

**Norman Hackerman Advanced Research Program
2009 Competition
Summary of Panelists**

Total Number of Reviewers **120** **100%**

Male		98	82%
Female		22	18%
University Affiliation		84	70%
Number of institutions	50		
Medical School Affiliation		28	23%
Schools and Health Science Centers	25		
Industry Affiliation		4	3%
Government Affiliation		4	3%
Number of States represented		34	and Canada
Repeat Reviewers		68	57%

Reviewer Numbers by Panel:

Biological Sciences (All Other)	28	23%
Biological Sciences (Molecular and Genetics)	23	19%
Chemistry	8	7%
Computer Sciences	10	8%
Earth Sciences	3	3%
Engineering (All Other)	18	15%
Engineering (Electrical Engineering)	9	8%
Material Sciences/Nanoscience	12	10%
Mathematics	4	3%
Physics and Astronomy	5	4%

Reviewer Level:

Distinguished Professor	19	16%
Professor	51	43%
Associate Professor	25	21%
Assistant Professor	13	11%
Professional Title (senior)	6	5%
Professional Title (junior/midlevel)	6	5%
Number of Medical Doctors	8	7%

**Norman Hackerman Advanced Research Program
2009 Competition
Reviewer Affiliations**

Government

Los Alamos National Laboratory
National Institute of Health
National Optical Astronomy Observatory
University of California Energy Institute

Industry

Freescale Semiconductor
IBM
Lockheed Martin Missiles and Fire Control
Texas Instruments

Medical Schools/Health Science Centers

Bay Pines VA Healthcare System
Emory University School of Medicine
Indiana University School of Medicine
John Hopkins Center for Global Health
Mayo Clinic Comprehensive Cancer Center
Massachusetts General Hospital
Ohio University School of Medicine
Oklahoma State University Center for Health Sciences
Stanford School of Medicine
St. Jude Children's Research Hospital
St. Louis University School of Medicine (2)
University of California Davis School of Medicine
University of Miami School of Medicine
The University of Kansas Medical Center
The Ohio State University Medical Center
The University of Oklahoma College of Medicine
The University of Tennessee Health Science Center
Tulane University School of Medicine
University of Alabama School of Medicine
University of Arizona College of Medicine
University of California at Davis Health System
University of Colorado Denver Health Science Center
University of Minnesota Masonic Cancer Center
Vanderbilt University School of Medicine (2)
Washington University School of Medicine in St. Louis (2)

Universities

Arizona State University (2)
Auburn University (2)
Brigham Young University
Brown University
Carnegie Mellon University (2)
Colorado State University (3)
Duke University
Georgia Institute of Technology (3)
Indiana University
Iowa State University (3)
Louisiana State University (2)
Marquette University (2)
Michigan State University
New Mexico Tech
North Carolina State University (3)
Northwestern University
Ohio State University
Oklahoma State University (2)
Oregon State University
Pennsylvania State University (3)
Rutgers University (3)
Purdue University (2)
The University of Arizona
The University of Iowa (2)
University of Arkansas
University of California Davis
University of California Irvine
University of California Los Angeles
University of California San Francisco
University of California Riverside
University of Central Florida
University of Florida (3)
University of Illinois at Urbana-Champaign (3)
University of Louisville (3)
University of Manitoba
University of Michigan (3)
University of Minnesota
University of Missouri-Rolla
University of Missouri-Columbia (2)
University of Nebraska-Lincoln (3)
University of New Mexico (2)
University of Oklahoma (2)
University of Oregon (2)
University of Ottawa
University of South Florida
University of Tennessee
University of Utah
University of Virginia
Utah State University
Yale University

