email to natexp@hhmi.org

HHMI
HOWARD HUGHES MEDICAL INSTITUTE

A design style for online audio slideshows has been developed to tell stories more effectively. A refined look is achieved through the simplicity of the black and white text slides and the use of Gill Sans throughout.

Digital Signage



A design template has been developed for interior digital signage systems used at Headquarters. An HHMI feel is achieved through simple typographic hierarchy. Background separation between zones of information are subtle, the key messages are more prominent. To increase clarity and legibility, Gill Sans is preferred.

Layouts can evolve based on HHMI’s communication needs (e.g., content, usage), environment, vendor specifications and system requirements.

When designing new materials it is critical to follow the guidelines and use the approved artwork in order to maintain a consistent visual “voice” that communicates the Institute’s distinctive character.

HHMI ONLINE TOOLKIT

Online Toolkit

The screenshot displays the MyHHMI website interface. The main content area is titled 'COMMUNICATIONS' and contains the following sections:

- HHMI'S GRAPHIC IDENTITY TOOLKIT:** A section titled 'The HHMI Identity Toolkit is made up of the following parts:' with a bulleted list:
 - HHMI Identity Guide (2 MB, PDF)
 - Logos
 - FAQs
 - Templates
 - Products
- PRIMARY HHMI PALETTE:** A section showing three color swatches:
 - HHMI GREEN:** PMS 342, C:20 M:10 Y:60 K:10, R:6 G:153 B:31 #009933
 - HHMI GRAY:** PMS Warm Gray 11
 - BLACK**
- COMMUNICATIONS STAFF:** A table listing staff members:

Name	Title	Phone	Email
Bajkowski, Jared R	Editorial Coordinator & Research Assistant	301/215-8632	
Bland, Julie T	Executive Assistant	301/215-8862	
Cowley, Elizabeth	Communications Officer I	301/215-8812	
Davenport, Pat	Communications Officer I	301/215-8792	

A callout box titled 'HHMI'S GRAPHIC IDENTITY TOOLKIT' is overlaid on the screenshot, containing the text: 'The HHMI Identity Toolkit is made up of the following parts:' followed by a bulleted list: '• HHMI Identity Guide (2 MB, PDF)', '• Logos', '• FAQs', '• Templates', and '• Products'.

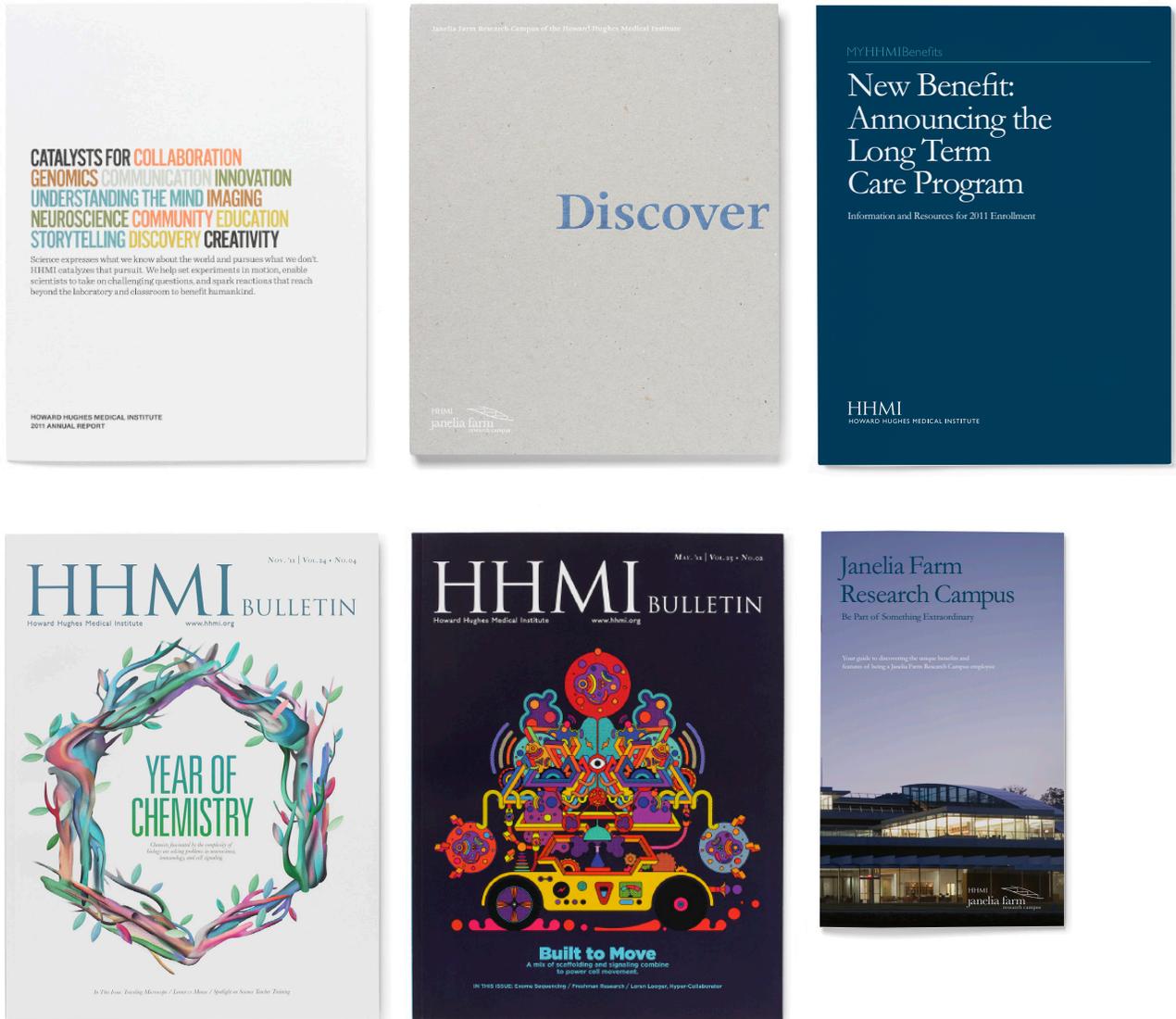
Toolkit contents

Additional copies of this Identity Guide, master artwork for the HHMI signature and logo, FAQs, template downloads, and product ordering are available at my.hhmi.org. Click on Communications under Departments.

