Ig® Nobel Prize Ceremony
2011

This Year’s Theme: Chemistry
About the Ig Nobel Prizes

Ig Nobel Prizes are awarded for achievements that first make people LAUGH, and then make them THINK. The Igs are intended to spur public curiosity and interest in science and other fields of endeavor. Ten prizes are awarded each year. Winners travel to the ceremony at their own expense.

The Ig Nobel Prize winners are, despite possible appearances to the contrary, real. Their achievements are well documented.

What to expect tonight: Imagine every ceremony you have ever had to endure. Loop them all together, at high speed, upside down. Add ten Ig Nobel Prize winners. That’s the Ig Nobel Prize ceremony.

The Twenty-First 1st Annual
Ig Nobel Prize Ceremony

Thursday, September 29, 2011, 7:30 pm
Sanders Theatre, Harvard University

Reluctantly inflicted on you by the international science humor magazine
Annals of Improbable Research (AIR)

and co-sponsored by
The Harvard-Radcliffe Science Fiction Association
The Harvard-Radcliffe Society of Physics Students
The Harvard Computer Society

The theme of this year’s ceremony is Chemistry

Paper airplanes are a tradition at the Ig Nobel Prize Ceremony. Modern flight regulations apply. Listen for the Special Announcement right after the pre-ceremony concert, and just before the start of the ceremony proper.

Please ready your aircraft – but do not yet launch them.

See page 5 for more details.

© copyright 2011 Annals of Improbable Research

“Ig” and “Improbable Research” and the “tumbled thinker” logo are each reg. U.S. Pat. and Tm. Off.

Microsoft is a trademark of the Microsoft group of companies and is used under license from Microsoft.
Harvard-Radcliffe Science Fiction Association
Narratively Proud Intergalactic Co-Sponsors of the Ig Nobel Prize Ceremony Since 1996

Harvard-Radcliffe Society of Physics Students
Theoretically Proud Experimental Co-Sponsors of the Ig Nobel Prize Ceremony Since 2000

Harvard Computer Society
Algorithmically Proud Experimental Co-Sponsors of the Ig Nobel Prize Ceremony Since way Back when

Google

Congratulations to the Ig Nobel Prizes on being markedly more amusing than those other, rather stuffy science prizes.

SCHEDULE OF EVENTS

Pointless Preamble
• Pre-ceremony ChemicoConcerts
  (First 6:45, in the lobby. Then 7:10, in the theater)
• Ceremony begins (7:30, in the theater)
• Performance of Tom Lehrer’s song “The Elements”
• Appearance of the Delegations
• The Traditional Ig Nobel “Welcome, Welcome” Speech

Everything Else
• Awarding of the 2011 Ig Nobel Prizes* (weather permitting)
• Chemist in a Coffee Shop: A Mini-Opera in 5 Acts*
• The 24/7 Lectures
• Introduction of Past Winners
• A Tribute to Professor Lipscomb
• The Win-a-Date-With-a-Nobel-Laureate Contest
• Other Things*
• The Traditional Ig Nobel “Goodbye, Goodbye” Speech
• Disappearance of the Audience

* scattered throughout the evening

Paper Airplanes
In the interests of safety and recycling, there will be two (2) special paper-aeronautical moments tonight.

Please hold your paper airplanes in readiness – and then fly them only during those two special moments.

An authority figure will risk making it very clear when each of those moments arrives.

Roy Glauber, Ig Nobel paper airplane sweeper, and Nobel Laureate.
This Year’s Theme

The theme of this year’s ceremony is CHEMISTRY.
The theme applies to various goings-on, though not necessarily (and not necessarily not) to any of the particular achievements being honored with an Ig Nobel Prize.

“The Elements”

Tom Lehrer’s song “The Elements” will figure prominently in the ceremony. It is demonstrably the finest song about chemistry ever written by a mathematician.

The mini-opera

A new, microbial mini-opera –“Chemist in a Coffee Shop”—will be performed during the ceremony. It has five acts. The cast members are composed entirely of chemicals.

Celebrity Bacteria

The theme of last year (2010)’s ceremony was Bacteria. Several trillion celebrity bacteria were seated in or on the audience. Many of them will be here again tonight. See if you can spot them.

