

## The Jane Coffin Childs

MEMORIAL FUND FOR  
MEDICAL RESEARCH

### Path to the Prize

*Dr. Thomas Steitz, 2009 Nobel Laureate and former Jane Coffin Childs fellow, reflects on his postdoctoral experience.*

Last fall, the Nobel Prize in Chemistry was awarded to Dr. Thomas Steitz for determining the structure and function of the ribosome, which translates RNA into proteins. Steitz's journey to the Nobel Prize began decades ago, and one crucial step along the way was his postdoctoral fellowship, funded by the Jane Coffin Childs Memorial Fund.

Steitz spent his fellowship at the Medical Research Council Laboratory of Molecular Biology in Cambridge, England with Dr. David Blow. "It was a pivotally important experience to spend three years in the best structural biology lab in the world at that time," Steitz says.

He landed the position in 1966 after completing his Ph.D. with Dr. William Lipscomb at Harvard University, where his interest in using X-ray crystallography to study structural biochemistry began. As a graduate student, he met a postdoc who recommended working with Dr. Blow.

"I went to the library, read one of his papers, and wrote him a letter," Steitz recalls, adding that he didn't meet his mentor until he arrived in England—quite a difference from today's jet-setting applicants and in-person interviews.

Funding from the JCC made his postdoc possible, and it



*Dr. Thomas Steitz.*  
PHOTO: HAROLD SHAPIRO

came about thanks to a "marvelous accident," Steitz says. A graduate student from James Watson's lab happened to have a copy of the JCC application but did not plan to apply. Steitz was unaware of the JCC fellowships until the moment the application was handed to him. The deadline loomed the next day. Luckily, with a project and laboratory already in mind—and minimal bureaucracy in those days—filling out the application was straightforward, according to Steitz.

At the Laboratory of Molecular Biology in England, Steitz shifted his studies from one enzyme, carboxypeptidase A, to another, alpha chymotrypsin, and focused on its mechanism.



*Some of the key team players in the ribosome project, enjoying a reception given by the Nobel Foundation at the Nordic Museum, Stockholm, on December 9, 2009. From left to right: Poul Nissen, Thomas Steitz, Peggy Eatherton, Peter Moore, Nenad Ban, Martin Schmeing and Jeff Hansen.*

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DESIGNER: Betsy Joyce  
EDITOR: Alison Fromme

SEND COMMENTS OR  
CHANGES OF ADDRESS TO:  
Kim E. Roberts  
Administrative Director  
The Jane Coffin Childs  
Memorial Fund  
333 Cedar Street, LW300-SHM  
New Haven, CT 06510

TELEPHONE: (203) 785-4612  
FAX: (203) 785-3301  
E-MAIL: [info@jccfund.org](mailto:info@jccfund.org)  
WEB: [www.jccfund.org](http://www.jccfund.org)

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Access to great scientists and opportunities to discuss ideas were critical to Steitz's early career. At the Laboratory of Molecular Biology, people assembled daily for morning tea, lunch, and afternoon coffee, which fostered a conversational culture rich with scientific debates and discussions. "It was quite unlike what happens today," says Steitz, describing people eating lunch alone at their desks while checking email.

In transitioning to a faculty position, Steitz briefly held a position at the University of California at Berkeley, but plans changed when his grant application was rejected and his wife, Dr. Joan Steitz, was not offered a position there (she is now a Sterling Professor of Molecular Biophysics and Biochemistry and HHMI Investigator at Yale).

So instead, he extended his postdoctoral fellowship for a total of three years, instead of the then-usual two. "The JCC was very helpful in letting me stay," says Steitz, grateful for the additional funding.

He spent his extra year beginning his study of yeast hexokinase and eventually demonstrated that specific substrate binding induces a large conformational change within it. Accepted understanding of enzyme action was changing at the time. Daniel Koshland's induced fit theory proposed that enzymes are not as static as bricks, but can instead change shape to bind substrates. Steitz's studies on yeast hexokinase provided compelling evidence for the concept.