**Norman Hackerman Advanced Research Program
2009 Competition
Panelists and Affiliations**

Cammy Abernathy
University of Florida

Chris Aiken
Vanderbilt University Medical Center

James T. Anderson
Marquette University

Zoya Avramova
University of Nebraska-Lincoln

Tom Baker
University of Ottawa

Lisa M. Berreau
Utah State University

Earl Blewett
Oklahoma State University

Daniela Bortoletto
Purdue University

Allen Bowling
Texas Instruments

James Brody
University of California, Irvine

Mark Cal
New Mexico Institute of Mining and Technology

Steven L. Ceccio
University of Michigan

Jake Yue Chen
Indiana University

John A. Cidlowski
National Institutes of Environmental Health Sciences

Peter Coschigano
Ohio University

Mohamed Dahab
University of Nebraska-Lincoln

Prathima Agrawal
Auburn University

Charles J. Ammon
Pennsylvania State University

Plamen Atanassov
University of New Mexico

Michael Bagdasarian
Michigan State University

Caroline Beghein
University of California, Los Angeles

James Birchler
University of Missouri

Randall B. Boone
Natural Resource Ecology Laboratory

Mark Bouzyk
Emory University

Edmund Brodie
University of Virginia

David Bucknall
Georgia Institute of Technology

Coralie Carraway
University of Miami School of Medicine

Nikhilesh Chawla
Arizona State University

Wei Chen
Northwestern University

Bruce A. Citron
Bay Pines VA Healthcare System

Lorenzo Cremaschi
Oklahoma State University

Howard Davidson
University of Colorado at Denver Health Science

Panelists and Affiliations, Continued

Paul DeAngelis
The University of Oklahoma College of Medicine

William Donaldson
Marquette University

Jonathan Ducore
University of California Davis School of Medicine/UCDMC

Joel C. Eissenberg
Saint Louis University School of Medicine

Louis Ercolani
Massachusetts General Hospital

Aly Farag
University of Louisville

Ralph Fregosi
The University of Arizona

Robert Galloway
Vanderbilt University

Sudipto Ghosh
Colorado State University

Ram Gupta
Auburn University

Detlef Heck
University of Tennessee Health Science Center

Paul Henderson
University of California at Davis

Kai-Ming Ho
Iowa State University

Aaron Hsueh
Stanford University

Margaret O. James
University of Florida

Brian Jensen
Brigham Young University

Darren Johnson
University of Oregon

Lynn Dobrunz
University of Alabama at Birmingham

Gerald Dorn
Washington University School of Medicine

Craig Eckhardt
University of Nebraska Lincoln

Emily Erbeling
Johns Hopkins University School of Medicine

Donald Estep
Colorado State University

Michael Flatte
University of Iowa

Michael Freund
University of Manitoba

Hae Chang Gea
Rutgers University

Ron Gibala
University of Michigan

Daniel Hassett
University of Missouri-Columbia

Cynthia Hemenway
North Carolina State University

Thomas Henderson
University of Utah

Jim Hoburg
Carnegie Mellon University

Trachette L. Jackson
University of Michigan

Marlene Janes
Louisiana State University Agricultural Center

Myung Jhon
Carnegie Mellon

Richard Joyce
National Optical Astronomy Observatory

Panelists and Affiliations, Continued

Ahmed Kamal
Iowa State University

Sue Katz
Rogers State University

Allison King
Washington University School of Medicine

James Klaunig
Indiana University Melvin and Bren Simon Cancer Center

Pui-Yan Kwok
University of California, San Francisco

Michael Langston
University of Tennessee

Geoff Levin
University of Illinois

Ronald Loehman
University of New Mexico

Fred Mannering
Purdue University

Darryl McCullough
University of Oklahoma

Kenneth D. Mitchell
Tulane University School of Medicine

John Muth
North Carolina State University

Jagdish Narayan
North Carolina State University

Jeff Parvin
The Ohio State University Medical Center

Daniel E. Prober
Yale University

Gerhard Ritter
University of Florida

Amit K. Roy-Chowdhury
University of California, Riverside

Mehmed Kantardzic
University of Louisville

George Kesidis
Pennsylvania State University

Angus Kingon
Brown University

Anil Kulkarni
Pennsylvania State University

Jill M. Lahti
St. Jude Children's Research Hospital

C. Michael Lederer
University of California Energy Institute

Yanyan Li
Rutgers University

Greg Luecke
Iowa State University

Lihua Marmorstein
University of Arizona