If you require further assistance, please contact the Office of Communications and Public Affairs.

APPENDIX: PRINCIPLES OF DESIGN IN ACTION

Example: Front cover

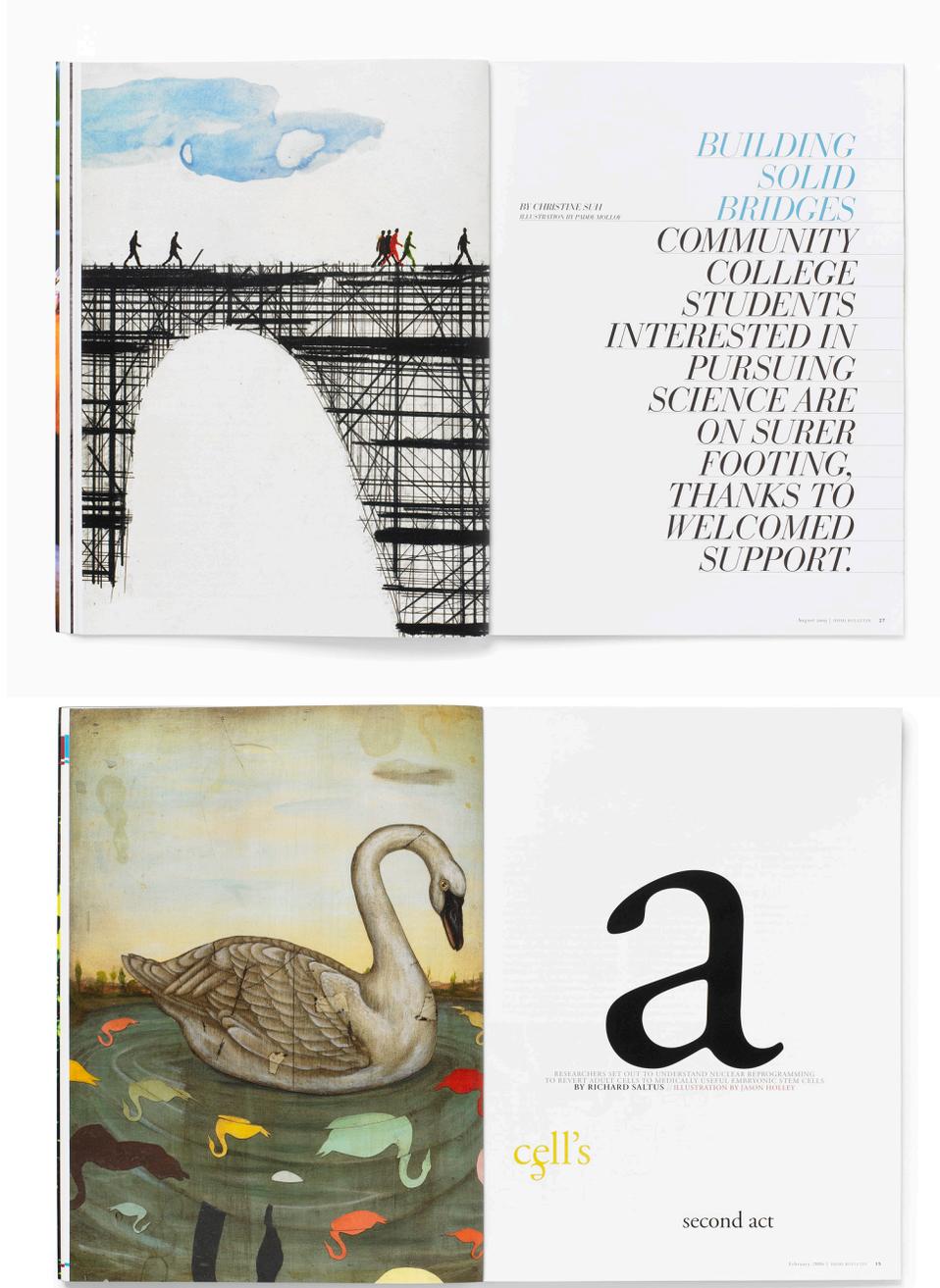


The cover of a brochure invites a reader in and states its purpose clearly.

The HHMI signature is placed in the lower left or right hand corner and typically reverses to white.

An engaging cover can be as simple as colored type on a colored background.

Example: Introduction



The introduction sets expectations and provides context, so the type is typically larger than the document's text size for body copy.

In some cases the introduction may take the form of a letter.

In short documents, the introduction might appear right on the cover.

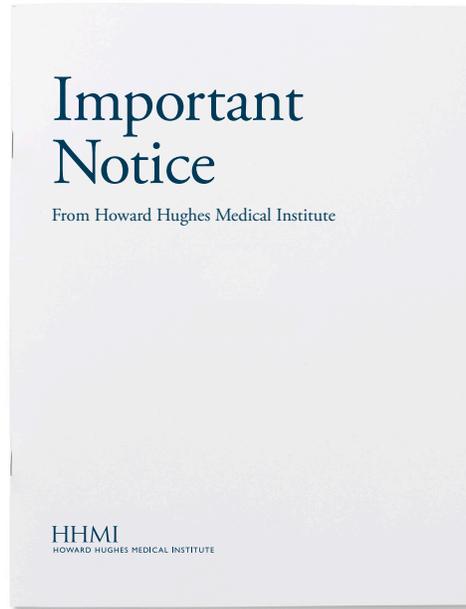
Example: Designing a page for emphasis



Readers need to process type hierarchies easily to navigate effortlessly through the document. Size, color, and fonts contribute to an overall sense of cleanliness and order.