Geim’s Twin Honors

Six days after last year’s ceremony came the news: Andre Geim was chosen to receive a 2010 Nobel Prize in physics, for his discoveries about graphene (the two-dimensional form of carbon). Ten years earlier Geim and Michael Berry were awarded the 2000 Ig Nobel Prize in physics, for using magnets to levitate a frog.

Your research gave us all a laugh. And we mean that in the best possible way.

Thank you.

Museum of Science.

Andre Geim receiving his Ig Nobel Prize in 2000. Several of the people in this photo will participate in the 2011 Ig Nobel Prize ceremony.

Pre-Ceremony: ChemicoConcerts
(One in the lobby, then another the theater)

Before the ceremony, watch for two special, brief Chemico Concerts. The first, by the Boston Squeezebox Ensemble, begins in the lobby at 6:45 pm. Then at 7:10, go into the theatre proper to see a very different sort of music on stage, performed by the noted scientist/busker duo Yesterday’s Bait. The performers in both groups are composed entirely of chemicals.
The ceremony will include the world premiere of “Chemist in a Coffee Shop,” a five-act mini-opera starring Maria Ferrante, Roberta Gilbert, Thomas Michel, Daniel Rosenberg (as the chemist), and Marc Andelman, directed and conducted by maestro David Stockton. Pianist Branden Grimmert accompanies. Karen Hopkin narrates. The cast is composed entirely of chemicals.

It’s a drama about a chemist who comes into a coffee shop.

Special thanks to the many coffee shops in and around Harvard Square, and to their chemically savvy baristas, for inspiration and coffee.

The Ig Informal Lectures!
SATURDAY afternoon, Oct. 1, 2011, 1:00 pm
MIT Building 26, Room 100
60 Vassar St., Cambridge
FREE! (But seating is limited, so get there early)

A Saturday Treat…
At tonight’s Ig Nobel Prize Ceremony, each winner is allowed just ONE MINUTE to deliver an acceptance speech. But of course you’ll want to hear more juicy details, and ask them questions, and so……

You are invited to come enjoy a lazy, lively half-afternoon of brief (five minutes each, plus questions & answers), high-spirited talks by the 2011 Ig Nobel Prize winners and several past winners.

Produced by the Annals of Improbable Research in cooperation with The MIT Press Bookstore (mitpress.mit.edu/bookstore)

Ig Webcast
The ceremony is being webcast live on YouTube. Video highlights of many past ceremonies are at www.improbable.com

NPR Broadcast
On the day after Thanksgiving, listen to the traditional Ig Nobel Broadcast on National Public Radio (NPR)’s Talk of the Nation / Science Friday with Ira Flatow. Many of the previous year’s Ig broadcasts at www.ScienceFriday.com. You can see video highlights of several past ceremonies at www.improbable.com.
Authority-Like Figures

As always, IgBill had incomplete information at press time. You may not be able to tell the players even with this scorecard.

(Note: ** indicates name is misspelled)

Producer/Director: Marc Abrahams
Co-Producer and Stage Manager: David Kessler
Opera Stage Director/Conductor: David Stockton
Assistant Stage Manager, and Webcast Coordinator: Joshua Kroll
Writers: Marc Abrahams, Alice Shirrell Kaswell, and friends
Ig Nobel Facilitator: Katherine Meusey
Band Maestro: Nicholas Carstoiu
Pre-ceremony Maestro: Thomas Michel
Lurking Presences: Robin Abrahams, Mira Wilczek, Stanley Eigen
Lighting & Technology: Rob Sanders, Hunter Heinlen, Joshua Kroll. Special thanks to Holly Gettings
Props and Scenery: Eric Workman
House Sound: Bay State Sound
Sound Recording: Miles Smith, Frank “Barefoot” Cunningham
Slide Show: Geri Sullivan, Richard Baguley
Prize & Props Creation: Eric Workman
Green Room Oracle: Jaclyn Friedman
Provisionary Logisticians: Gus Rancatore, Corky White, Vaughn Tan
HRSFA Coordinator: Adam Swiatlowski
HRSPS Coordinators: Annie Baldwin and Nikko Pomata
HCS Coordinator: Carl Jackson
Grand Panjandrum of the Delegations: Louise Sacco
Videography: Seven Generations Video, Bruce Petschek, Don Schechter, Cody Signore, Nick Petschek, Trevor Chamberlain