Bruce M. McMillin
University of Missouri-Rolla

Berndt Mueller
Duke University

Gerald O. Myers
Louisiana State University

Sani Nassif
IBM

Dean Peterson
Los Alamos National Lab

Hassan Raza
The University of Iowa

Daniel Romero
University of Minnesota

Kelly Rusch
Louisiana State University

Panelists and Affiliations, Continued

Michel Sanders
University of Minnesota

Alfons Schulte
University of Central Florida

Alan Shanks
Oregon Institute of Marine Biology

Dorota Skowrya
Saint Louis University Medical School

Lawrence Stephens
Lockheed Martin

Robert Tanguay
Oregon State University

Nitin Vaidya
University of Illinois at Urbana-Champaign

Brent Vernon
Arizona State University

John Weaver
University of Illinois at Urbana-Champaign

Longya Xu
Ohio State University

Gary Schnell
University of Oklahoma

Rajan Sen
University of South Florida

Jianjun Shi
Georgia Institute of Technology

Michael Smolen
Oklahoma State University

Wesley E. Stites
University of Arkansas

Aubrey Thompson
Mayo Clinic

Allen Van Deynze
University of California at Davis

Charlotte Vines
University Of Kansas Medical Center

Doug Williams
Georgia Institute of Technology

Chi-Min Yuan
Freescale

**Norman Hackerman Advanced Research Program
2009 Competition
Pre-proposals Submitted by Institution**

	Institution	Lead Inst.	Collab. - Non-Lead	Total
1	Angelo State University	8	0	8
2	Austin College	5	0	5
3	Baylor College of Medicine	48	7	55
4	Baylor University	31	2	33
5	Blinn College	0	2	2
6	Hardin-Simmons University	0	1	1
7	Houston Community College System	0	1	1
8	Lamar University	30	5	35
9	LeTourneau University	4	0	4
10	Midwestern State University	3	1	4
11	Prairie View A&M University	20	5	25
12	Rice University	86	9	95
13	Sam Houston State University	19	6	25
14	Southern Methodist University	37	1	38
15	Southwestern University	1	0	1
16	St. Mary's University of San Antonio	1	0	1
17	Stephen F. Austin State University	6	2	8
18	Sul Ross State University	0	1	1
19	Tarleton State University	7	3	10
20	Texas A&M Health Science Center	46	11	57
21	Texas A&M International University	2	3	5
22	Texas A&M University	119	25	144
23	Texas A&M University - Commerce	15	3	18
24	Texas A&M University - Corpus Christi	9	6	15
25	Texas A&M University - Kingsville	15	6	21
26	Texas A&M University at Galveston	10	5	15
27	Texas A&M University-Texarkana	1	0	1
28	Texas Agrilife Extension Service	0	4	4
29	Texas AgrLife Research	121	18	139
30	Texas Christian University	10	1	11
31	Texas Engineering Experiment Station	157	22	179
32	Texas Southern University	11	4	15
33	Texas State University - San Marcos	54	16	70
34	Texas Tech University	156	15	171
35	Texas Tech University Health Sciences Center	27	19	46
36	Texas Transportation Institute	1	1	2
37	Texas Wesleyan University	1	0	1
38	Texas Woman's University	5	1	6
39	The University of Texas - Pan American	32	8	40
40	The University of Texas at Arlington	136	12	148
41	The University of Texas at Austin	244	27	271
42	The University of Texas at Brownsville and Texas Southmost College	19	2	21
43	The University of Texas at Dallas	80	14	94
44	The University of Texas at El Paso	60	4	64
45	The University of Texas at San Antonio	82	29	111
46	The University of Texas at Tyler	12	2	14
47	The University of Texas Health Science Center at Houston	51	17	68
48	The University of Texas Health Science Center at San Antonio	76	15	91
49	The University of Texas Health Science Center at Tyler	2	7	9
50	The University of Texas Medical Branch at Galveston	45	0	45
51	The University of Texas of the Permian Basin	3	0	3
52	The University of Texas Southwestern Medical Center at Dallas	95	10	105
53	Trinity University	3	1	4
54	University of Dallas	1	0	1
55	University of Houston	172	11	183
56	University of Houston-Downtown	4	7	11
57	University of Houston - Clear Lake	12	7	19
58	University of Houston - Victoria	5	1	6
59	University of North Texas	75	10	85
60	University of North Texas Health Science Center at Fort Worth	49	2	51
61	University of St. Thomas	3	1	4
62	University of the Incarnate Word	1	0	1
63	UT M.D. Anderson Cancer Center	52	13	65
64	West Texas A&M University	6	4	10
65	Wiley College	1	0	1
	Totals	2,387	410	2,797

NOTES: The total number of pre-proposals received was 2,387.
The number of collaborative pre-proposals was 343.