Headlines, subheads, body text, bullet points, quotations, footnotes, and sidebars enable readers to scan content and focus on what's important.

Example: White space

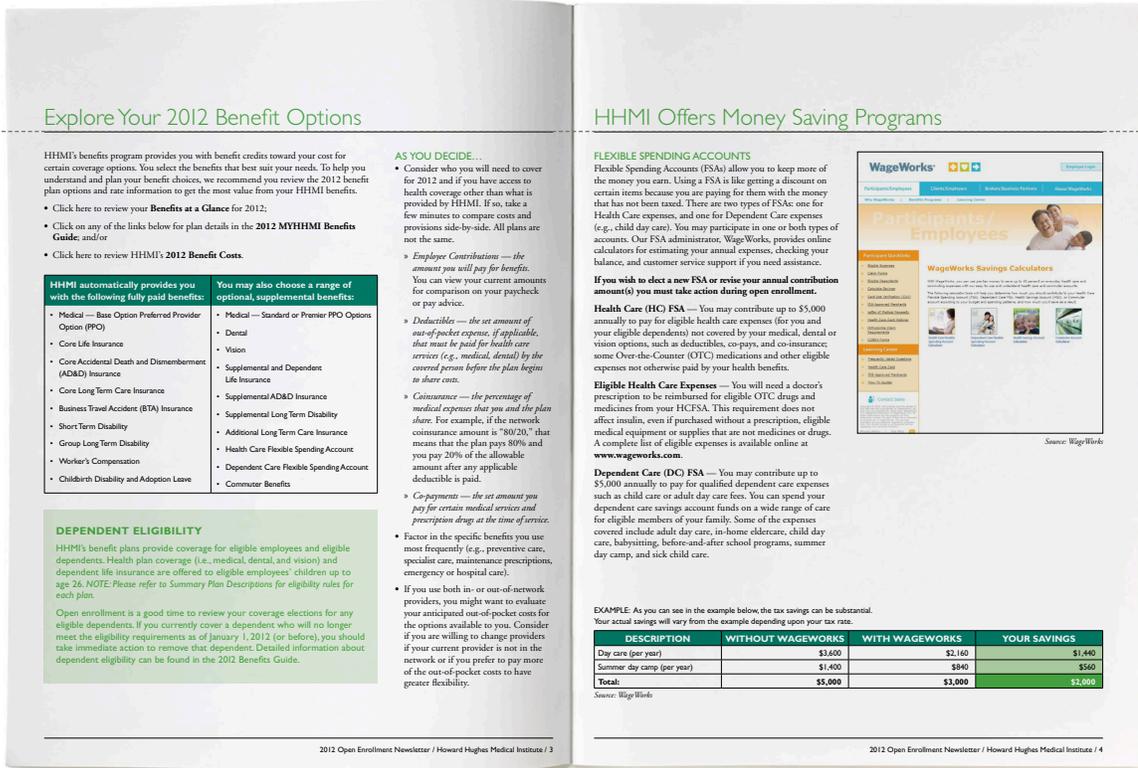


It is not necessary, nor is it recommended, to fill the entire page. White space provides some relief and keeps the reader from feeling overwhelmed.

This cover is dynamic and dramatic even though the title is small.

Example: Text alignment

Imaginary horizon line



Explore Your 2012 Benefit Options

HHMI's benefits program provides you with benefit credits toward your cost for certain coverage options. You select the benefits that best suit your needs. To help you understand and plan your benefit choices, we recommend you review the 2012 benefit plan options and rate information to get the most value from your HHMI benefits.

- Click here to review your **Benefits at a Glance** for 2012;
- Click on any of the links below for plan details in the **2012 MYHHMI Benefits Guide**; and/or
- Click here to review **HHMI's 2012 Benefit Costs**.

HHMI automatically provides you with the following fully paid benefits:	You may also choose a range of optional, supplemental benefits:
<ul style="list-style-type: none"> Medical — Base Option Preferred Provider Option (PPO) Core Life Insurance Core Accidental Death and Dismemberment (AD&D) Insurance Core Long Term Care Insurance Business Travel Accident (BTA) Insurance Short Term Disability Group Long Term Disability Worker's Compensation Childbirth Disability and Adoption Leave 	<ul style="list-style-type: none"> Medical — Standard or Premier PPO Options Dental Vision Supplemental and Dependent Life Insurance Supplemental AD&D Insurance Supplemental Long Term Disability Additional Long Term Care Insurance Health Care Flexible Spending Account Dependent Care Flexible Spending Account Commuter Benefits

DEPENDENT ELIGIBILITY

HHMI's benefit plans provide coverage for eligible employees and eligible dependents. Health plan coverage (i.e., medical, dental, and vision) and dependent life insurance are offered to eligible employees' children up to age 26. *NOTE: Please refer to Summary Plan Descriptions for eligibility rules for each plan.*

Open enrollment is a good time to review your coverage elections for any eligible dependents. If you currently cover a dependent who will no longer meet the eligibility requirements as of January 1, 2012 (or before), you should take immediate action to remove that dependent. Detailed information about dependent eligibility can be found in the 2012 Benefits Guide.

AS YOU DECIDE...

Consider who you will need to cover for 2012 and if you have access to health coverage other than what is provided by HHMI. If so, take a few minutes to compare costs and provisions side-by-side. All plans are not the same.

Employer Contributions — the amount you will pay for benefits. You can view your current amounts for comparison on your paycheck or pay advice.

Deductibles — the set amount of out-of-pocket expense, if applicable, that must be paid for health care services (e.g., medical, dental) by the covered person before the plan begins to share costs.

Coinsurance — the percentage of medical expenses that you and the plan share. For example, if the network coinsurance amount is "80/20," that means that the plan pays 80% and you pay 20% of the allowable amount after any applicable deductible is paid.