In 1970, Steitz joined the faculty at Yale University, where he has spent the majority of his career using X-ray crystallography to understand the mechanisms of gene expression, from DNA to RNA to proteins. Currently, he is the Sterling Professor of Molecular Biophysics and Biochemistry, Professor of Chemistry, and Howard Hughes Medical Institute Investigator.

Over the past two decades, he chipped away at visualizing the ribosome, the complex

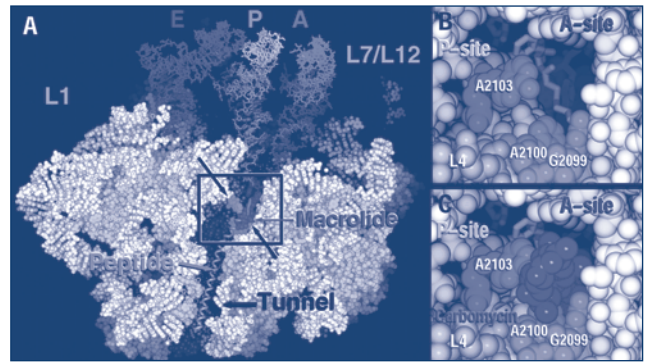


Image of macrolide antibiotic interfering with ribosome function by blocking peptide exit. Image from Figure 4 from Hansen et al., *Molec. Cell* 10: 117-128 (2002).

structure that translates RNA into proteins. Overcoming one challenge after another, he obtained images of the ribosome's large subunit with ever-increasing resolution and bound to different substrates, including antibiotics. For his work, he was honored with the 2009 Nobel Prize in Chemistry, which he shares with Ada Yonath and Venkatraman Ramakrishnan.

"My postdoc was an absolutely marvelous time," Steitz says. With none of the exams, courses, or theses associated

with graduate school, and none of the grant applications or teaching assignments required of faculty, he could devote all his energies to research. Today, he hosts about 11 postdocs in his 20-person lab and aims to encourage joint projects and interactive group meetings—in other words, the same sort of scientific discussions that were so valuable during his early career. His advice to current JCC fellows? "Follow your passion. Do that which excites you the most." \*

## They were postdocs once . . .



Dr. Elizabeth Blackburn  
PHOTO: ELISABETH FALL/  
FALLFOTO.COM



Dr. Carol Greider  
PHOTO COURTESY OF  
JOHNS HOPKINS UNIVERSITY

Former BSA Members Dr. Elizabeth Blackburn and Dr. Carol Greider won the 2009 Nobel Prize in Physiology or Medicine "for the discovery of how chromosomes are protected by telomeres and the enzyme telomerase."

Dr. Elizabeth Blackburn, Professor of Biology and Physiology at UC San Francisco, served on the JCC Board of Scientific Advisors from 2000 until 2008. As a young postdoctoral fellow during the 1970s, Blackburn worked at Yale with Dr. Joseph Gall, who she describes as tremendously supportive. In her own lab, she has aimed to emulate the mentoring she received in her early career.

One graduate student who benefitted from Dr. Blackburn's approach was Dr. Carol Greider. After a stellar graduate career in Blackburn's lab during the 1980s, Dr. Greider landed an unusual postdoctoral fellowship at Cold Spring Harbor Laboratory in Long Island, NY, where she worked independently in her own lab. Dr. Greider is currently Professor and Director of Molecular Biology and Genetics Institute for Basic Biomedical Sciences at Johns Hopkins School of Medicine, and she served on the JCC BSA from 2008 until 2010.