Webcast/Broadcast Engineer: Quentin Smith
Press Wranglers: Lisa Birk, Mark Kramer, Ari Brenner
Photographers: Alexey Eliseev, David Holzman, Mike Benveniste, John Bradley
Ig Informal Lectures (Saturday) Coordinator: John Jenkins
Ig Nobel Webmaster: Julia Lunetta
Global Webcast Party Coordinator: Neil Gussman
Artwork & Logos: Geri Sullivan, Lois Malone
Master Technician emeritus: Dave Feldman
IgBill Design and Layout: Geri Sullivan

Optimal Systems Laboratory, Inc.

• Technical Risk Reduction
• Advanced Engineering Services

http://www.optimalsystemslab.com
People

Master of Ceremonies
Marc Abrahams, editor, *Annals of Improbable Research (AIR)*

Nobel Laureates
*most of the following:*
Dudley Herschbach (Chemistry 1986)
Rich Roberts (Physiology or Medicine, 1993)
Jack Szostak (Physiology or Medicine, 2009)
Roy Glauber (Physics, 2005)
Eric Maskin (Economics, 2007)
Peter Diamond (Economics, 2010)
Lou Ignarro (Physiology or Medicine, 1998)
Jerome Friedman (Physics, 1990)
*and perhaps some others*

Returning Ig Nobel Prize Winners: Dan Meyer (Medicine, 2007), Don Featherstone (Art, 1996)

Welcome Welcome Speaker: Jean Berko Gleason

24/7 Lecturers: Susan Lindquist, Donna Nelson, Dudley Herschbach, Kate Clancy, and perhaps one or two additional distinguished guests

Opera Stage Director/Conductor: David Stockton

Opera Soloists: Maria Ferrante, Roberta Gilbert, Thomas Michel, Daniel Rosenberg

Opera Non-Soloists: Marc Andelman and everyone else

Opera Pianist: Branden Grimmett

Opera Narrator: Karen Hopkin

Pre-Ceremony Lobby ChemicoConcert: Boston Squeezebox Ensemble

Pre-Ceremony On-Stage ChemicoConcert: Yesterday’s Bait (Thomas Michel and Ted Sharpe)

Band: Nick Carstoiu

Mike Monkey: Robin Abrahams
Parade and Opera Announcer: Karen Hopkin
Human Spotlights: Jim Bredt, Katrina Rosenberg
Human Curtain Rods: Debra Wise, Constance Brichford
Human Aerodrome: Rose Fox
Referee: Mr. John Barrett
V-Chip Monitor: Noted Attorney William J. Maloney
Attorney William J. Maloney: Himself

Majordomo: Gary Dryfoos
Minordomos: Genevieve Reynolds (Major Minordomo), Julia Lunetta, Peaco Todd, Julia Rios, Jenny Gutbezahl, Ben Biggs, Moss Collum
Onstage Lurking Presence: Mira Wilczek
Performing Chemists: Joost Bonsen, Daniel Rosenberg, et al.
Performing Props Master: Eric Workman
Miss Sweetie Poo: Liraz Brand
Official Sweepers: Sylvia Rosenberg, Roy Glauber, Tabitha Bohmbach

Hecklers: You, the audience

Goodbye Goodbye Speaker: Jean Berko Gleason

Jerry and Benoit

During the past year the Ig Nobel gang lost two of its best and cleverest and most celebrated friends and performers: Jerry Lettvin, a giant in neuroscience and almost everything else; and Benoit Mandelbrot, the inventor of fractals and ever-so-much more. The two were close friends for many decades. We will miss them at the Ig—where each was an occasional and spectacular performer—and even more the rest of the year. We have had and will have much to say and celebrate, in other times and places, about both Jerry and Benoit.
The 24/7 Lectures

Each 24/7 Lecture will be delivered by one of the world’s great thinkers. Each lecture has two parts:

A complete technical description in 24 SECONDS

A clear, accurate summary that anyone can understand in SEVEN WORDS

The time limit and word limit will be strictly enforced by Mr. John Barrett, the Ig Nobel Referee.

