

PNAS

National Academy
of Sciences Journal

Getting Started

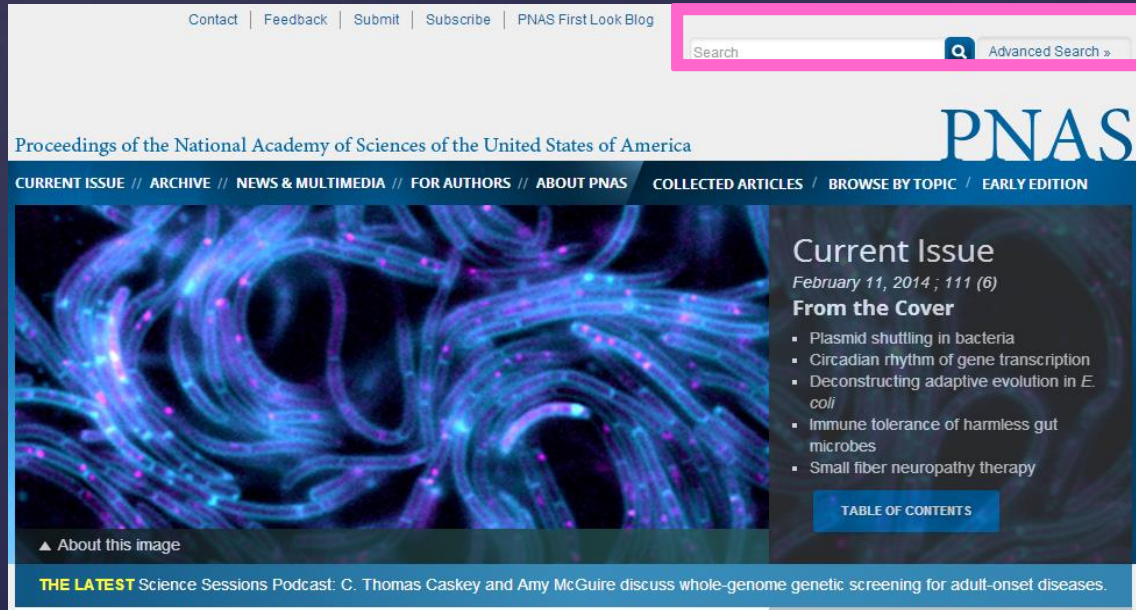
Los suscriptores de PNAS tienen acceso completo a todo el contenido en PNAS en línea, incluyendo la investigación de reciente publicación, los artículos front matter, y otras publicaciones especiales.

Si una institución tiene una suscripción activa a PNAS en línea, cualquier usuario de una dirección IP aprobados puede acceder a los contenidos completos de la revista en la página de inicio PNAS: www.pnas.org o <http://www.conricyt.mx/>

Desde la página principal de PNAS, los usuarios pueden buscar artículos específicos, examinar los artículos recién publicados en PNAS Early Edition o la tabla de contenido, inscribirse para recibir alertas de correo electrónico, escuchar podcasts y leer acerca de PNAS en las noticias.

Searching for PNAS Articles

Para llevar a cabo una búsqueda básica de PNAS artículos desde 1915 hasta la actualidad, escriba un título completo o parcial del artículo, palabras clave relevantes, o nombres de los autores en el campo en blanco "Buscar" en la esquina superior derecha, haga clic en la lupa (o pulse la tecla Intro key) para mostrar los resultados.



The screenshot shows the PNAS website interface. At the top, there is a navigation bar with links for Contact, Feedback, Submit, Subscribe, and PNAS First Look Blog. A search bar is highlighted with a pink border, containing the text "Search" and a magnifying glass icon, with a link to "Advanced Search" next to it. Below the search bar, the text "Proceedings of the National Academy of Sciences of the United States of America" is displayed, followed by the PNAS logo. A dark blue navigation bar contains the following links: CURRENT ISSUE // ARCHIVE // NEWS & MULTIMEDIA // FOR AUTHORS // ABOUT PNAS // COLLECTED ARTICLES / BROWSE BY TOPIC / EARLY EDITION. The main content area features a large image of glowing blue and purple bacterial structures. To the right of the image, the text "Current Issue" is displayed, followed by "February 11, 2014 ; 111 (6)". Below this, the section "From the Cover" lists several articles: "Plasmid shuttling in bacteria", "Circadian rhythm of gene transcription", "Deconstructing adaptive evolution in *E. coli*", "Immune tolerance of harmless gut microbes", and "Small fiber neuropathy therapy". A blue button labeled "TABLE OF CONTENTS" is positioned below the list. At the bottom left of the image area, there is a link "▲ About this image". At the bottom of the page, a banner for "THE LATEST Science Sessions Podcast" is visible, mentioning C. Thomas Caskey and Amy McGuire.