The two share the 2009 Nobel Prize in Physiology or Medicine with Jack Szostak for their work on telomeres, the ends of chromosomes. Blackburn and Szostak discovered that the DNA sequence of telomeres protects them from shortening over time, and Blackburn and Greider subsequently demonstrated how the enzyme telomerase lengthens telomeres. \*

## DIRECTOR'S CORNER

## More Support from Our Friends



I am pleased to report continuing success in raising funds to offer more Jane Coffin Childs fellowships. Fortunately, other private and corporate funds share our vision of the importance of fellowship support for the benefit of highly accomplished postdoctoral scholars irrespective of nationality. This past year, we have secured several additional funded positions from the Anna Fuller Fund and Merck Corporation. For the current year, we were able to provide support for twenty-three new fellows, up from the eighteen we funded last year. And as our endowment grows, the Board of Managers has agreed to increase that number from our own resources. My hope in the coming years is to restore our annual allocation to thirty new fellows.

The Anna Fuller Fund, also headquartered at Yale, had a vibrant but small grants program to support fellows throughout the country. Two of their notable past awardees were Nobelists, Sidney Altman and Elizabeth Blackburn. Given the small size of their endowment, the trustees decided some years ago to suspend a national competition in order to focus support for a few positions at Yale and MIT. However, after our former Chair of the Managers, William Gridley, visited the Chair of their Trustees, the Fund reconsidered and agreed to support two or more Jane Coffin Childs fellows in the area of basic cancer research each year. Our first two such appointments have now been made. We are particularly grateful to Vin Marchesi, the Scientific Director of the Anna Fuller Fund, for his spirit of collaboration.

Last year, in the aftermath of the stock market plunge, Merck Corporation chose to withdraw postdoctoral support as they reconsidered their educational goals. Merck has now decided to focus funding on what they consider the best investment, postdoctoral support at the most selective private agencies. And the great news for us is that they have agreed to fund two new JCC fellows each year instead of the one they granted before the recession.

This has been a busy and exciting year for current and past members of our Board of Scientific Advisers. We were thrilled with the news from Stockholm that three of our former members (Liz Blackburn, Carol Greider, and Tom Steitz) were awarded prizes in Physiology or Medicine and Chemistry. We now count 21 Nobel Laureates among the former fellows, grantees, and members of our Board. I also wish to acknowledge the spirited contributions of Peter Cresswell, Carol Greider and Charles Sherr who stepped down from the Board this year. In the coming year we will welcome new Board members Steven Elledge (Harvard Medical School) and Anjana Rao (La Jolla Institute for Allergy and Immunology). They join an extraordinarily talented group that is a privilege for me to serve. \*