This year’s 24/7 lecturers:

• **Susan Lindquist**, protein-folding pioneer. TOPIC: Stress Responses
• **Donna Nelson**, chemistry professor (and science advisor to the TV program “Breaking Bad”). TOPIC: Carbon-Walled Naonotubes
• **Dudley Herschbach**, Nobel laureate. TOPIC: Chemistry
• **Kate Clancy**, anthropology professor. TOPIC: Vaginal pH

and perhaps one or two others….

Special Thanks to…


**Very special thanks also to** the late Alan Symonds, who for more than a decade helped us solve our technical problems, and the late Bob Dushman, who gallantly defended the Ig against a marauder.

**Name misspelled.**
Professor Lipscomb is Gone

by Marc Abrahams, editor, Annals of Improbable Research

Very sad news. My good friend and longtime collaborator William Lipscomb died this past April after a period of ill health.

Bill, also known as “The Colonel” because he was a Kentucky Colonel, was a great scientist. A prize grad student of Linus Pauling, Bill went on to himself be awarded a Nobel Prize and later still to see several of his own students and mentees be given Nobel Prizes. He was also perhaps the best and funniest performer in most of the Ig Nobel Prize ceremonies (the photo here shows him in the 1994 ceremony, dancing in “The Interpretive Dance of the Electrons”) and in many other adventures we had together (some of which you can see in video form, on the www.improbable.com web site).

Improbably photogenic, he was a frequent cover model for the Annals of Improbable Research – indeed, he was the most frequently pictured person there. Other magazines splash supermodels, singers, or politicians on their covers; we usually chose, instead, the man whose image was more compelling than that of a mere movie star. It was nearly impossible to see Bill performing, or even a photo of him in performance, and not be entranced.

He was the prize in the very first Win-a-Date-with-a-Nobel-Laureate Contest, at the 1993 ceremony. We subsequently gave him away numerous times, including last year, 2010, when he made his final Ig Nobel appearance. By that time he had trouble walking, but gleefully insisted on being part of the show. He and his wife, Jean, issued a kind and firm invitation to hold our opera rehearsals at their home prior to the ceremonies in 2009 and 2010. The tradition carried on this year, 2011.

I interviewed Bill several times for the magazine and for its predecessor (of which I was the editor for several years), and now wish I had done it many more times. These were not just interviews but performances, usually with only ourselves as an immediate audience. Bill was both himself, Professor Lipscomb, and, at the same time, a slightly heightened version of himself that we both came to know as “Professor Lipscomb.” The character carried over to the stage each year at the Ig Nobel Prize ceremony and occasionally in other public settings.

Here’s a shortened version of an interview he and I did in 1996. It appeared that year in vol. 2, no. 2 of the magazine.

QUESTION: In your paper “Boron Arrangement in B9 Hydride,” you discuss two plausible hydrogen atom arrangements.

Well, the fact is, this was a very difficult problem, because it was presented to us as a compound containing eight boron atoms, when it really contained nine. We were completely at a loss to understand it, and we tried out all the possibilities for the B8 hydride, and finally concluded that there couldn’t be eight—there must be one more. So we put another one in and it worked. This is an illustration about science that if you eliminate all the other possibilities, then if only one more remains, that must be the correct one. Well, that reminded me—I was then at the University of Minnesota and a member of the Baker Street Irregulars, a chapter of the Sherlock Holmes Society “The Norwegian Explorers.”

QUESTION: Yes, Sherlock Holmes is very interesting. Now, we were talking about the hydrogen atoms…

Yes, I just wanted to illustrate that this was done using the method of Sherlock Holmes. In the complete works of Sherlock Holmes there are four places where Holmes says, “Wherever all other contingency fails, whatever remains, no matter how improbable, must be the truth.” This is Holmes’s method. Now, the other three places use wording that’s rather like that but not exactly like that.