Si usted tiene información más específica acerca de la publicación de un artículo, puede hacer clic en "Búsqueda avanzada" (a la derecha de la lupa).

Search

Full Text: January 1, 1915 - present

Specify Citation

Year Volume First page

Specify DOI

e.g., 10.1073/pnas.0123456789

Specify Authors, Key Words

Author e.g., Smith, JS

Author e.g., Smith, JS

Title words: any all phrase

Abstract | Title words: any all phrase

Text | Abstract | Title words: any all phrase

Limit Results

Limit to dates between: and

Limit to articles in:

Format Results

standard format condensed format

View results per page

Sort: best match newest first earliest first

Search Figures and Tables

Search Figures and Tables

Word(s) in caption

View results per page

Con la búsqueda avanzada, los usuarios pueden introducir el año, volumen, número de la primera página, DOI, nombres de los autores o palabras clave en el título / resumen / texto para buscar artículos específicos.

Los usuarios también pueden limitar las búsquedas por fechas de publicación y clasificaciones del artículo, y también seleccionar cómo se muestran los resultados.

Para ejecutar una búsqueda, haga clic en el botón "Submit".

Para borrar los datos actuales, haga clic en el botón Borrar.

Searching journal content for **elephant** (all words) in full text.

Displaying results 1-10 of 382

For checked items

view abstracts download to citation manager

Physical Sciences - Environmental Sciences - Biological Sciences - Population Biology

B. L. Hall, A. R. Hoelzel, C. Baroni, G. H. Denton, B. J. Le Boeuf, B. Overturf, and A. L. Töpfer

Holocene **elephant** seal distribution implies warmer-than-present climate in the Ross Sea

PNAS 2006 103 (27) 10213-10217; published ahead of print June 26, 2006,

doi:10.1073/pnas.0604002103

Holocene **elephant** seal distribution implies warmer-than-present...Cruz, CA 95064 We show that southern **elephant** seal (*Mirounga leonina*) colonies existed...from our discovery of abandoned southern **elephant** seal colonies along the Victoria Land...

[Abstract](#) | [Full Text \(HTML\)](#) | [Full Text \(PDF\)](#) | [Figures Only](#) | [Supporting Table](#)

Biological Sciences - Psychological and Cognitive Sciences

Joshua M. Plotnik, Richard Lair, Wirot Suphachoksahakun, and Frans B. M. de Waal

Elephants know when they need a helping trunk in a cooperative task

PNAS 2011 108 (12) 5116-5121; published ahead of print March 7, 2011,

doi:10.1073/pnas.1101765108

Elephants know when they need a helping trunk in...University, Atlanta, GA 30322; and b Thai **Elephant** Conservation Center, Forest Industry...Environment, Lamphang 52000, Thailand **Elephants** are widely assumed to be among the most...

[Abstract](#) | [Full Text \(HTML\)](#) | [Full Text \(PDF\)](#) | [Figures Only](#) | [Supporting Information](#)

Biological Sciences - Physiology

Lei Ren, Charlotte E. Miller, Richard Lair, and John R. Hutchinson

Integration of biomechanical compliance, leverage, and power in **elephant** limbs

PNAS 2010 107 (15) 7078-7082; published ahead of print March 29, 2010,

doi:10.1073/pnas.0911396107

...biomechanical compliance, leverage, and power in **elephant** limbs 10.1073/pnas.0911396107 Lei Ren Charlotte...Manchester M60 1QD, United Kingdom; and c National **Elephant** Institute, Thai **Elephant** Conservation Center, Lamphang 52000, Thailand...