— Randy Schekman, Director of the Board of Scientific Advisers

# Fellows Awarded Spring 2010

- **Claudia Y. Janda**  
**Frederic M. Richards Fellow**  
 Elucidating the molecular basis of canonical Wnt signaling activation and inhibition at the cell surface, with Dr. K. Christopher, Garcia, Department of Molecular and Cellular Physiology, Structural Biology Stanford University School of Medicine, Stanford, California
- **Antoine E. Roux**  
**HHMI Fellow**  
 Early stochastic events that affect aging with, Dr. Cynthia Kenyon, Department of Biochemistry and Biophysics, University of California, San Francisco, California
- **Hannah E. Volkman**  
**HHMI Fellow**  
 Exploring the connections between antiviral responses and autoimmunity, Department of Immunology, with Dr. Daniel Stetson, University of Washington, Seattle, Washington
- **Mingshan Xue**  
**HHMI Fellow**  
 Circuit analysis of sensory activated neuronal ensembles in mammalian cortex, with Dr. Massimo Scanziani, Division of Biological Sciences, Neurobiology Section, University of California, San Diego, California
- **Daisuke Hattori**  
**HHMI Fellow**  
 The architecture and function of neural circuit governing behavioral plasticity, with Dr. Richard Axel, Department of Neurosciences, Columbia University, New York, New York
- **Wen-Hui Lien**  
**Anna Fuller Fellow**  
 Unraveling the complexities of Wnt signaling in stem cell activation, wound repair and tumorigenesis in the skin, with Dr. Elaine Fuchs, Laboratory of Mammalian Cell Biology and Development, The Rockefeller University, New York, New York
- **Matthew P. Klassen**  
**HHMI Fellow**  
 Functional assembly of a cardiac reflex circuit, with Dr. Yuh Nung Jan, Department of Physiology, University of California, San Francisco, California
- **Jeremy M. Baskin**  
**HHMI Fellow**  
 Investigation of a protein complex implicated in PI4P synthesis in the brain with Dr. Pietro De Camilli, Yale University, Department of Cell Biology, New Haven, Connecticut
- **Alexander Katsov**  
**HHMI Fellow**  
 Functional maturation of the nervous system in the nematode *C. elegans*, with Dr. Cornelia Bargmann, The Laboratory of Neural Circuits and Behavior, The Rockefeller University, New York, New York
- **Kivanc Birsoy**  
**Anna Fuller Fellow**  
 Diet-dependent regulation of tumor growth through stroma metabolism, with Dr. David Sabatini, Whitehead Institute for Biomedical Research, Cambridge, Massachusetts
- **Mansi Srivastava**  
**HHMI Fellow**  
 Identification of wound-induced signals by comparing regeneration across diverse animal phyla, with Dr. Peter Reddien, Department of Biology, Whitehead Institute for Biomedical Research, Cambridge, Massachusetts
- **Sebastian Deindl**  
**Merck Fellow**  
 Mechanistic studies of ATP-dependent chromatin remodeling enzymes, with Dr. Xiwei Zhuang, Department of Chemistry and Chemical Biology and Physics, Harvard University, Cambridge, Massachusetts
- **Timothy R. Peterson**  
**Merck Fellow**  
 Discovery of commonly prescribed drug gene targets using haploid human cell genetics, with Dr. Erin O'Shea, Departments of Molecular and Cellular Biology and Chemistry and Chemical Biology, Harvard University, Cambridge, Massachusetts
- **Ling-Nian Zou**  
**Genentech Fellow**  
 Understanding decision-making during embryonic stem cell differentiation, with Dr. Sharad Ramanathan, Department of Molecular and Cellular Biology, FAS Center for Systems Biology, Harvard University, Cambridge, Massachusetts
- **Martin Kampmann**  
 Genetic interaction mapping and mechanisms of human host cell pathways exploited by endoplasmic reticulum-trafficking toxins, with a focus on retrotranslocation, with Dr. Jonathan Weissman Department of Cellular and Molecular Pharmacology, University of California, San Francisco, California
- **Shiho Tanaka**  
 A key to the discovery of new antibacterials: Structure determination of an essential bacterial membrane protein, MraY, with Dr. William Clemons, Department of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena, California
- **Michael R. Tadross**  
 Optogenetic deconstruction of local calcium signaling domains, with Dr. Richard Tsien, Department of Molecular and Cellular Physiology, Stanford University, Stanford, California
- **Anita Kulukian**  
 Centrosomes and the regulation of asymmetric cell division, with Dr. Elaine Fuchs, Laboratory of Mammalian Cell Biology and Development, The Rockefeller University, New York, New York
- **Prashant Mishra**  
 Regulation of mitochondrial fusion, with Dr. David Chan, Department of Biology, California Institute of Technology, Pasadena, California
- **Tepei Yamachuchi**  
 Changes in the core transcriptional machinery during cellular reprogramming, with Dr. Robert Tjian, Department of Molecular and Cell Biology, University of California, Berkeley, California
- **Michael T. Bethune**  
 Development of T cell receptor gene therapy for prostate cancer, with Dr. David Baltimore, California Institute of Technology, Division of Cell Biology, Pasadena, California
- **Louisa M. Liberman**  
 Cell-type specific growth regulation in response to cross-kingdom communication, with Dr. Philip Benfey, Department of Biology, Duke University, Durham, North Carolina
- **Marion A. Silies**  
 Neural integration of visual information in the drosophila brain, with Dr. Thomas Clandinin, Department of Neurobiology, Stanford University, Stanford, California

# The JCC Salutes Nobel Prize Winners

*Throughout the 73-year history of the Jane Coffin Childs Memorial Fund, a stunning 21 JCC fellows, grantees, and members of the Board of Scientific Advisors have been awarded Nobel Prizes for their contributions to science.*

## BSA Members

**David Baltimore**, BSA member from 1980 to 1988, won the Nobel Prize in Physiology or Medicine 1975, along with Renato Dulbecco and Howard Martin Temin, “for their discoveries concerning the interaction between tumour viruses and the genetic material of the cell.”