**Norman Hackerman Advanced Research Program
2009 Competition
Pre-proposals Submitted by Institution**

Institution	Number Submitted	Dollars Requested
1 Angelo State University	8	1,013,250
2 Austin College	5	644,000
3 Baylor College of Medicine	48	9,333,973
4 Baylor University	31	4,923,536
5 Lamar University	30	4,597,444
6 LeTourneau University	4	790,000
7 Midwestern State University	3	314,000
8 Prairie View A&M University	20	3,327,578
9 Rice University	86	15,330,899
10 Sam Houston State University	19	2,792,971
11 Southern Methodist University	37	6,194,414
12 Southwestern University	1	50,000
13 St. Mary's University of San Antonio	1	70,000
14 Stephen F. Austin State University	6	710,200
15 Tarleton State University	7	811,882
16 Texas A&M Health Science Center	46	8,956,200
17 Texas A&M International University	2	238,920
18 Texas A&M University	119	20,001,680
19 Texas A&M University - Commerce	15	2,196,634
20 Texas A&M University - Corpus Christi	9	1,418,711
21 Texas A&M University - Kingsville	15	2,228,647
22 Texas A&M University at Galveston	10	1,530,844
23 Texas A&M University-Texarkana	1	150,000
24 Texas AgriLife Research	121	22,023,338
25 Texas Christian University	10	1,382,720
26 Texas Engineering Experiment Station	157	27,991,002
27 Texas Southern University	11	1,940,000
28 Texas State University - San Marcos	54	8,998,757
29 Texas Tech University	156	26,498,397
30 Texas Tech University Health Sciences Center	27	4,921,712
31 Texas Transportation Institute	1	90,000
32 Texas Wesleyan University	1	90,000
33 Texas Woman's University	5	980,000
34 The University of Texas - Pan American	32	4,410,608
35 The University of Texas at Arlington	136	23,277,362
36 The University of Texas at Austin	244	42,806,059
37 The University of Texas at Brownsville and Texas Southmost College	19	3,121,041
38 The University of Texas at Dallas	80	13,219,118
39 The University of Texas at El Paso	60	10,033,965
40 The University of Texas at San Antonio	82	13,878,180
41 The University of Texas at Tyler	12	1,777,624
42 The University of Texas Health Science Center at Houston	51	9,855,806
43 The University of Texas Health Science Center at San Antonio	76	14,630,213
44 The University of Texas Health Science Center at Tyler	2	400,000
45 The University of Texas Medical Branch at Galveston	45	8,885,762
46 The University of Texas of the Permian Basin	3	429,011
47 The University of Texas Southwestern Medical Center at Dallas	95	18,483,622
48 Trinity University	3	296,448
49 University of Dallas	1	150,000
50 University of Houston	172	29,237,183
51 University of Houston - Clear Lake	12	1,560,635
52 University of Houston - Victoria	5	400,327
53 University of Houston-Downtown	4	757,300
54 University of North Texas	75	12,714,880
55 University of North Texas Health Science Center at Fort Worth	49	9,354,734
56 University of St. Thomas	3	322,000
57 University of the Incarnate Word	1	200,000
58 UT M.D. Anderson Cancer Center	52	10,155,790
59 West Texas A&M University	6	842,600
60 Wiley College	1	199,940
Totals	2,387	\$413,941,917

NOTE: Joint pre-proposals are counted only for the lead institution.

**Norman Hackerman Advanced Research Program
2009 Competition
Proposals Submitted by Institution**

Institution	Number Submitted	Dollars Requested
1 Austin College	2	248,175
2 Baylor College of Medicine	15	2,507,473
3 Baylor University	5	611,459
4 Lamar University	6	592,700
5 Prairie View A&M University	3	499,956
6 Rice University	33	5,422,863
7 Sam Houston State University	6	774,600
8 Southern Methodist University	10	1,467,529
9 Southwestern University	1	49,989
10 Stephen F. Austin State University	1	41,920
11 Tarleton State University	1	142,265
12 Texas A&M Health Science Center	8	1,337,198
13 Texas A&M International University	1	70,480
14 Texas A&M University	48	6,868,805
15 Texas A&M University - Commerce	4	479,832
16 Texas A&M University - Corpus Christi	3	216,000
17 Texas A&M University - Kingsville	2	75,000
18 Texas A&M University at Galveston	3	318,562
19 Texas AgriLife Research	31	4,766,997
20 Texas Christian University	3	285,345
21 Texas Engineering Experiment Station	42	6,409,041
22 Texas State University - San Marcos	10	938,693
23 Texas Tech University	32	4,917,039
24 Texas Tech University Health Sciences Center	11	1,464,805
25 Texas Woman's University	2	399,951
26 The University of Texas - Pan American	8	900,976
27 The University of Texas at Arlington	35	4,798,506
28 The University of Texas at Austin	95	15,530,019
29 The University of Texas at Brownsville and Texas Southmost College	3	478,474
30 The University of Texas at Dallas	22	3,039,652
31 The University of Texas at El Paso	21	3,064,860
32 The University of Texas at San Antonio	29	3,507,913
33 The University of Texas at Tyler	2	184,075
34 The University of Texas Health Science Center at Houston	15	2,089,696
35 The University of Texas Health Science Center at San Antonio	21	3,776,570
36 The University of Texas Medical Branch at Galveston	9	1,428,521
37 The University of Texas Southwestern Medical Center at Dallas	27	4,881,326
38 Trinity University	2	73,881
39 University of Houston	43	6,802,111
40 University of Houston-Downtown	3	210,856
41 University of Houston - Clear Lake	1	53,400
42 University of North Texas	16	2,109,933
43 University of North Texas Health Science Center at Fort Worth	6	1,117,485
44 University of St. Thomas	2	209,000
45 UT M.D. Anderson Cancer Center	15	2,706,101
46 West Texas A&M University	1	100,000
47 Wiley College	1	199,940
Totals	660	\$98,169,972

NOTE: Joint proposals are counted multiple times - once for each institution participating in the proposed project. The number of submitted projects is 573.

