



[Login](#) [Subscribe](#) [Article Archive](#)

GO

HOME NATION & WORLD OPINION MONEY HEALTH EDUCATION **SCIENCE**

U.S. NEWS RANKINGS

[Home](#) > [Science](#) > [Revealing the Explosive Heart of Eta Carinae](#)



Springfield - Mom Lost 46lbs Following 1 Rule

I cut down 46lbs of stomach fat in a month by obeying this 1 rule [Read More](#)



Acai Berry Exposed (Official Test)

Want to use Acai berry? Do not use. Read this warning now. [Read More](#)

Revealing the Explosive Heart of Eta Carinae

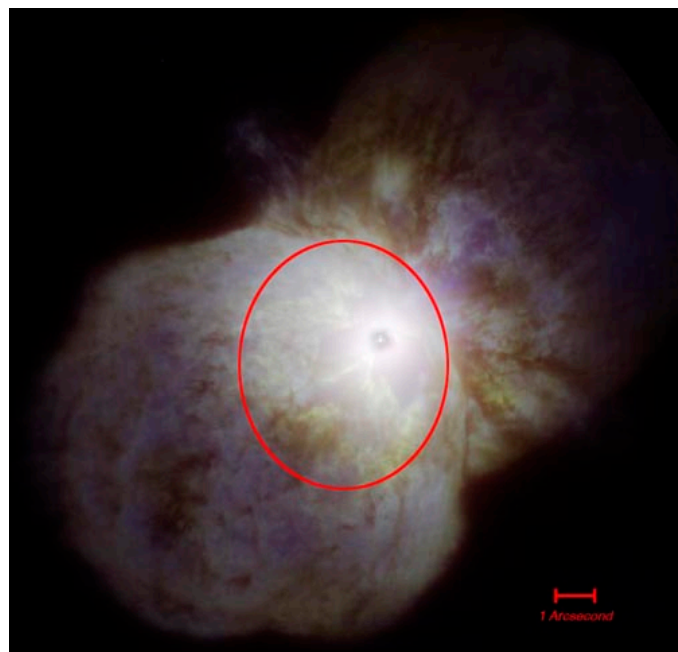
Posted: January 6, 2010

[Share](#)

[Comment](#)



Content provided by **National Science Foundation**
WHERE DISCOVERIES BEGIN



Communicating Using Brain Waves and a Computer

New technology could allow the speech disabled to communicate with the outside world.



Flies Help Scientists Explain Human Aggression

Researchers analyzed a specific pheromone that encouraged aggression.



Identifying Chemical that Attracts Mosquitoes

Mosquitoes seem to find humans irresistible. Now scientists may know why.

ADVERTISEMENT



Content provided by **National Science Foundation**
WHERE DISCOVERIES BEGIN

Using adaptive optics to remove atmospheric blurring, Gemini Observatory released an image today showing previously hidden forensic secrets at the ballistic core of the Homunculus Nebula, part of the explosive Eta Carinae star system.

The infrared image, revealed at the 215th American Astronomical Society meeting in Washington DC, is a high-resolution view of the complex tendrils and puffs of glowing gas and dust surrounding the violent and convulsive death of an exceptionally massive, short-lived star.

The compelling modern history of Eta Carinae began in April 1843 when the system underwent a huge 20-year outburst that, throughout some of that period, made it the sky's second brightest stellar object. During the "Great Eruption" astronomers estimate that about 20 times the mass of our Sun was ejected into interstellar space. Today, astronomers study this relatively nearby stellar

LINKS OF INTEREST



Springfield - Mom Lost 46lbs Following 1 Rule

I cut down 46lbs of stomach fat in a month by obeying this 1 rule [Read More](#)



Acai Berry Exposed (Official Test)

Want to use Acai berry? Do not use. Read this warning now. [Read More](#)



DON'T Pay For White Teeth

Want to use Acai berry? Do not use. Read this warning now. [Read More](#)

SCIENCE DISCOVERIES




ability to help understand the late evolution of massive stars – a messy process involving outflows, eruptions, strong magnetic fields and powerful jets. The result of this activity is reflected in the new Gemini image presented by John Martin of the University of Illinois Springfield who, along with an international team of researchers, obtained their data using the Near-Infrared Coronagraphic Imager (NICI) at the Gemini South telescope in Chile.