**Paul Berg**, BSA member from 1970 to 1980, won the Nobel Prize in Chemistry 1980 “for his fundamental studies of the biochemistry of nucleic acids, with particular regard to recombinant-DNA” (half of the prize was awarded jointly to Walter Gilbert and Frederick Sanger “for their contributions concerning the determination of base sequences in nucleic acids”).

**Elizabeth Blackburn**, see page 2.

**Michael S. Brown**, BSA member from 1980 to 1988, won the Nobel Prize in Physiology or Medicine 1985 jointly with Joseph L. Goldstein “for their discoveries concerning the regulation of cholesterol metabolism.”

**Edward A. Doisy**, BSA member from 1952 to 1969, won the Nobel Prize in Physiology or Medicine 1943 “for his discovery of the chemical nature of vitamin K” and shared the prize with Henrik Carl Peter Dam “for his discovery of vitamin K.”

**Joseph L. Goldstein**, BSA member from 1988 to 1996, won the Nobel Prize in Physiology or Medicine 1985 jointly with Michael S. Brown “for their discoveries concerning the regulation of cholesterol metabolism.”

**Carol Greider**, see page 2.

**H. Robert Horvitz**, BSA member from 1989 to 1997, won the Nobel Prize in Physiology or Medicine 2002 jointly with Sydney Brenner and John E. Sulston “for their discoveries concerning ‘genetic regulation of organ development and programmed cell death.’”

**Charles B. Huggins**, BSA member from 1948 to 1972, won the Nobel Prize in Physiology or Medicine 1966 “for his discoveries concerning hormonal treatment of prostatic cancer,” and he shared the prize with Peyton Rous “for his discovery of tumour-inducing viruses.”

**Salvador E. Luria**, BSA member from 1972 to 1978, won the Nobel Prize in Physiology or Medicine 1969 jointly with Max Delbrück and Alfred D. Hershey “for their discoveries concerning the replication mechanism and the genetic structure of viruses.”

**Daniel Nathans**, BSA member from 1977 to 1984, won the Nobel Prize in Physiology or Medicine 1978 jointly with Werner Arber and Hamilton O. Smith “for the discovery of restriction enzymes and their application to problems of molecular genetics.”

**Severo Ochoa**, BSA member from 1961 to 1971, won the Nobel Prize in Physiology or Medicine 1959 jointly with Arthur Kornberg “for their discovery of the mechanisms in the biological synthesis of ribonucleic acid and deoxyribonucleic acid.”

**George E. Palade**, BSA member from 1975 to 1979, won the Nobel Prize in Physiology or Medicine 1974 jointly with Albert Claude and Christian de Duve “for their discoveries concerning the structural and functional organization of the cell.”

**Peyton Rous**, BSA member from 1937 to 1948, won the Nobel Prize in Physiology or Medicine 1966 “for his discovery of tumor-inducing viruses” and shared the prize with Charles Brenton Huggins “for his discoveries concerning hormonal treatment of prostatic cancer.”

**Wendell M. Stanley**, BSA member from 1967 to 1971, won the Nobel Prize in Chemistry 1946 jointly with John Howard Northrop “for their preparation of enzymes and virus proteins in a pure form” and shared the prize with James Batcheller Sumner “for his discovery that enzymes can be crystallized.”

## Former Fellows

**Joshua Lederberg**, JCC fellow from 1946 to 1947, won the Nobel Prize in Physiology or Medicine 1958 “for his discoveries concerning genetic recombination and the organization of the genetic material of bacteria” and he shared the prize with George Wells Beadle and

Edward Lawrie Tatum “for their discovery that genes act by regulating definite chemical events.”