**Norman Hackerman Advanced Research Program
2009 Competition
Funding by Institution**

Institution	Number of Awards	Dollar Amount
1 Baylor College of Medicine	3	496,560
2 Baylor University	1	74,138
3 Rice University	8	1,222,740
4 Southern Methodist University	1	200,000
5 Texas A&M University	12	1,572,376
6 Texas AgriLife Research	3	470,380
7 Texas Engineering Experiment Station	5	887,391
8 Texas State University - San Marcos	3	128,038
9 Texas Tech University	5	598,214
10 Texas Tech University Health Sciences Center	3	429,220
11 The University of Texas - Pan American	1	120,600
12 The University of Texas at Arlington	8	975,874
13 The University of Texas at Austin	26	3,814,773
14 The University of Texas at Dallas	2	328,460
15 The University of Texas at El Paso	3	394,725
16 The University of Texas at San Antonio	1	150,000
17 The University of Texas Health Science Center at Houston	1	66,200
18 The University of Texas Health Science Center at San Antonio	2	307,000
19 The University of Texas Medical Branch at Galveston	2	236,814
20 The University of Texas Southwestern Medical Center at Dallas	4	737,836
21 University of Houston	13	1,740,961
22 University of North Texas	2	213,850
23 UT M.D. Anderson Cancer Center	2	198,790
24 Wiley College	1	198,660
Totals	112	\$15,563,600

NOTE: Joint proposals are counted multiple times -- once for each institution participating in the proposal.
Ninety-five proposals were recommended for funding.

**Norman Hackerman Advanced Research Program
2009 Competition**

Funding Rates by Area

Research Area	(a) Submitted Pre-Proposals	(b) Full Review Proposals	(c) Funded Proposals	(d) Dollar Amount of Funded Proposals	(c÷a) Fund Rate (%) based on pre-proposals	(c÷b) Fund Rate (%) based on full review proposals
Biological Sciences - All Other	563	110	17	\$3,047,549	3.0	15.5
Biological Sciences - Molecular Biology and Genetics	466	108	13	\$2,364,120	2.8	12.0
Chemistry	165	45	9	\$1,640,595	5.5	20.0
Computer Science	194	42	7	\$1,032,000	3.6	16.7
Earth Sciences	76	35	8	\$950,658	10.5	22.9
Engineering - All Other	346	85	9	\$1,675,823	2.6	10.6
Engineering - Electrical and Electronics	187	49	6	\$935,535	3.2	12.2
Materials Science/Nanoscience	234	42	9	\$1,648,104	3.8	21.4
Mathematics	64	24	8	\$1,021,960	12.5	33.3
Physics and Astronomy	92	33	9	\$1,247,256	9.8	27.3
TOTALS	2,387	573	95	\$15,563,600	4.0	16.6

Link to: National Science Foundation (NSF) Success Rates

Link to: National Institutes of Health (NIH) Success Rates

**Norman Hackerman Advanced Research Program
2009 Competition
List of Awards**

Biological Sciences - All Other (Two Collaborations; Two Independent Institutions)

Total Award Amount: \$3,047,549

A Large Scale Search of Novel REGgamma Targets Using Antibody Microarray Technologies		
\$198,710	Baylor College of Medicine	Xiaotao Li, Shixia Huang
A New Approach to Co-Therapy for Breast Cancer		
\$99,360	The University of Texas at Austin	Kevin Dalby
\$99,360	UT M.D. Anderson Cancer Center	Bulent Ozpolat
Algal Biodiversity in Streams: Exploring the Mechanisms of Coexistence Under Resource Limitation		
\$194,780	The University of Texas at Arlington	Sophia Passy
Cellular Mechanisms of Working Memory		
\$198,720	The University of Texas at Austin	Michael Mauk, Daniel Johnston
Developing a Closed-Loop Wireless Stimulating-Recording Device for Pain Treatment		
\$198,622	The University of Texas at Arlington	Yuan Peng
Developing Predictive Toxicity Models Using Nanomaterial Structure-activity Relationships		
\$127,060	Texas A&M University	Christie Sayes, Ivan Ivanov
\$71,660	Texas AgriLife Research	Timothy Phillips
Development of a Novel Antifungal Treatment		
\$196,449	Texas A&M University	Xiaorong Lin
Development of Novel Delivery Systems that Transport Protein-based Drugs Into Live Cells		
\$198,720	Texas AgriLife Research	Jean-Philippe Pellois
Disposition and Action of P450 Metabolites of Arachidonic Acid in Liver Ischemia-Reperfusion Injury		
\$198,720	Texas Tech University Health Sciences Center	Reza Mehvar, Thomas Thekkumkara
Functional Genomics of Cotton Fiber Development in a Chromosomal Substitution Line		
\$198,660	Wiley College	Zhengdao Wu
Genetics of Reproductive Conflict		
\$147,053	University of Houston	Diane Wiernasz
Interacting Roles of Parasitoids and Pathogens in Imported Fire Ant Systems		
\$189,778	The University of Texas at Austin	Lawrence Gilbert
Leptin Protects from Chemically-induced Cell Death		
\$188,898	The University of Texas at El Paso	Kristine Garza