QUESTION: About those hydrogen atoms…

There’s another aspect to Holmes that I really enjoyed very much. He was a violinist – a very fine musician, as Watson notes…
From Dudley to Bill

by Dudley Herschbach

For Bill Lipscomb’s 80th birthday celebration, I gave him this verse, composed in the style of Professor Robert Williams Wood (1868-1955), who published in 1917 a delightful little book titled How to Tell the Birds from the Flowers. It contained about 50 whimsical poems, each illustrated by a pair of charming drawings. His drawings brought out unappreciated similarities and his verse emphasized significant differences. Both are essential in the pursuit of science and much else, especially serious humor!

The Clarinet The Clairvoyant
Like an enchanted wand meant to entice
A somnolent genie or a spooky poltergeist,
The throaty voice of this siren woodwind
Swoops and soars, flares wide and wanes thin.
Yet often these same sombre tones
provoked a jazz riot,
For goblins once conjured up
may not stay quiet.
A list of the new Ig Nobel Prize winners will be posted at
WWW.IMPROBABLE.COM

Last Year’s (2010) Ig Nobel Prize Winners

ENGINEERING PRIZE: Karina Acevedo-Whitehouse and Agnes Rocha-Gosselin of the Zoological Society of London, UK, and Diane Gendron of Instituto Politecnico Nacional, Baja California Sur, Mexico, for perfecting a method to collect whale snot, using a remote-control helicopter.

MEDICINE PRIZE: Simon Rietveld of the University of Amsterdam, The Netherlands, and Ilja van Beest of Tilburg University, The Netherlands, for discovering that symptoms of asthma can be treated with a roller-coaster ride.

TRANSPORTATION PLANNING PRIZE: Toshiyuki Nakagaki, Atsushi Tero, Seiji Takagi, Tetsu Saigusa, Kentaro Ito, Kenji Yumiki, Ryo Kobayashi of Japan, and Dan Bebber, Mark Fricker of the UK, for using slime mold to determine the optimal routes for railroad tracks.

PHYSICS PRIZE: Lianne Parkin, Sheila Williams, and Patricia Priest of the University of Otago, New Zealand, for demonstrating that, on icy footpaths in wintertime, people slip and fall less often if they wear socks on the outside of their shoes.

PEACE PRIZE: Richard Stephens, John Atkins, and Andrew Kingston of Keele University, UK, for confirming the widely held belief that swearing relieves pain.

PUBLIC HEALTH PRIZE: Manuel Barbeito, Charles Mathews, and Larry Taylor of the Industrial Health and Safety Office, Fort Detrick, Maryland, USA, for determining by experiment that microbes cling to bearded scientists.

ECONOMICS PRIZE: The executives and directors of Goldman Sachs, AIG, Lehman Brothers, Bear Stearns, Merrill Lynch, and Magnetar for creating and promoting new ways to invest money — ways that maximize financial gain and minimize financial risk for the world economy, or for a portion thereof.

CHEMISTRY PRIZE: Eric Adams of MIT, Scott Socolofsky of Texas A&M University, Stephen Masutani of the University of Hawaii, and BP [British Petroleum], for disproving the old belief that oil and water don’t mix.

MANAGEMENT PRIZE: Alessandro Pluchino, Andrea Rapisarda, and Cesare Garofalo of the University of Catania, Italy, for demonstrating mathematically that organizations would become more efficient if they promoted people at random.

BIOLOGY PRIZE: Libiao Zhang, Min Tan, Guangjian Zhu, Jianping Ye, Tiyu Hong, Shanyi Zhou, and Shuyi Zhang of China, and Gareth Jones of the University of Bristol, UK, for scientifically documenting fellatio in fruit bats.

For a complete list of all Ig Nobel Prize winners (1991-now) see the Improbable Research web site WWW.IMPROBABLE.COM
SANDERS THEATRE

Sanders Theatre in Memorial Hall is operated by the Office for the Arts at Harvard. All inquiries should be addressed to:
Memorial Hall/Lowell Hall Complex, 45 Quincy Street, Room 027, Cambridge, MA 02138-3003.
Phone: 617.496.4595 Fax: 617.495.2420.

CALENDAR OF EVENTS Available at the Harvard Box Office web site:
www.boxoffice.harvard.edu

SMOKING There is no smoking allowed in Memorial Hall.

RESTROOMS, PUBLIC TELEPHONE, & ATM Located on the Lower Level.