**Thomas A. Steitz**, see page 1.

## Former Grantees

**George de Hevesy**, JCC grant recipient in 1962, won the Nobel Prize in Chemistry 1943 “for his work on the use of isotopes as tracers in the study of chemical processes.”

**Jacques Monod**, JCC grant recipient from 1954 to 1965, won the Nobel Prize in Physiology or Medicine 1965 jointly with François Jacob and André Lwoff “for their discoveries concerning genetic control of enzyme and virus synthesis.”

**George D. Snell**, JCC grant recipient in 1962, won the Nobel Prize in Physiology or Medicine 1980 jointly with Baruj Benacerraf and Jean Dausset “for their discoveries concerning genetically determined structures on the cell surface that regulate immunological reactions.”

**Edward L. Tatum**, JCC grant recipient from 1948 to 1954, won the Nobel Prize in Physiology or Medicine 1958 jointly with George Wells Beadle “for their discovery that genes act by regulating definite chemical events” and shared the prize with Joshua Lederberg “for his discoveries concerning genetic recombination and the organization of the genetic material of bacteria.”

## JCC Welcomes New Board Members

*The JCC Fund welcomes two new members to its Board of Scientific Advisers this year: Dr. Anjana Rao, head of Signaling and Gene Expression Research at the La Jolla Institute for Allergy and Immunology, and Dr. Stephen J. Elledge, Professor of Genetics and Medicine at Harvard Medical.*

### Anjana Rao

Dr. Anjana Rao joins the BSA this year just as she transitions to a new place of work. After many years at Harvard Medical School and the Immune Disease Institute in Boston, Rao will now lead the new Division of Signaling and Gene Expression Research at the La Jolla Institute for Allergy and Immunology and continue her signaling and gene transcription research.

"The Human Genome Project gave the world the entire nucleotide sequence of every human gene," Rao says. "While this was monumental, we still know little about how genes and their protein and noncoding RNA products work individually, and collectively, to affect disease processes." Using RNAi screens, mouse models, high-throughput sequencing, and other techniques, Rao analyzes gene regulation and how functional flaws in specific proteins lead to autoimmune diseases, developmental defects, and cancer.

Rao received a master's of science in physics from Osmania University in India, earned a Ph.D. in biophysics from Harvard University, and completed her



*Dr. Anjana Rao.*  
PHOTO: JAN REISS,  
HARVARD MEDICAL SCHOOL

postdoctoral fellowship at Harvard Medical School and the Dana-Farber Cancer Institute, before becoming a professor of pathology. She won the AAI-Huang Foundation Meritorious Career Award in 2000 and was elected to the National Academy of Sciences in 2008.

### Stephen Elledge

Dr. Stephen Elledge, HHMI Investigator and Professor of Genetics at Harvard Medical School and at Brigham and Women's Hospital, is a geneticist who studies regulation of gene systems involved in cancer and DNA repair.

Recently, Elledge and his colleagues discovered that

human cells respond to H1N1 influenza infection by increasing production of a specific family of proteins, known as IFITM, that block the replication of the virus.

"If you get rid of IFITM, the virus is replicated five to 10 times more efficiently," Elledge says. "It blocks 80 to 90 percent of the virus just by itself." Variation in the amount of IFITM among different people might explain why some people experience mild cases of the flu, whereas others are severely affected. And, development of drugs that enhance IFITM might provide an avenue for preventing future epidemics of H1N1, West Nile virus, and dengue virus.

As a new member of the BSA, Elledge looks forward to serving the JCC's mission. "Science represents the pinnacle of human achievement and provides tremendous benefits to our society," he says. "Organizations like the JCC work hard to allow those contributions to occur by supporting the best and brightest future leaders of scientific research."

Postdoctoral funding like that provided by the JCC is tremendously valuable, Elledge



*Stephen Elledge*

adds. "It provides the host lab with more flexibility and allows it to devote more resources to the other components of the work, further enriching the scientific environment for the fellow," he says. "In addition, receiving such a fellowship is quite an honor and gives these talented young scientists the confidence that they are gifted researchers and can accomplish great things."