Co-payments — the set amount you pay for certain medical services and prescription drugs at the time of service.

Factor in the specific benefits you use most frequently (e.g., preventive care, specialist care, maintenance prescriptions, emergency or hospital care).

If you use both in- or out-of-network providers, you might want to evaluate your anticipated out-of-pocket costs for the options available to you. Consider if you are willing to change providers if your current provider is not in the network or if you prefer to pay more of the out-of-pocket costs to have greater flexibility.

HHMI Offers Money Saving Programs

FLEXIBLE SPENDING ACCOUNTS

Flexible Spending Accounts (FSAs) allow you to keep more of the money you earn. Using a FSA is like getting a discount on certain items because you are paying for them with the money that has not been taxed. There are two types of FSAs: one for Health Care expenses, and one for Dependent Care expenses (e.g., child day care). You may participate in one or both types of accounts. Our FSA administrator, WageWorks, provides online calculators for estimating your annual expenses, checking your balance, and customer service support if you need assistance.

If you wish to elect a new FSA or revise your annual contribution amount(s) you must take action during open enrollment.

Health Care (HC) FSA — You may contribute up to \$5,000 annually to pay for eligible health care expenses (for you and your eligible dependents) not covered by your medical, dental or vision options, such as deductibles, co-pays, and co-insurance; some Over-the-Counter (OTC) medications and other eligible expenses not otherwise paid by your health benefits.

Eligible Health Care Expenses — You will need a doctor's prescription to be reimbursed for eligible OTC drugs and medicines from your HC FSA. This requirement does not affect insulin, even if purchased without a prescription, eligible medical equipment or supplies that are not medicines or drugs. A complete list of eligible expenses is available online at www.wageworks.com.

Dependent Care (DC) FSA — You may contribute up to \$5,000 annually to pay for qualified dependent care expenses such as child care or adult day care fees. You can spend your dependent care savings account funds on a wide range of care for eligible members of your family. Some of the expenses covered include adult day care, in-home childcare, child day care, babysitting, before-and-after school programs, summer day camp, and sick child care.

EXAMPLE: As you can see in the example below, the tax savings can be substantial. Your actual savings will vary from the example depending upon your tax rate.

DESCRIPTION	WITHOUT WAGEWORKS	WITH WAGEWORKS	YOUR SAVINGS
Day care (per year)	\$1,600	\$2,160	\$1,440
Summer day camp (per year)	\$1,400	\$840	\$560
Total	\$5,000	\$3,000	\$2,000

Source: WageWorks



Source: WageWorks

Whenever possible, hang all the copy in a document from the same imaginary horizontal line or lines. This gives the document a heightened sense of order and consistency.

Example: Contrast and legibility



Legibility is of uppermost importance. It helps draw the audience in and provides a satisfying, effortless reading experience.

Copy may appear as white on a solid color or a photograph, provided it is easy to read.

Tints should be avoided in text, unless the type is very large, as in a headline.

Example: Consistency



Whatever hierarchy, color scheme, and typographic conventions are established in a particular document, make sure to follow those conventions throughout for consistency.

Example: Using typographic boxes and rules

Important Reminders and Additional Information

UPDATE YOUR BENEFICIARY INFORMATION

You may update your beneficiary information at any time, and open enrollment is a good opportunity to make sure your designations are up to date. To update your beneficiary designations for:

- **Core and Supplemental Life and/or Core AD&D Insurance** coverage use the *Actna Designation of Beneficiaries* form available at my.hhmi.org.
- **Supplemental AD&D and BTA Insurance**, use the *Dependents and Beneficiaries* form online at my.hhmi.org.
- **Retirement accounts**, please contact TIAA-CREF and/or Vanguard directly (see p. 7).

IDENTIFICATION CARDS

If you make no changes to your benefits for 2012, you will not receive new identification (ID) cards.

If you are making new coverage elections for 2012, you will receive ID cards reflecting the new medical and/or dental coverage for which you enrolled. Cards will be mailed to your home by January 1, 2012. We recommend you always carry your cards and present them whenever you receive care.

- **CareFirst BCBS** will send you an ID card for your medical and prescription coverage. If you elect coverage for yourself only, you will receive one ID card. If you elect coverage for you and your family you will receive two ID cards. ID cards are issued only in the employee's name. You may request additional cards by calling member services at 1.800.628.8549 or go online to print additional cards at www.carefirst.com/hhmi. First time users must register on the Web site.

The CareFirst BCBS customer service telephone number, along with other important telephone numbers, will be on the card.

- **Delta Dental** will send you an ID card for your dental coverage. Delta Dental's customer service telephone number will be on the ID card. One card is issued to each employee; additional cards can be printed online at www.deltadentalins.com/hhmi.

- **Vision Service Plan (VSP)** offers a printable online member vision card. VSP does not mail ID cards because the VSP member card is not required for you to receive services. The printable card has a summary of your personal vision benefits information as a VSP member. For your personalized card, go to www.vsp.com, logon to your account, and click the Member Vision Card link to print your ID card. *Note: First time users will need to create an account.*



2012 Open Enrollment Newsletter / Howard Hughes Medical Institute / 6

Plan Carrier Contact Information

For help with your benefit questions, contact information is provided in the chart below.