PARKING — THERE IS NO PARKING AT SANDERS THEATRE.
Free parking for Sanders Theatre events is available at the Broadway Garage, corner of Broadway and Felton Streets, from one hour pre-performance to one hour post-performance. For some student events, patrons will be asked to park at 38 Oxford Street.

LOST AND FOUND Call 617.496.4595 or visit the Administrative Offices, Memorial Hall room 027. Memorial Hall and Harvard University are not responsible for lost or stolen property.

LATECOMERS Latecomers will be seated at the discretion of the management.

PHOTOGRAPHY AND RECORDING Use of cameras and audio, video, or digital recording equipment of any kind, including cell phones, is prohibited. Equipment will be confiscated.

ACCESS FOR PATRONS WITH DISABILITIES Wheelchair accessible seating is available through the Harvard Box Office by telephone at 617.496.2222, TTY 617.495.1642, or in person. Sanders Theatre is equipped with Sennheiser Infraport RI 100 J headset receivers and EZT induction neck loop Assistive Listening Devices, available at the Box Office one-half hour before performance time.

For information about parking for disabled patrons, call Marie Trottier, University Disability Coordinator, at 617.495.1859, TTY 617.495.4801, Monday through Friday 9am to 5pm. Please call at least two business days in advance.

THE HARVARD BOX OFFICE

Ticketing Sanders Theatre events and more. Phone: 617.496.2222; TTY: 617.495.1642

Advance Sales: Holyoke Center Arcade, Harvard Square, 1350 Massachusetts Avenue. Open Tuesday-Sunday 12 noon to 6pm. Closed Mondays, some holidays and has limited summer hours.

Pre-Performance Sales: Sanders Theatre at Memorial Hall
Open performance days only, at 12 noon for matinees and 5pm for evening performances.

Open until one-half hour after curtain.

USHERING To inquire about ushering opportunities, contact the Production Office at 617.495.5595.

MEMORIAL HALL/LOWELL HALL COMPLEX STAFF
Director: Eric C. Engel / Program Manager: Ruth A. Polleys / Assistant Director: Raymond C. Traietti / Production Manager: Tina Bowen / Production Associate: Jonathan Salz / Production Services Coordinator: Ilya Luvish / Staff Assistant: Adam Kassim

HARVARD BOX OFFICE STAFF
Box Office Manager: Tina L. Smith / Manager of Student Ticketing Services and Associate Box Office Manager: Jason Govostes / Senior Box Office Associate: Bob Bartosch / Box Office Associates: Amy LeBrun Stepsi and Michael Van Dever / Box Office Assistant: Vic Yambo

Upcoming Events

Upcoming Ig Nobel / Improbable Research events include: the annual Improbable Research session at the Annual Meeting of the American Association for the Advancement of Science; the annual U.K. tour of the UK; etc. There have also been tours or events in Australia, The Netherlands, Austria, Greece, Sweden, Ireland, Mexico, Canada, Switzerland, Denmark, with more to come.

For details, see:
www.improbable.com

Get mugged, booked, and shirted at the Improbable Research online store

www.cafepress.com/ignobel

www.museumofbadart.org

See more bad art in the book

MuseumOfBadArt.org

Info@MuseumOfBadArt.org

www.improbable.com
Subscribe!

Research that makes people laugh, then think.

Please send a subscription to the Annals of Improbable Research (AIR) for a period of (check one):

(All rates in US dollars.)

______ 1 year (6 issues) $39 US $49 Can/Mex $64 Overseas
______ 2 years (12 issues) $74 US $94 Can/Mex $119 Overseas

Name: ____________________________________________
Address: __________________________________________
City: ______________________________________________
State: _______ Zip: _________ Country: ___________________________
Phone: ______________________ FAX: _______________________
E-mail address: _______________________________________

Total payment enclosed: $ __________
Payment method: _____________________________
___ Check (drawn on US bank) or int’l money order
___ Mastercard  ___ Visa  ___ Discover
Card Number: ___________________________ Exp: _______

Send payment to:
AIR, PO Box 380853, Cambridge, MA 02238 USA
617-491-4437 FAX: 617-661-0927
air@improbable.com www.improbable.com

Or subscribe online at www.improbable.com

Great Gift!