Elledge is a Pew Scholar in the biomedical sciences and was elected to the National Academy of Sciences in 2003. He received the G.H.A. Clowes Memorial Award, the Paul Marks Prize in cancer research, the Michael E. DeBaake Award for research excellence, and the 2002 National Academy of Sciences Award in molecular biology. \*

## Coming Soon . . .

The JCC will launch a new and improved website at [www.jccfund.org](http://www.jccfund.org).

The site, which is currently under construction, will feature information about current fellows and their projects, news about former fellows, a calendar of important dates, ways to contribute, and past financial reports.

2010

## Thanks to Former BSA Members

*The JCC Fund thanks three retiring BSA members for their service to the organization.*

**Peter Cresswell**, Professor of Immunobiology and Professor of Dermatology and Cell Biology at Yale University, served on the BSA for eight years.

**Charles Sherr**, Faculty Member and Co-Chair of Genetics & Tumor Cell Biology at St. Jude Children's Research Hospital, served on the BSA for three years.

**Carol Greider**, Daniel Nathans Professor and Director of Molecular Biology and Genetics in the Johns Hopkins Institute for Basic Biomedical Sciences, served on the BSA for two years (see page 2).



*Dr. Peter Cresswell*  
PHOTO: DAN PRICE



*Dr. Charles Sherr*  
PHOTO: ST. JUDE

## Fellowship Application Information

The Fund awards fellowships to qualified individuals for fulltime postdoctoral research on cancer and related subject areas. Applicants should not have more than one year of postdoctoral experience and should hold either an M.D. or a Ph.D. in the field in which they propose to study. In some cases, evidence of equivalent training and experience will be accepted. The appointment normally lasts three years. The basic stipend for the 2011 recipients will be \$45,000 the first year, \$46,000 the second, and \$48,000 the third. Applications for 2011 must be submitted electronically and received by February 1, 2011.

**The application will be available on line October 1, 2010.**  
**For details, please visit the Fund's website at [www.jccfund.org](http://www.jccfund.org)**

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2010-2011

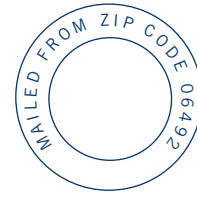
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# Thirty-fourth Symposia

## Challenges in Biomedical Sciences: Research from the Fellows' Perspective

October 15, 16, 17, 2010 • Interlaken Inn, Lakeville, Connecticut

### HOSTED BY

Dr. Randy Schekman and Dr. John Kuriyan

### KEYNOTE SPEAKER

Dr. Jack E. Dixon

Vice President and Chief Scientific Officer, Howard Hughes Medical Institute, University of California, San Diego

THE 2010 SYMPOSIUM WILL FEATURE PRESENTATIONS BY THIRD YEAR FELLOWS:

- **Andrea Berman**  
Thomas R. Cech, University of Colorado
- **Liang Cai**  
Keith Mostov, University of California, San Francisco
- **Damon Clark**  
Thomas Clandinin, Stanford University
- **Robert Collins**  
Lynne Regan, Yale University
- **Dion Dickman**  
Graeme Davis, University of California, San Francisco
- **Ellen Ezratty**  
Elaine Fuchs, The Rockefeller University
- **Rachel Mitton Fry**  
Joan A. Steitz, Yale University
- **Elizabeth Harris**  
W. James Nelson, Stanford University
- **John James**  
Ronald D. Vale, University of California San Francisco
- **Hyun-Eui Kim**  
Andrew Dillin, The Salk Research Institute for Biomedical Studies
- **Gwangrog Lee**  
Taekjip Ha, University of Illinois, Urbana-Champaign, Illinois
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Frank Slack, Yale University
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Elaine Fuchs, The Rockefeller University, New York
- **Assaf Zemach**  
Daniel Zilberman, University of California Berkeley