[Abstract](#) | [Full Text \(HTML\)](#) | [Full Text \(PDF\)](#) | [Figures Only](#) | [Supporting Information](#)

Biological Sciences - Evolution

Vyodianathan Ravi, Kevin Lam, Boon-Hui Tay, Alice Tay, Sydney Brenner, and Byrappa Venkatesh

Elephant shark (*Callorhynchus milii*) provides insights into the evolution of Hox gene clusters in gnathostomes

PNAS 2009 106 (38) 16327-16332; published ahead of print September 3, 2009,

La búsqueda de "elefante" en cualquier parte de un artículo produce 382 resultados; aparece el término de búsqueda en rojo a lo largo de la lista de resultados.

Resultados de la búsqueda se muestran de forma automática por relevancia en grupos de 10, pero los usuarios pueden ajustar cómo se clasifican y se muestran usando los "Resultados" Modificar opciones (a la derecha de la lista de resultados) de los resultados.

Search Results

[Next 10 »](#)

[New Search](#)

Modify Results

Citation format:

Results / page:

Results order:

Reading a PNAS Article

Current Issue > vol. 108 no. 12 > Joshua M. Plotnik, 5116–5121, doi: 10.1073/pnas.1101765108

 CrossMark
click for updates

Elephants know when they need a helping trunk in a cooperative task

Joshua M. Plotnik^{a,1,2}, Richard Lair^b, Wirot Supachoksahakun^b, and Frans B. M. de Waal^{a,2}

Author Affiliations

Contributed by Frans B. M. de Waal, February 3, 2011 (sent for review November 20, 2010)

Abstract Full Text Authors & Info Figures SI Metrics Related Content   +SI

Abstract

Elephants are widely assumed to be among the most cognitively advanced animals, even though systematic evidence is lacking. This void in knowledge is mainly due to the danger and difficulty of submitting the largest land animal to behavioral experiments. In an attempt to change this situation, a classical 1930s cooperation paradigm commonly tested on monkeys and apes was modified by using a procedure originally designed for chimpanzees (*Pan troglodytes*) to measure the reactions of Asian elephants (*Elephas maximus*). This paradigm explores the cognition underlying coordination toward a shared goal. What do animals know or learn about the benefits of cooperation? Can they learn critical elements of a partner's role in cooperation? Whereas observations in nature suggest such understanding in nonhuman primates, experimental results have been mixed, and little evidence exists with regards to nonprimates. Here, we show that elephants can learn to coordinate with a partner in a task requiring two individuals to simultaneously pull two ends of the same rope to obtain a reward. Not only did the elephants act together, they inhibited the pulling response for up to 45 s if the arrival of a partner was delayed. They also grasped that there was no point to pulling if the partner lacked access to the rope. Such results have been interpreted as demonstrating an understanding of cooperation. Through convergent evolution, elephants may have reached a cooperative skill level on a par with that of chimpanzees.