Nitric Oxide Production and Angiogenesis in Thrombin Peptide TP508 Healing of Diabetic Foot Ulcers
\$198,704 The University of Texas Medical Branch at Galveston Darrell Carney

Regulation of Worker Behavior by Queens in Colonies of Red Imported Fire Ants
\$108,799 Texas Tech University Richard Deslippe

Sex Ratio Evolution in the Model Ciliate *Tetrahymena thermophila*
\$74,520 University of Houston Rebecca Zufall

Suppression of Aging and Chronic Kidney Disease by Reducing Intestinal Phosphate Absorption
\$158,976 UT Southwestern Medical Center at Dallas Makoto Kuro-o

Biological Sciences - Molecular Biology and Genetics (No Collaboration; Two Independent Institutions)

Total Award Amount: \$2,364,120

A Systems Approach to Define a Novel Pathway Regulating Autophagy
\$200,000 UT Southwestern Medical Center at Dallas Helmut Kramer

An Evolutionary Model for Cross-species Transmission of Viruses from Rodents to Humans
\$200,000 The University of Texas at Austin Sara Sawyer

Engineering High Affinity, Therapeutic, IgG Antibodies to Heavily Glycosylated Proteins
\$200,000 The University of Texas at Austin George Georgiou

Identifying the Mitochondrial Genetic Contribution to Metabolic Syndrome
\$199,620 Baylor College of Medicine Penelope Bonnen

Mechanism of Serpins Polymerization
\$200,000 UT Health Science Center at San Antonio Pawel Osmulski

Mechanisms by which Loss of the Transcription Factor Bright/ARID3a Induce Pluripotency
\$200,000 The University of Texas at Austin Philip Tucker, Vishwanath Iyer

Molecular Mechanism for the Cation/Sugar Coupling and Selectivity in Melibiose Permease
\$192,500 Texas Tech University Health Sciences Center Lan Guan

Molecular Mechanism of a Performance-Enhancer of Plant Virus Gene Vectors
\$200,000 Texas AgriLife Research Karen-Beth Scholthof

Novel Rho Kinase Inhibitor Therapy for Cardiovascular Disease
\$200,000 University of Houston Robert Schwartz

Purification of a Novel Polycomb-group Protein Complex
\$200,000 Southern Methodist University Richard Jones

Role of Foxo1 in Testicular Stem Cell Maintenance and Differentiation
\$180,000 UT Southwestern Medical Center at Dallas Diego Castrillon

Summer Undergraduate Research in Molecular Medicine
\$107,000 UT Health Science Center at San Antonio Barbara Christy

Ultra-sensitive and Specific Detection of Biomarkers Using Magnetic Immuno-particle Amplification
\$85,000 University of Houston Richard Willson, Ulrich Strych, Ekaterini Kourentzi

Chemistry (Two Collaborations; One Independent Institution)

Total Award Amount: \$1,640,595

Analysis of Neuronal-Network Enhancement Using Microscale Chemical Gradients
\$188,917 The University of Texas at Austin Jason Shear, Richard Morrisett

Block Copolymers with Active Components: Towards the Development of Novel Organic Photovoltaics
\$159,088 The University of Texas at Austin Bradley Holliday, David Vanden Bout
\$39,772 Texas State University - San Marcos Jennifer Irvin

Byproduct-Free Conversion of Renewable Alcohols to Commodity Chemicals: Green Chemistry
\$69,601 The University of Texas at Austin Michael Krische

Chemical Reaction Rates at a Few K
\$198,860 Rice University Philip Brooks

Discovery of Novel Antagonists for Blocking Viral Protein Interactions
\$99,430 The University of Texas at Austin Stephen Martin
\$99,430 UT M.D. Anderson Cancer Center Jian Kuang

Enzyme Catalyzed Halogenation Reactions Using Marine Derived Bacteria
\$198,860 UT Southwestern Medical Center at Dallas John MacMillan, Joseph Ready

Oxidative Carbon-Carbon and Carbon-Heteroatom Bond Formation Via C-H Activation Chemistry
\$188,917 University of Houston Olafs Daugulis

Self-assembly of Collagen Triple Helices and Nanofibrils
\$198,860 Rice University Jeffrey Hartgerink

Understanding Energy Storage and Transport in Well-defined, Nanoscopic Domains
\$198,860 The University of Texas at Austin Richard Crooks, Keith Stevenson

Computer Science (One Collaboration; One Independent Institution)

