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James S. McDonnell Foundation Announces 2015 Grants for The 21st Century Science Initiative Awards

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$14.5 Million in Grants Continue the Commitment to Founder's Vision

(St. Louis, MO) The Officers and Directors of the James S. McDonnell Foundation today announced more than $14 million in grants in their ongoing program, the **21st Century Science Initiative**.

Founded in 1950 by the late aerospace pioneer and founder of what would become the McDonnell Douglas Corporation, James S. McDonnell believed that science and technology gives mankind the power to shape knowledge for the future while improving our lives. "Mr. Mac's" vision continues to be realized through the research these grants are supporting. Since the inception of the program in 2000, more than $264 million in funding has been awarded.

The 21st Century Science Initiative funds research in three program areas. For 2015, Scholar Awards in ***Understanding Human Cognition*** program targeted faculty at small liberal arts colleges in the U.S. pursuing cognitive psychology studies of human behavior and training the next generation of researchers. ***Mathematical & Complex Systems Approaches to Brain Cancer*** supports mathematical and ecologically-informed studies of brain cancer biology and the design of new brain cancer therapies. ***Studying Complex Systems*** supports the development of theoretical and mathematical tools that can be applied to the study of complex, adaptive, nonlinear systems. The JSMF Postdoctoral Fellowship Awards in ***Studying Complex Systems*** provides students completing doctoral training an opportunity to broaden their research experience and acquire additional skills.

"Support of research and applications of research findings to important problems remains a pivotal role for private philanthropy and for the McDonnell Foundation. The foundation is committed to the ideal that having a diversity of private and public funders helps ensure that the most creative work will obtain needed support," said McDonnell Foundation President, Dr. Susan Fitzpatrick.

The McDonnell Foundation's 2015 21st Century Science Initiative Awards are:

Scholar Awards: Understanding Human Cognition

Colby College, Waterville, Maine
Principal Investigator: Jennifer Coane, $600,000 over 8 years.
Integrating new and prior knowledge in semantic memory

Colgate University, Hamilton, New York
Principal Investigator: Bruce Hansen, $600,000 over 8 years.
Understanding early visual codes and their relative contribution to rapid perceptual inference

Knox College, Galesburg, Illinois
Principal Investigator: Daniel Peterson, $600,000 over 8 years.
How does retrieval shape memory? Exploring the retrieval practice effect

Mount Holyoke College, South Hadley, Massachusetts
Principal Investigator: Mara Breen, $600,000 over 8 years.
Exploring auditory imagery through reading

Occidental College, Los Angeles, California
Principal Investigator: Andrew Shtulman, $600,000 over 8 years.
The roles of intuition and reflection in understanding science

Pomona College, Claremont, California
Principal Investigator: Shlomi Sher, $600,000 over 8 years.
The rational construction of preference

University of Richmond, Richmond, Virginia
Principal Investigator: Cindy Bukach, $600,000 over 8 years.
Beyond categories: Understanding the factors underlying category specificity in the brain

Wellesley College, Wellesley, Massachusetts
Principal Investigator: Jennie Pyers, $600,000 over 8 years.
Understanding general and specific effects of the relationship between language and cognition

Collaborative Activity Awards: Understanding Human Cognition

The University of Michigan – Ann Arbor
Project Manager: George Mashour, Co-Investigators: Max Kelz, and Michael Avidan, $1,560,439 over three years.
Reconstructing consciousness and cognition, Phase 2

University of Oxford, Oxford, United Kingdom
Principal Investigator: Anna Christina Kia Nobre, $2,356,160 over four years.
Brain Rhythms in Cognition

Harvard University, Cambridge, Massachusetts
Principal Investigator: Susan Carey, $1,977,025 over five years.
The Nature and Origins of the Human Capacity for Abstract Combinatorial Thought

Collaborative Activity Awards: Special Initiative

Fundación Universidad Torcuato Di Tella, Buenos Aires, Argentina
Principal Investigators: Andrea Goldin and Mariano Sigman, up to $350,000 for one year.
Support for the 2016 Latin American School for Education, Cognitive and Neural Sciences

Collaborative Activity Awards: Mathematical & Complex Systems Approaches for Brain Cancer

Universidad de Castilla-La Mancha, Albacete, Castile-La Mancha, Spain
Principal Investigator: Victor M. Perez-Garcia, $313,000 over three years.
Therapy optimization in glioblastoma: An integrative human data-based approach using mathematical models

Scholar Awards: Studying Complex Systems

New York University, New York, New York
Principal Investigator: Gregory Dobler, $450,000 over 3 years.
Understanding the complex urban system through remote imaging

Stevens Institute of Technology, Hoboken, New Jersey
Principal Investigator: Samantha Kleinberg, $450,000 over 5 years.
Multiscale causality across time and space

University of California - Los Angeles, Los Angeles, California
Principal Investigator: Van Savage, $450,000 over 4 years.
Emergent interactions in complex networks: Beyond pairwise parts in systems ranging from drugs and microbes to consumers and resources

University of Colorado - Boulder, Boulder, Colorado
Principal Investigator: Scott Ortman, $450,000 over 3 years.
Spatial aggregation and scaling of human networks in history

University of Exeter, Exeter, United Kingdom
Principal Investigator: Colin Torney, $450,000 over 4 years.
Complexity and scaling in the long-range collective movement of animals

University of Illinois at Urbana-Champaign, Champaign, Illinois
Principal Investigator: James O'Dwyer, $450,000 over 5 years.
The origins of emergent phenomena: Renormalization, coarse-graining, and the fingerprints of ecological and evolutionary processes

University of Kansas Center for Research, Inc., Lawrence, Kansas
Principal Investigator: Daniel Reuman, $450,000 over 4 years.
Spatio-temporal climate impacts on complex ecosystems

Postdoctoral Fellowship Awards: Studying Complex Systems

Allison K. Barner, *Doctoral Institution: Oregon State University*

Yohai Bar-Sinai, *Doctoral Institution: Weizmann Institute of Science*

Leonora Bittleston, *Doctoral Institution: Harvard University*

Eleanor R. Brush, *Doctoral Institution: Princeton University*

Peter Fennell, *Doctoral Institution: University of Limerick*

Jean P. Gibert, *Doctoral Institution: University of Nebraska*

Daniel Koll, *Doctoral Institution: University of Chicago*

Clara Granell Martorell, *Doctoral Institution: Universitat Rovira i Virgili*

Jeffrey C. Peters, *Doctoral Institution: Purdue University*

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