animal behavior | comparative cognition | problem solving

This Issue

 March 22, 2011
vol. 108 no. 12
Masthead (PDF)
Table of Contents

PREV ARTICLE NEXT ARTICLE

Article Tools

- Article Alerts
- Export Citation
- Save for Later
- Request Permission

Share

Classifications

Biological Sciences
Psychological and Cognitive Sciences

Other Articles

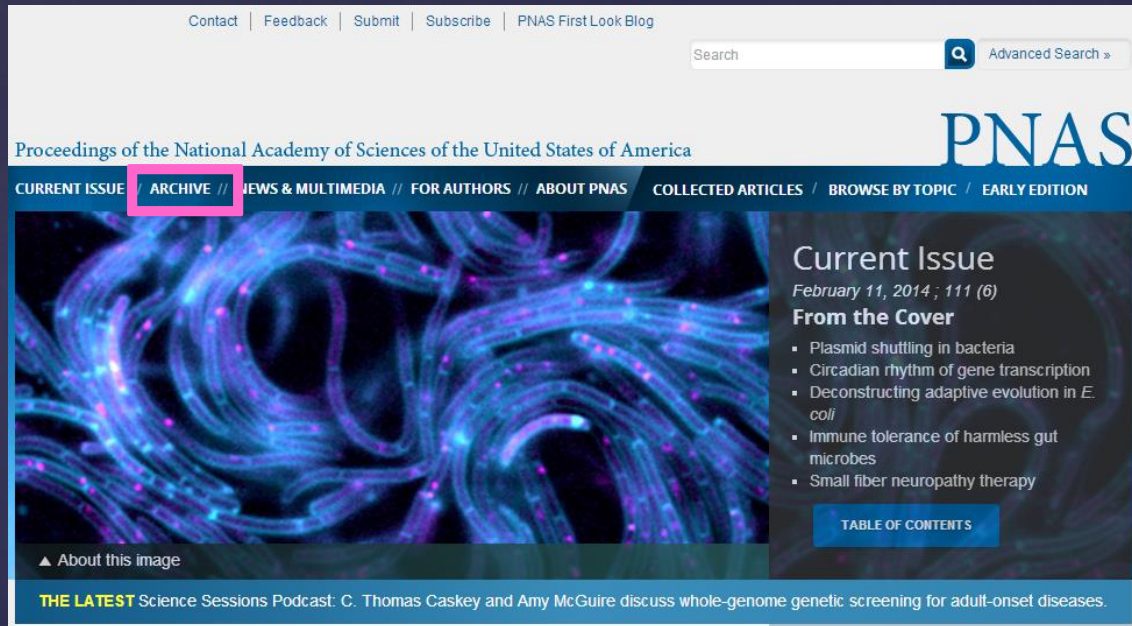
- Citing This Article
- Google Scholar
- PubMed
- Similar to This Article

Una vez que haya seleccionado un artículo de PNAS para leer, se pueden ver las diferentes secciones de este artículo usando las pestañas disponibles (Resumen, Texto completo, SI, etc.)

Para ver un archivo PDF en lugar del texto completo, haga clic en el símbolo rojo de Adobe en el menú de la ficha.

Si hay SI disponibles, también se puede ver un PDF que combina el artículo principal con su SI.

PNAS Archive Articles



Contact | Feedback | Submit | Subscribe | PNAS First Look Blog

Search [Advanced Search »](#)

Proceedings of the National Academy of Sciences of the United States of America

PNAS

[CURRENT ISSUE](#) // **[ARCHIVE](#)** // [NEWS & MULTIMEDIA](#) // [FOR AUTHORS](#) // [ABOUT PNAS](#) // [COLLECTED ARTICLES](#) // [BROWSE BY TOPIC](#) // [EARLY EDITION](#)

Current Issue
February 11, 2014 ; 111 (6)
From the Cover

- Plasmid shuttling in bacteria
- Circadian rhythm of gene transcription
- Deconstructing adaptive evolution in *E. coli*
- Immune tolerance of harmless gut microbes
- Small fiber neuropathy therapy

[TABLE OF CONTENTS](#)

▲ About this image

THE LATEST Science Sessions Podcast: C. Thomas Caskey and Amy McGuire discuss whole-genome genetic screening for adult-onset diseases.

Los usuarios también pueden navegar por el archivo de artículos de investigación de PNAS, desde 1915 hasta la actualidad.

Haga clic en la opción " Archivo " en la página principal (resaltada arriba) para ver artículos archivados y arte de la cubierta .

Archive of All Online Issues

January 1915 - Present

Collected Papers: [List of Inaugural Articles](#) | [List of Commentaries](#) | [List of Reviews](#) | [List of Perspectives](#) | [List of Colloquium Papers](#) | [From the Academy](#)

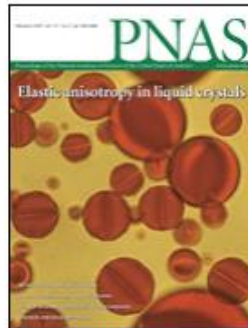
See also: [PNAS Supplements Online](#) and [The Cover Archive](#)

Current Issue:



February 11, 2014
vol. 111, no. 6

Recent Issues:



February 4, 2014
vol. 111, no. 5



January 28, 2014
vol. 111, no. 4



January 21, 2014
vol. 111, no. 3

Full Text and Abstracts: January 1915 - Present

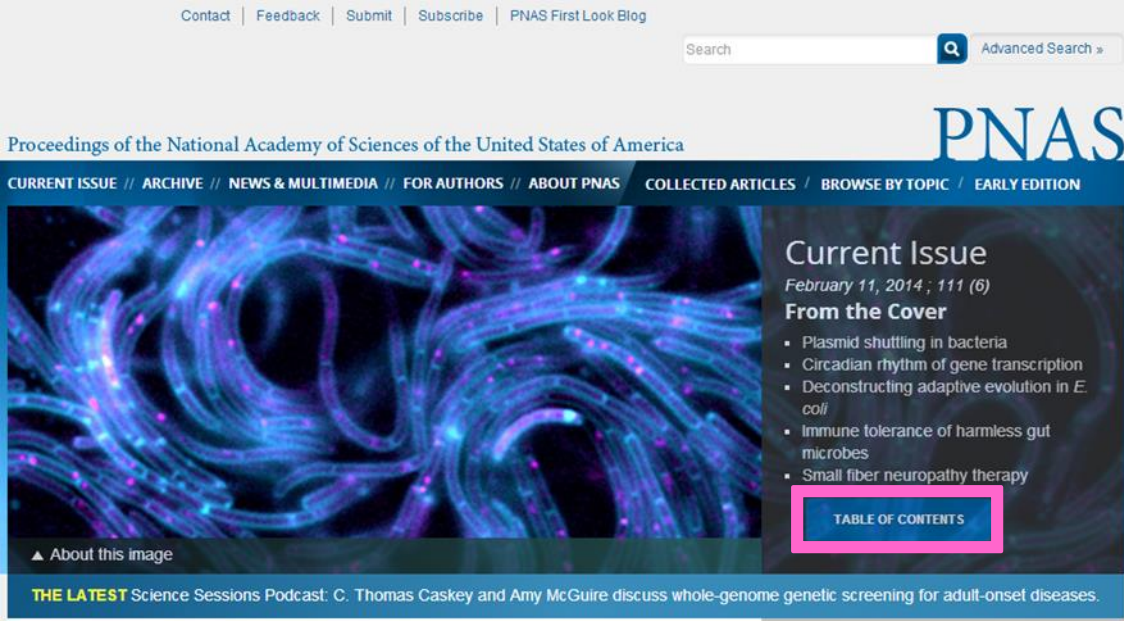
2010s	2010	2011	2012	2013	2014	-	-	-	-	-
2000s	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
1990s	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
1980s	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
1970s	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
1960s	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
1950s	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
1940s	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
1930s	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
1920s	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
1910s	-	-	-	-	-	1915	1916	1917	1918	1919

Todos los artículos de PNAS están disponibles para leer en línea en la sección de archivos .

Desde aquí , los usuarios pueden ver todos los artículos publicados desde un año específico haciendo clic en ese año .

Los usuarios también pueden ver las cuestiones de reciente publicación , explorar el archivo de imágenes de la cubierta , y ver una lista de tipos de artículos específicos (como comentarios y perspectivas) .

PNAS Table of Contents



Contact | Feedback | Submit | Subscribe | PNAS First Look Blog

Search Advanced Search »

Proceedings of the National Academy of Sciences of the United States of America

PNAS

CURRENT ISSUE // ARCHIVE // NEWS & MULTIMEDIA // FOR AUTHORS // ABOUT PNAS // COLLECTED ARTICLES // BROWSE BY TOPIC // EARLY EDITION

Current Issue
February 11, 2014 ; 111 (6)

From the Cover

- Plasmid shuttling in bacteria
- Circadian rhythm of gene transcription
- Deconstructing adaptive evolution in *E. coli*
- Immune tolerance of harmless gut microbes
- Small fiber neuropathy therapy

TABLE OF CONTENTS

▲ About this image

THE LATEST Science Sessions Podcast: C. Thomas Caskey and Amy McGuire discuss whole-genome genetic screening for adult-onset diseases.

Los usuarios pueden acceder a la tabla de contenido para la edición de la semana en curso desde la página principal .

Al hacer clic en la "Tabla de Contenidos" llevará a los usuarios a una nueva página con la lista de todos los artículos de la actual edición , organizado por la clasificación.