BENEFIT	VENDOR	PHONE NUMBER	WEBSITE
Medical	CareFirst BCBS	1.800.628.8549	www.carefirst.com
Dental	Delta Dental	1.800.932.0783	www.deltadentalins.com/hhmi
Vision	VSP	1.800.877.7195	www.vsp.com
Flexible Spending Accounts	WageWorks	1.877.924.3967	www.wageworks.com
Commuter Benefits Program	Unum	1.866.313.5846	www.unum.com
• Short Term Disability			
• Childbirth Disability & Adoption Leave			
• Group Long Term Disability			
• Family & Medical Leave			
Supplemental LTD	MetLife		www.metlife.com
• Enrollment	1.877.588.9067, press 1, ext. 7254		
• Plan participant	1.800.929.1492		
• Increase coverage	1.888.671.8152		
Life Insurance	Aetna	1.800.523.5065	www.aetna.com
• Core			
• Supplemental			
• Dependent			
Core Accidental Death & Dismemberment Insurance	Aetna	1.800.523.5065	www.aetna.com
Supplemental Accidental Death & Dismemberment Insurance	The Hartford	1.800.563.1124	www.thehartfordatwork.com
Business Travel Accident Insurance	The Hartford	1.800.563.1124	www.thehartfordatwork.com
Group Long Term Care Insurance	Unum	1.800.227.4165	w3.unum.com/enroll/hhmi
Retirement Plans	TIAA-CREF	1.800.842.2776	www.tiaa-cref.org
• Defined Contribution Retirement Plan	Vanguard	1.800.523.1188	www.vanguard.com
• Supplemental Retirement Tax Deferral Plan (voluntary plan)			
Employee Assistance Plan	LifeWorks	1.888.267.8126	www.lifeworks.com (User ID: hhmi Password: 5653)
Health Advocate	Health Advocate	1.866.695.8622	www.healthadvocate.com
Emergency Travel Insurance	Unum/ AssistAmerica	1.800.872.1414	www.unum.com/travelassistance

You may also contact your MAS, HR Manager, or HQ Human Resources by email: hrdept@hhmi.org or phone: 1.800.448.4882, ext. 8920.

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A box can help a reader distinguish between overview text and program details.

Boxes and rules work to divide content into easily digestible sections and provide structure for the page.

Example: Charts, tables, and graphs

	HHMI's Contribution	Your Contribution
Your Pay		
Annual Salary	\$100,000	
Supplemental Merit Increase	\$0	
Lump Sum Supplemental Merit Increase	\$0	
Bonus	\$0	
Overtime	\$0	
Health and Welfare Benefits		
Health Benefit Credits	\$0	
Medical	\$0	\$0
Dental	\$0	\$0
Vision	\$0	\$0
Disability and Life Insurance	\$0	\$0
Retirement Benefits		
Defined Contribution Retirement Plan (DCRP)	\$0	\$0
Supplemental Retirement Tax Deferral Plan (SRTD) Pre-tax	\$0	\$0
Both 403(b) Plan After-tax	\$0	\$0
Supplemental Management Deferred Compensation Program	\$0	\$0
Government Required Benefits		
Social Security	\$0	\$0
Workers' Compensation	\$0	\$0
Unemployment Insurance	\$0	\$0
Total	\$100,000	\$100,000

The Big Picture

HHMI values you as an employee and as a contributor to the Institute's success. HHMI employees enjoy a Total Rewards package that is both competitive and comprehensive. This statement gives you an annual record of your compensation and benefits to help you understand and appreciate the value of your Total Rewards. As you can see, the value of the benefits programs sponsored by HHMI represent (TotalBenPct)% of your Total Rewards.

The pie chart below on the left shows a breakdown of your Total Rewards. It includes your compensation as of September 1, 2007, as well as the value of the benefits and programs HHMI provides to you in 2008.

The pie chart on the right represents the total percentage of HHMI's contributions to our Total Rewards compared to your contributions.

- A Annual Salary (and Bonus) (20.4%)
- B Health and Welfare Benefits (22.8%)
- C Retirement Benefits (22.8%)
- D Other Benefits (25.6%)
- A HHMI Contribution (25.6%)
- B Your Contribution (25.6%)

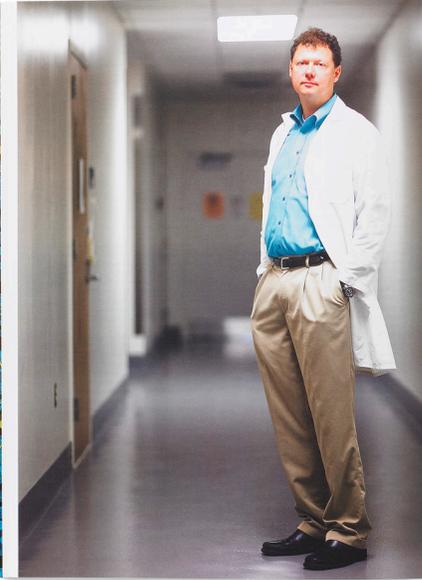
Undergraduate Institutions Selected in the 2011 Competition

- 1 Anderson College | Anderson, Pennsylvania
- 2 Baruch College | New York, New York
- 3 Brandeis College | Brandeis, Maine
- 4 Bryn Mawr College | Bryn Mawr, Pennsylvania
- 5 California State University | Fullerton, California
- 6 Case College | Grand Rapids, Michigan
- 7 Case Western Reserve University | Cleveland, Ohio
- 8 CUNY Hunter College | New York, New York
- 9 Colby College | Waterville, Maine
- 10 Colgate University | Hamilton, New York
- 11 College of Charleston | Charleston, South Carolina
- 12 College of Wooster | Wooster, Ohio
- 13 Davidson College | Davidson, North Carolina
- 14 Drew University | Madison, New Jersey
- 15 Furman University | Greenville, South Carolina
- 16 Georgetown College | Georgetown, Kentucky
- 17 Graceland College | Sikeston, Missouri
- 18 Grinnell College | Grinnell, Iowa
- 19 Gustavus Adolphus College | New Richmond, Wisconsin
- 20 Gustavus Adolphus College | New Richmond, Wisconsin
- 21 Hampden-Sydney College | Hampden-Sydney, Virginia
- 22 Harvey Muir College | Claremont, California
- 23 Hendrix College | Sikeston, Missouri
- 24 Hope College | Holland, Michigan
- 25 Johnson College | Johnson, Pennsylvania
- 26 Kean College | New York, New York
- 27 Kenyon College | Gambier, Ohio
- 28 Kean College | Trenton, New Jersey
- 29 California State University | Fullerton, California
- 30 Claremont Graduate University | Claremont, California
- 31 Carleton College | Northfield, Minnesota
- 32 CUNY Hunter College | New York, New York
- 33 College of William & Mary | Williamsburg, Virginia
- 34 College of Charleston | Charleston, South Carolina
- 35 College of William & Mary | Williamsburg, Virginia
- 36 College of William & Mary | Williamsburg, Virginia
- 37 Davidson College | Davidson, North Carolina
- 38 Drew University | Madison, New Jersey
- 39 Franklin & Marshall College | Lewisburg, Pennsylvania
- 40 Furman University | Greenville, South Carolina
- 41 Georgetown College | Georgetown, Kentucky
- 42 Graceland College | Sikeston, Missouri
- 43 Grinnell College | Grinnell, Iowa
- 44 Gustavus Adolphus College | New Richmond, Wisconsin
- 45 Hampden-Sydney College | Hampden-Sydney, Virginia
- 46 Harvey Muir College | Claremont, California
- 47 Hendrix College | Sikeston, Missouri
- 48 Hope College | Holland, Michigan