Total Award Amount: \$1,032,000

Adding Value to Sparse LiDAR Elevation Data
\$150,000 University of North Texas Bill Buckles, Kamesh Namuduri

An Active Approach for Botnet Detection		
\$150,000	Texas Engineering Experiment Station	Guofei Gu
Improving Multi-Core Processor Efficiency by Reducing Memory System Waste		
\$150,000	The University of Texas at San Antonio	Daniel Jimenez
Inter-Agency "Co-opetition" via Hidden Web Databases		
\$50,860	The University of Texas at Arlington	Gautam Das
\$49,570	Texas State University - San Marcos	Ju Gao
\$49,570	The University of Texas at Austin	Joydeep Ghosh
Motion Planning Based Techniques for Modeling and Simulating Molecular Motions		
\$150,000	Texas Engineering Experiment Station	Nancy Amato
Optimize Performance and Lifetime of Embedded Flash-Memory Systems		
\$132,000	The University of Texas at Dallas	Edwin Sha
Robotics Algorithms for Enhancing Computer-Aided Drug Discovery		
\$150,000	Rice University	Lydia Kavraki, Mark Moll

Earth Sciences (One Collaboration; One Independent Institution)
Total Award Amount: \$950,658

Application of Novel Isotopic Techniques to Define Salinity Sources in the Rio Grande		
\$143,827	The University of Texas at El Paso	David Borrok
Corals at the Flower Garden Banks As Monitors of Climatic and Environmental Change		
\$126,508	Texas A&M University	Niall Slowey
Deep Seismic Investigation of a Rifted Margin: Gulf of Mexico to the Llano Uplift, Central Texas		
\$74,138	Baylor University	Jay Pulliam, John Dunbar
\$74,138	Texas Tech University	Harold Gurrola
Estimation of Storage in the Edwards Aquifer via Superconducting Gravimetry		
\$76,806	The University of Texas at Austin	Clark Wilson, John Sharp
Improved Assessment of Texas Air Quality: Aerosol Composition by Raman Microspectroscopy		
\$148,125	Texas A&M University	Sarah Brooks
Improving Hurricane Wind Speed Estimates at Landfall		
\$102,142	Texas Tech University	John Schroeder
Proxy Development in Deep-Sea Corals from the Gulf of Mexico and the Southeastern United States		
\$128,060	Texas A&M University	Erin Roark
The Role of Wet-Dry Cycles in Controlling Geochemistry of Wetland Sediments		
\$76,914	The University of Texas at Austin	Zhanfei Liu

Engineering - All Other (One Collaboration; No Independent Institution)
Total Award Amount: \$1,675,823

Developing an Efficient Column-Free, Protease-Free Protein Purification Technology
\$197,220 Texas Engineering Experiment Station Zhilei Chen

Does Free Heme Enhance the Polymerization of Sickle Cell Hemoglobin?
\$197,220 University of Houston Peter Vekilov

From Human Walking to Bipedal Robotic Walking to Prosthetic Design
\$196,691 Texas Engineering Experiment Station Aaron Ames

Innovative Manufacturing of Light-alloy Structures
\$197,220 The University of Texas at Austin Eric Taleff

Innovative Multi-functional Structural Health Monitoring System for Wind Turbine Blade
\$197,220 University of Houston Gangbing Song

Micro Cooling Systems with Variable Wettability Based on Thermo-Activated Nano Polymeric Coatings
\$197,220 The University of Texas at Austin Alexandre da Silva, Christopher Bielawski,
Carlos Hidrovo Chavez

Noninvasive Detection of Skin Cancer
\$159,110 The University of Texas at Austin James Tunnell
\$38,110 The University of Texas Medical Branch at Galveston Jason Reichenberg

Stent Reliability and Maintenance: Integrating Probabilistic and Physics-of-Failure Models
\$98,610 University of Houston Qianmei Feng

Unpowered Wireless Ultrasound/AE Sensor for Structural Health Monitoring
\$197,202 The University of Texas at Arlington Haiying Huang

Engineering - Electrical and Electronics (Two Collaborations; No Independent Institution)
Total Award Amount: \$935,535

A Framework for Cyber Security Analysis of the Electric Smart Grid
\$193,480 Texas Engineering Experiment Station Deepa Kundur

A New Imaging Tool: Multi-spectral Laser Diffuse Scatter Microscopy
\$100,000 University of Houston Han Le

Low-Cost Microdoppler Radar for Through-The-Wall Imaging of Humans
\$151,149 The University of Texas at Austin Hao Ling
\$38,696 Texas State University - San Marcos Tomas Mijares

Oversampled Filter Banks for Multicarrier Communications with Built-In Error Correction Capabilities
\$116,675 Texas Tech University Tanja Karp