PNAS Early Edition

The screenshot shows the PNAS Early Edition website. At the top, a blue banner reads "THE LATEST Science Sessions Podcast: C. Thomas Caskey and Amy McGuire discuss whole-genome genetic screening for adult-onset diseases." Below this, a pink-bordered box highlights the "Early Edition" section, which includes the text "New papers posted daily" and navigation links for "Highlights from Early Edition" and "All Early Edition". The main content area lists several articles with bullet points, such as "Tissue factor expression provokes escape from tumor dormancy and leads to genomic alterations" and "Helicity and singular structures in fluid dynamics". To the right, there is a "PNAS Direct to Your Inbox" section with a subscription form and a "GO" button, and a "PNAS Portals" section with links to Front Matter, Anthropology, Chemistry, and Physics.

THE LATEST Science Sessions Podcast: C. Thomas Caskey and Amy McGuire discuss whole-genome genetic screening for adult-onset diseases.

Early Edition [Highlights from Early Edition »](#) [All Early Edition »](#)
New papers posted daily

February 11, 2014

- Tissue factor expression provokes escape from tumor dormancy and leads to genomic alterations
- Helicity and singular structures in fluid dynamics
- Functional epigenetics approach identifies BRM/SMARCA2 as a critical synthetic lethal target in BRG1-deficient cancers
- Intrinsic subtypes of high-grade bladder cancer reflect the hallmarks of breast cancer biology
- H-Ras forms dimers on membrane surfaces via a protein–protein interface
- Differential uptake of nanoparticles by endothelial cells through polyelectrolytes with affinity for caveolae

PNAS Direct to Your Inbox

- Customize your PNAS e-mails
- Subject specific
- Keyword specific

Enter Email Address

Or subscribe to one of our RSS Feeds »

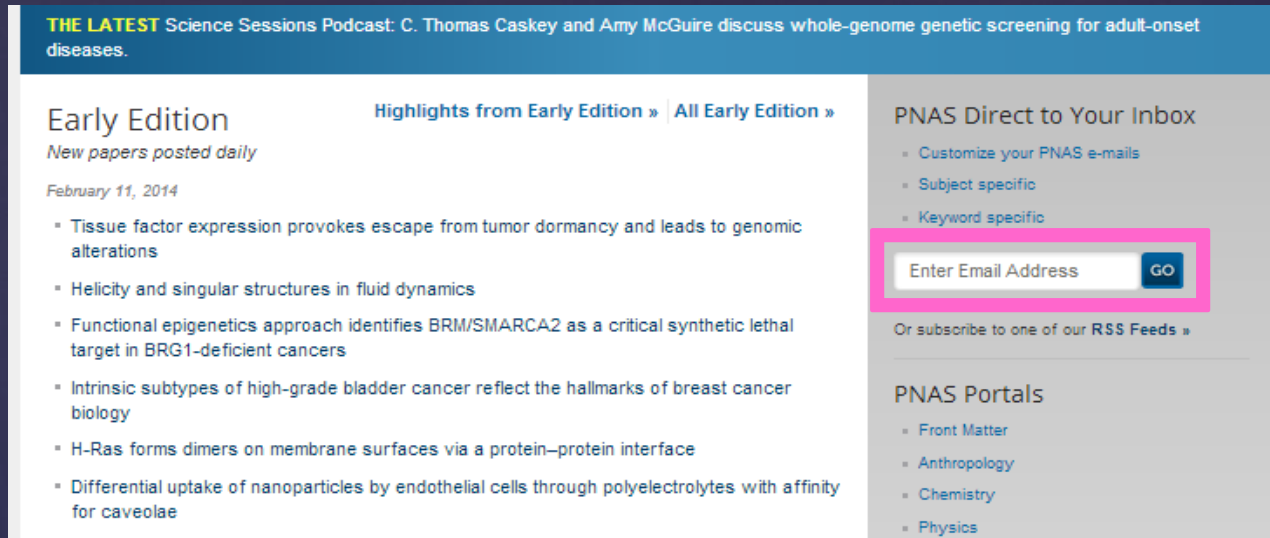
PNAS Portals

- Front Matter
- Anthropology
- Chemistry
- Physics

Los Artículos Early Edition son artículos que no han publicado aún en una edición impresa . Los usuarios pueden navegar por los puntos destacables o ver todos los artículos Early Edition utilizando los enlaces en el cuadro resaltado.