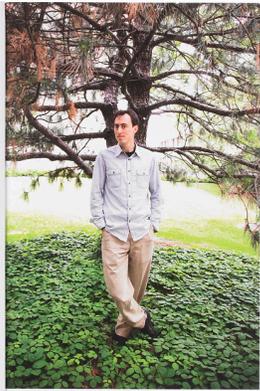
Make sure the colors chosen for charts and graphs have enough contrast, so each area stands out clearly.

When making charts, simpler is better. The straightforward communication of information is essential to the HHMI brand.

Example: Using a single photo



TAMING FEAR,
—
RISING CALM
—
A SOCIAL CONSCIENCE
ROOTED IN THE
DEEP SOUTH MOVES
KERRY RESSLER,
A PSYCHIATRIST
AND NEUROSCIENTIST,
TO TRY TO EASE THE
CONSEQUENCES
OF INNER
CITY TRAUMA.
—
BY PATRICIA THOMAS
PHOTOGRAPHY BY
GREGORY MILLER



The discovery of natural selection was both a triumph and a burden for Charles Darwin.

Through careful observations of the living world, he concluded that most organisms have means more effective than man's for survival. These offspring with advantageous characteristics tend to live while others succumb to disease, are eaten by predators, or otherwise fail to reproduce.

This "struggle for life" leads to perpetuate favorable traits, enabling populations of organisms to adapt to their environments. Yet the struggle reveals an internal influence at the heart of nature. When Darwin reflected later in life on his love of faith, one consolation he cited was "the suffering of the millions of lower animals throughout almost endless time."

Evolution is not exempt from this competition for reproductive success. The mechanism of fate, the fate of a child from disease, a young couple's inability to have children—all are more than human tragedies; they also present particular variations of genes from passing into future generations. As Darwin said of his theory, "the vigorous, the healthy, and the happy survive and multiply."

Insular Pritchard, an HHMI investigator at the University of Chicago, has been fascinated by evolution and natural selection ever since he began collecting insects and watching birds over his childhood home outside London. "Understanding the role of selection in any species is one of the fundamental questions in biology," he says.

Insular Pritchard has traveled throughout these continents throughout his research career. But he has never been to the role of medicine that combats Pritchard's use of modern molecular biology techniques needed to determine how natural selection has influenced our genomes. While often eager to be the latest about how genes might affect human traits, Pritchard focuses on traits whose historical processes could have produced the segment of genetic letters in our DNA.

THE FIELD
Pritchard's proficiency in both mathematics and biology can be traced in part to a love story. He and his father, William C. Pritchard, an applied mathematician who moved the family from England to the United States to take a faculty position at Pennsylvania State University, shared a love of reading. Pritchard's first scientific paper, which he wrote as an undergraduate with his father as coauthor, analyzed the effects of wind on sprouters and concluded that the stormy world record in the 100 meters, set by Florence Griffith-Joyner at the Olympics, took in 1988, should have been broken because of a strong tailwind. However, the sprouter, which recorded a wind speed of zero, appears to have malfunctioned. "Blowing officials have occasionally asked about our wind," says Pritchard, "but they don't want to change the record."

Pritchard played on the 100- and 500-meter track events for Penn State when he entered as a freshman. But a knee injury forced him to withdraw for a year, which meant he was in college for five years. That gave him plenty of time to double-major in biology and mathematics while still competing on the track and cross-country teams. A freshman class taught by Arthur Clark on population genetics—the study of changes in DNA sequences in populations of organisms

over time—inspired him. "It was because I think about mathematically," Clark says. "When a student like that comes along, everyone notices."

After graduating from Penn State, Pritchard moved to Stanford University to work with Mark Fishelson, a prominent geneticist who had also been Clark's graduate advisor. In Palo Alto, Pritchard quickly fell in with the vibrant community of students and faculty members surrounding Fishelson and Luca Cavalli-Sforza, who pioneered the use of population genetics to study the movements of human populations over broad historical periods. "I was fascinated by the idea that one could use the mathematics of population genetics to learn about human history," Pritchard says.

In 1995, he returned to England for a postdoctoral fellowship at Oxford University, and there he wrote a computer program that dramatically changed how geneticists think about the genetic relationships among people. Known as structure, the program analyzes the differences in DNA sequences in a sample of individuals. If there were no individuals in one group based on their genetic similarities, Pritchard and Noah Rosenberg, a friend from Stanford who was a geneticist at the University of Michigan, had a

team of researchers who used structure to analyze genetic data from more than a thousand people drawn from 52 world-wide populations. At the time, geneticists thought the extreme genetic overlap among all humans would make it difficult to define people into categories. But structure clearly sorted the people into groups that corresponded to pairs of continents, including sub-Saharan Africa, northern Eurasia, eastern Asia, and the Americas. The resulting paper, published in Science in 2003, was named "Paper of the Year" by *The Economist*.