Martin’s team used NICI to study gas and dust features surrounding the central star where the complex structure includes an intricate network of wispy clouds, inspiring the “Butterfly Nebula” moniker. The data also uncover a feature never directly imaged before called the Little Homunculus Nebula. “The Homunculus is an evolving corpse of a dying star and most of what we see is the visible outer layer, like a skin, from the Great Eruption. The Little Homunculus is under that skin,” said Martin. “The Gemini images have allowed us to perform something akin to an autopsy by peeling away the obscuring, outer dusty skin and giving us a glimpse of what’s inside. In the process we’re finding things we have never imaged before and didn’t expect. It’s like finding your murder victim has a third lung, an extra liver, or something more exotic hidden away under their skin!” Martin and his team hope that these observations will soon trace the uncertain history of a minor eruption in the Eta Carinae system in the late 1890s. The research team also includes Etienne Artigau (University of Montréal, Canada, lead author on subsequent paper and previously at Gemini South), Kris Davidson (University of Minnesota), Roberta Humphreys (University of Minnesota), Olivier Chesneau (FIZEAU, France), and Nathan Smith (University of California).

Eta Carinae, located only about 7,500–8,000 light years away, consists of at least two stars at its core, the largest of which is among the most luminous and massive stars in our galaxy having a mass of at least 100 times that of our sun. The stellar component is visible to the naked eye from the southern hemisphere and very low northern latitudes. Because of the complexity and advanced age of this stellar system, Eta Carinae has displayed consistently odd behavior and its brightness has varied greatly over the centuries. During its massive explosion (that lasted from 1843 through the 1850’s) it gave off as much light energy as a typical supernova but somehow survived the normally annihilating event. What we see as the Homunculus Nebula are the remains of that explosion–sometimes called the supernova imposter event. The gasses expelled from this explosion are hurtling outward at up to 2 million kilometers per hour and are comprised of a mixture of diverse elements (from nitrogen to iron) formed by the massive star.

NICI, the Gemini South instrument used to obtain the data for this result, incorporates a built-in curvature-sensing adaptive optics system and is optimized for the detection of faint, sub-stellar companions. It images over a field of about 18 arcseconds from 1 – 5 microns. In addition to images like the one featured in this release, NICI is currently being utilized in an aggressive planet-finding campaign targeting about 300 nearby stars for possible planetary companions.

 Follow U.S. News Science on [Twitter](#).

[Share](#) | [Comment](#)

Reader Comments [Add Comment](#)

Start the discussion! Be the first to comment on this story.

Add Your Thoughts

Title

Comment



MOST VIEWED

MOST E-MAILED

1. [America's Best High Schools: Gold Medal List](#)
2. [World's Best Universities: Top 200](#)
3. [The 50 Best Careers of 2010](#)
4. [Professors' Guide: 10 Warning Signs of a Bad Professor](#)
5. [America's Best Affordable Places to Retire](#)

SUBSCRIBE

U.S. News Digital Weekly

A weekly insider's guide to politics and policy — in a multimedia, digital format. 52 issues for \$19.95!

U.S. News & World Report

6 months of *U.S. News & World Report's* print edition for only \$15. Save up to 67% off the cover price!

[Subscribe Now](#)

3000 characters left

About You

Name Email State

ADVERTISEMENT

Ads by Pulse 360

[Get listed here](#)

"25 Pounds in 2 Weeks"

Lose 25 lbs in 2 Weeks - Guaranteed. Try This New Secret!
www.moyoberrydiet.com

EDITORS' PICKS

MONEY »



Slideshow: 10 Reasons You Shouldn't Retire

NATION & WORLD »



Photo Gallery: Michelle Obama

EDUCATION »

Putting the 'Student' in Student-Athlete

It's bowl time. Here's how some football student-athletes are making waves in the classroom, even during the busiest time of the season.

HEALTH »



Getting a Good Night's Sleep: Find Out How

AUTOS »

US News Best Cars for the Money: 2010

Cars that make the most economic sense — not just when you sign on the dotted line, but for years after.

[Home](#) [Nation & World](#) [Opinion](#) [Money](#) [Health](#) [Education](#) [Science](#) [Rankings](#)

[RSS](#) [Contact Us](#) [Tools & Widgets](#) [Site Map](#) [Privacy Policy](#) [Masthead](#) [Advertise With Us](#) [Press Room](#) [Subscribe](#)

Copyright © 2010 U.S.News & World Report LP All rights reserved.
Use of this Web site constitutes acceptance of our [Terms and Conditions of Use](#) and [Privacy Policy](#).