Los enlaces directos a algunos de los artículos seleccionados se enumeran en esta sección.

Signing up for Email Alerts



THE LATEST Science Sessions Podcast: C. Thomas Caskey and Amy McGuire discuss whole-genome genetic screening for adult-onset diseases.

Early Edition [Highlights from Early Edition »](#) [All Early Edition »](#)
New papers posted daily

February 11, 2014

- Tissue factor expression provokes escape from tumor dormancy and leads to genomic alterations
- Helicity and singular structures in fluid dynamics
- Functional epigenetics approach identifies BRM/SMARCA2 as a critical synthetic lethal target in BRG1-deficient cancers
- Intrinsic subtypes of high-grade bladder cancer reflect the hallmarks of breast cancer biology
- H-Ras forms dimers on membrane surfaces via a protein–protein interface
- Differential uptake of nanoparticles by endothelial cells through polyelectrolytes with affinity for caveolae

PNAS Direct to Your Inbox

- Customize your PNAS e-mails
- Subject specific
- Keyword specific

Enter Email Address

Or subscribe to one of our RSS Feeds »

PNAS Portals

- Front Matter
- Anthropology
- Chemistry
- Physics

Cualquier usuario puede suscribirse a la tabla semanal de Notificaciones de Contenido y / o crear alertas de correo electrónico más personalizadas de forma gratuita. La forma más fácil de hacer esto es introducir una dirección de correo electrónico en el campo resaltado y haga clic en "Go" para terminar el proceso de registro.

Los usuarios pueden designar ciertas palabras clave o autores , y nuestro sistema le notificará cuando un nuevo artículo que contenga esos términos publica en línea.

Alternativamente , los usuarios pueden inscribirse para los canales RSS (vinculados por debajo de la opción de alertas de correo electrónico) .

Podcasts and PNAS in the News

▶ PNAS Science Sessions

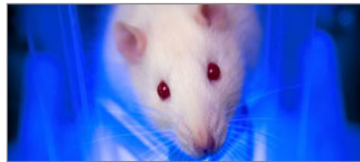


Genetic screening for adults

February 3, 2014

[Subscribe »](#) | [Past Podcasts »](#) | [Listen »](#)

▶ Featured Image



Sensory whiskers

Rat whiskers sense vibrations.

[Image Gallery »](#)

- Chemistry
- Physics
- Sustainability Science

NEW! PNAS Magazine Section and Blog

PNAS is now publishing new sections including News Features, Inner Workings, Opinions, Core Concepts, and Science and Culture.

Plus, in the PNAS First Look blog, science journalists discuss a selection of new papers from PNAS with new content appearing every business day.

PNAS in the News

[New & Newsworthy »](#) | [For the Press »](#)



Outsourced manufacturing in China and air pollution over the western United States

An assessment of the impacts of trade-related Chinese air pollutant emissions on the global atmospheric environment attributes more than 20% of the pollution to the production of China-to-United States exports.



Mistimed sleep disrupts rhythms of gene expression in humans

A study finds that disruption of sleep timing can affect the circadian transcription of many genes in humans.



Mathematical model helps estimate optimal timing of cyber attack

A simple mathematical model can help decision-makers estimate how high the stakes need to be before launching a cyber attack, a study finds.



Top Articles

1. The bioinorganic chemistry of iron in oxygenases and supramolecular assemblies
2. Evidence on the impact of sustained exposure to air pollution on life expectancy from China's Huai River policy
3. Small-molecule agonists for the thyrotropin receptor stimulate thyroid function in human thyrocytes and mice
4. Sex differences in the structural connectome of the human brain
5. Multimodel assessment of water scarcity under climate change

[50 Most-Read Articles »](#)

Follow PNAS on Facebook

Dentro de usuarios "PNAS Science Sessions" puede transmitir o descargar una variedad de podcasts con entrevistas a autores PNAS, los miembros del NAS, otros destacados investigadores y formuladores de políticas.

"PNAS en las Noticias" ofrece enlaces a medios externos de información sobre investigación reciente PNAS