Newspaper stories heralded the results, promising a biological basis for traditional racial classifications. But Pritchard thought the results somewhat difficult. The classifications societies use to divide individuals into groups. Ancestrally modern humans evolved in Africa some time before 100,000 years ago. They spread into the rest of the world and gradually replaced the more archaic forms of humans living in other parts of Africa and Eurasia, including the Neanderthals in Europe, Homo erectus in Asia, and the most recently discovered Homo floresiensis in Indonesia.

As modern humans colonized the world, groups developed genetic differences that made it possible to distinguish African, Asian, and European individuals, usually, and by using computer programs like structure. People, however, have continued to move within and among continents throughout history, blurring the genetic differences among populations. In some cases, the movement was extensive, as between Europe and Asia. In others, they were small but continuous, as between Asia and the Americas across the Bering Strait. Today,

To create a dynamic layout, consider placement and scale on the page in relation to the typography. Allow white space around the image.

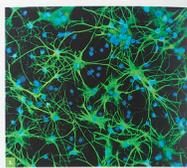
Example: Using multiple photos

Two Approaches to Protecting Motor Neurons

Everyday tasks like getting out of bed or stepping into a car require coordination of dozens of muscles, guided by hundreds of motor neurons that connect the muscles with the spinal cord. Amyotrophic lateral sclerosis (ALS), or Lou Gehrig's disease, is one neurodegenerative disease that destroys motor neurons.

In work that could help aid drug discovery for ALS, HMMI investigator Thomas M. Jessell, at Columbia University College of Physicians and Surgeons, working with Jeremy Dasen of New York University and Philip Tucker of the University of Texas at Austin, identified a key gene responsible for making motor neurons and ensuring they make critical connections between the spinal cord and muscles.

FoxP1 is required to generate motor neurons, according to the new research. And, importantly, the level of the protein Foxp1 expressed by developing neurons dictates the precise subtype they will form. FoxP1 is an essential cofactor for many of the Hox genes that, according to Jessell's previous work, orchestrate motor neuron development and connectivity. Hynek Wichterle and Mirza Pejeljo at Columbia are using this Fox-Hox recipe to develop a promising screening for identifying drugs that prevent or slow the degeneration of motor neurons," says Jessell.





HMMI international research scholar Rafael Raddi is taking a different approach to ALS, based on an unexpected result of his research on the immune system's macrophages. Motor neurons rely on companion cells, called astrocytes, for nourishment and protection. Raddi's lab found that peroxynitrite, used by macrophages to kill bacteria, can also turn astrocytes into motor neuron killers and lead to ALS. Raddi and his team at the Universidad de la República in Uruguay used an antioxidant to reverse peroxynitrite buildup and block motor neuron destruction in rats with a form of ALS. "I think peroxynitrite is a central mediator in cell death," he says. "It can kill pathogens, but it can also kill your own cells."

Twitching Proteins

HMMI investigator Dorothee Kern has changed the way scientists think about enzymes. To draw out the dynamic personality of adenylate kinase, Kern and her team at Brandeis University used x-ray crystallography for structural information, examined the internal motion of the enzyme with nuclear magnetic resonance, and used a supercomputer to generate a movie of the enzyme opening and closing.

Kern called on her brother, physicist Christian Hubner, at Martin Luther University Halle-Wittenberg in Germany, to make sense of discrepancies between methods. Hubner had designed and built a unique ultrasensitive laser that allowed precise measurements and time resolution in microseconds. The new measurements showed that, contrary to conventional wisdom, the enzyme doesn't always wait for its substrate to change shape. It adopts an intermediate half-open, half-closed state every few nanoseconds. It only rarely closes all the way, snapping its lid shut in milliseconds. "That's when the enzyme is getting down to business and can bind with its substrates to perform catalysis," says Kern. It took a technological tour de force, but Kern and her team ultimately revealed the enzyme's hidden moves.




PEERING THROUGH THE LENSES of the most advanced microscopes of their time, the curious scientists of the late 19th century observed a whole new universe inside cells. The darkened cell center at times looked like balled up thread; at other times the threads separated, stretching like a hammock from one side of the cell to the other. The meticulous scientists noted each cell cycle and named the phases for how they appeared—leptotene from the Greek for "thin threads," pachytene for "thick threads," zygotene for "paired threads."

Today, scientists know that those "balls" are chromosomes containing the cell's genetic material. The dynamic changes made through microscopes are a chromosome bunching together, making themselves fit for genetic ball of action.

From the Greek word for "to make smaller," meiosis is the dividing up of chromosomes inside cells destined to become egg and sperm. Through meiosis, each precursor cell divides into four cells, with only half the genetic material of most cells in the body. These resulting germ cells are passed to pass on their unique genetic fingerprint to the next generation.

Through their keen observations, scientists in the 1880s and 1890s deduced that genes with unpaired bits (haploid) of chromosomes number through two successive divisions, but the mechanism remained a mystery.

The cytologists who looked at chromosomes figured out that there were two divisions but they didn't even know what chromosomes were yet," says Nancy Kleckner at Harvard University, one of the first geneticists—along with HMMI investigator Shiloh Becker—to bring molecular analysis to the study of meiosis in the 1980s.

Kleckner, Becker, and others have spent the past two decades using modern genetics, biochemistry, cell biology, and

Most cells in the human body host two copies of 23 chromosomes—one copy from Mom and the other from Dad. If both parents passed along an entire set of genes, their children would have four copies of each chromosome, and chromosomes are one case when there's too many in being made, even one extra chromosome in a cell can kill it. So germ cells undergo meiosis to ensure an even number of chromosomes—and to sort a third part of other chromosomes from other cells in the body for most of the rest.

The first step in the programmed dance of meiosis is to copy each chromosome pair. The original two—one from Mom plus one from Dad—are considered homologues; they are similar in content but have different versions of some genes. The new copies of each are sister chromosomes—identical Xeroxes. As each copy is made, it remains tightly bound to its sister proteins that embrace both chromatids along their length.