Room Temperature Spin-Field Effect Transistor for Post-CMOS Technologies: a New Spin to Moore's Law
\$145,110 Texas A&M University Jairo Sinova, Alexander Finkelstein

Room-temperature Electrically-Pumped Semiconductor Sources of THz Radiation
\$132,381 The University of Texas at Austin Mikhail Belkin
\$58,044 Texas A&M University Alexey Belyanin

Materials Science/Nanoscience (Two Collaborations; Two Independent Institutions)

Total Award Amount: \$1,648,104

Development of New Semiconductor Materials for Nanoengineered Multi-junction Solar Cells
\$196,460 Texas Tech University Sergey Nikishin, Mark Holtz

Functionalized, Biomaterial-based 3D Scaffolds to Control Stem Cell Signaling and Differentiation
\$196,460 The University of Texas at Austin Krishnendu Roy

High Performance Nanowire Field-Effect Transistors
\$181,726 The University of Texas at Austin Emanuel Tutuc

Hybrid Nanocomposite High-k Dielectric Flexible Films for Semiconductor Applications
\$63,850 University of North Texas Oliver Chyan
\$63,850 The University of Texas at Arlington Richard Timmons
\$68,761 University of Houston Rigoberto Advincula

In Situ Rapidly Forming Biodegradable Hydrogels Mediate Wound Healing
\$196,460 The University of Texas at Arlington Kytai Nguyen

Nanoscale Characterization of Multiferroic Materials
\$91,157 The University of Texas at Austin Alex de Lozanne

Near Infrared Light Activated Nanotherapeutics Using T Cell Assisted Delivery
\$98,230 Rice University Rebekah Drezek
\$98,230 Baylor College of Medicine Aaron Foster

Patterning Nanoscale Arrays by Evaporative Templating
\$196,460 Texas A&M University Paul Cremer

Patterning Semiconductor Surfaces via Chemical Self Assembly for Biomedical and Energy Applications
\$196,460 The University of Texas at Dallas Yves Chabal

Mathematics (Three Collaborations; No Independent Institution)

Total Award Amount: \$1,021,960

Coherent Behavior and Information Coding in Neuronal Networks
\$83,800 University of Houston Kresimir Josic
\$66,200 UT Health Science Center at Houston Valentin Dragoi

Fourier Integral Operation and Its Applications in Synthetic Aperture Radar (SAR) Image Restoration
\$120,600 The University of Texas - Pan American Zhijun Qiao
\$24,100 The University of Texas at Arlington Yue Liu

Image Reconstruction Problems in Tomosynthesis
\$50,000 The University of Texas at Arlington Gaik Ambartsoumian
\$62,000 The University of Texas at El Paso Wei Qian
\$38,000 Texas Tech University Health Sciences Center Daniel Terreros

Mathematical and Numerical Studies of Long Range Order
\$51,800 The University of Texas at Austin Rafael De La Llave

Mathematical Study of Wind Power Generation
\$76,600 Texas A&M University Goong Chen

Morphological Feature Extraction for Fluorescent Confocal 3D-Images of Neurons
\$149,860 University of Houston Emmanouil Papadakis, Demetrio Labate

Moving Boundary Problems in Blood Flow: Analysis, Numerics and Applications
\$150,000 University of Houston Suncica Canic, Roland Glowinski

Numerical Simulation of Carbon Dioxide Sequestration in Geologic Reservoirs
\$149,000 Rice University Beatrice Riviere

Physics and Astronomy (No Collaborations; One Independent Institution)
Total Award Amount: \$1,247,256

A Quantum Beam Splitter for Matter Wave Solitons
\$150,000 Rice University Randall Hulet

Atomic Free Radicals in Nanoclusters Immersed in Superfluid Helium
\$120,000 Texas A&M University David Lee

Discovery of Dark Matter Using High Performance Computing and LHC Data at Texas A&M
\$100,000 Texas A&M University David Toback, Guy Almes

One-dimensional Quantum Liquids - Beyond the Luttinger Liquid Paradigm
\$127,790 Rice University Adilet Imambekov

Quantum Entanglement of Neutral Atoms
\$150,000 The University of Texas at Austin Mark Raizen

Quantum Spin Hall Effect Based on InAs/GaSb Semiconductor
\$150,000 Rice University Rui-Rui Du, Junichiro Kono

Student Support for VENGA: Understanding Galaxy Evolution in the Nearby Universe
\$149,912 The University of Texas at Austin Shardha Jogee, Neal Evans

The Infrared and Bolometric Properties of Type Ia Supernovae: Improving the Standard Candle
\$149,960 Texas A&M University Nicholas Suntzeff

White Dwarf Atmospheres from Computer to Laboratory to Telescope
\$149,594 The University of Texas at Austin Don Winget

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