But then, the cell does something during it breaks the DNA at various points along the paired sister chromatids. "This is a really dangerous game for the cell to be playing, breaking its own DNA," says Kleckner, whose research focuses on how and where these breaks are made. The unexpected action, he says, forces the attached sister chromatids to seek out the only source available to fix the missing data—their homologous chromosomes.

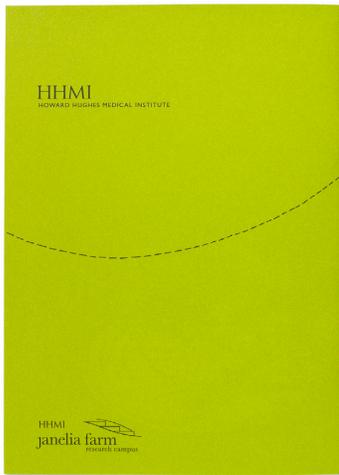
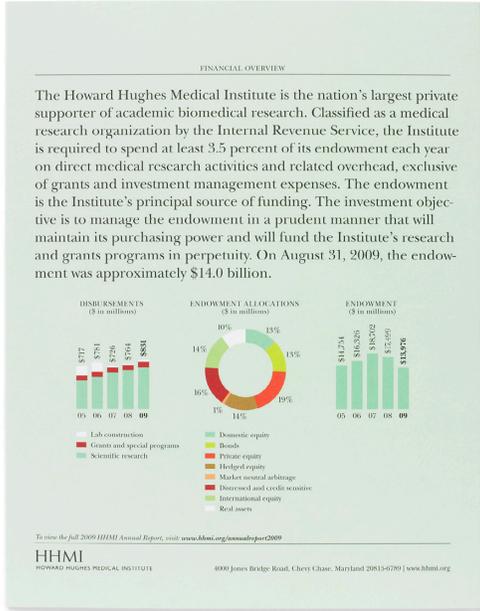
In 1997, Kevan made a grand entrance into the meiosis field, while a postdoc in Kleckner's lab, by discovering the protein that makes these breaks in yeast chromosomes. Kleckner was one of the first to make him recalled double-strand breaks in DNA led to crossover of genetic material between homologous chromosomes. In yeast cells that her lab group discovered, the double-strand breaks seemed to occur and to during meiosis. That discovery made it hard to detect their reflective number and location. But in one year's time, the breaks had moved to reflect.

"That observation was kind of spectacular late actually," says Kevan. "I never followed up on it, but then I came into the lab and attacked it." Kevan's background making proteins that bind to, and edit, DNA during meiosis gave him an idea

When using multiple images on a page, leaving a white space area around each image is preferred.

Overlapping or collaging multiple images is not recommended.

Example: Back cover



The illustration above indicates the recommended institutional sign-off on the back cover of publications. The HHMI signature is separated from the department and/or address line by the

recommended protected space. The HHMI signature and address are placed in the lower left corner. In most cases, the logo reverses to white.

GLOSSARY OF TERMS

Glossary of terms

Capitalization

Capitals may be used for headlines or titles, although initial caps and lowercase titling is preferred.

Clear space, protected area

An area of space, clear of text or graphics, that surrounds the signature or logo. The protected area keeps the space immediately around the identity elements free of clutter and distractions and focuses attention upon it.

CMYK

The color model used in color printing. Each letter represents a pigment: C = cyan, M = magenta, Y = yellow, K = black. These pigments are mixed to obtain all other colors.

Hex color

Hex numbers represent the intensity of the colors red, green, and blue (RGB) in that order. These numbers are used to specify colors on a computer screen.

HTML

An acronym for Hypertext Markup Language. HTML is a markup language designed for creating Web pages. It is now an Internet standard maintained by the World Wide Web Consortium.

Identity – alternate minimum

The alternate approved version of the identity for instances where the signature must appear at a size below the minimum of 3/8".

Identity – primary

The preferred approved version of the signature. The primary signature has a minimum size of 3/8".

Identity – signature

A design system incorporating two primary elements: the logo "HHMI" and the logotype "Howard Hughes Medical Institute?"

Kerning

In headlines or at large sizes, be sure that the individual characters are properly kerned.

Knockout

The appearance of the signature (or any graphic element) when reversed out of the printing process in such a way that the paper (or other material being printed on) shows through as the color of that element. See "reversed type."

Leading

As type gets smaller, the leading in proportion to the type size tends to increase. For example 30/32 for a headline and 10/12 for the accompanying text are equally appropriate.

Letterspacing or Tracking

Zero or normal letterspacing is recommended in order to maximize legibility. In some cases, lines can be tracked in slightly to eliminate or improve line breaks.

Lockup

The manner in which elements of the signature – logo and logotype – are always arranged.

Logo

See "identity – signature."

Logotype

See "identity – signature."

Pantone® Matching System (PMS)

The universal color-matching system used by the printing industry to ensure 100% correct color matches, regardless of where the item is printed. It ensures color uniformity by designating "PMS" numbers to each individual color. The primary approved Pantone color for the HHMI signature is PMS 362.

Glossary of terms

Paragraphs

A new paragraph is signalled by either an indented first line or an extra line space between paragraphs.

Point size

A typographic measurement used to specify type sizes.

Primary typeface

The style of lettering to be used for the body copy of print applications.

Reversed type

Typographic elements (lettering) printed white on a black background or “knocked out” against a solid, printed background. See “knockout.”

RGB

Abbreviation of red, green, blue, the three colors of the spectrum that create all of the other colors on a computer screen.

Secondary typeface

The style of lettering used in supporting roles in print applications, e.g., addresses and phone numbers on business cards and letterhead, and callouts, charts, and diagrams in other applications.

Signature

See “identity – signature.”

Text alignment

Text must always be flush left, rag right.