

NJCSCR 2010



NEW JERSEY COMMISSION ON SPINAL CORD RESEARCH

Annual Report State Fiscal Year 2010



**NEW JERSEY COMMISSION ON
SPINAL CORD RESEARCH**



2010 ANNUAL REPORT

JANUARY 28, 2011



January 28, 2011

The Honorable Chris Christie, Governor
Office of the Governor
State House – P.O. Box 001
Trenton, New Jersey 08625

Dear Governor Christie:

On behalf of the New Jersey Commission on Spinal Cord Research (NJCSCR), its members, staff and the spinal cord injured citizens of New Jersey; it is my privilege to present the Annual Report for Fiscal Year 2010, pursuant to N.J.S.A. 52:9E-4(f).

In 2010 the NJCSCR awarded \$3.6 million, funding four Individual Research grants totaling \$2 million, four Exploratory Research grants totaling \$798,120 and eight Fellowships totaling \$880,000. These projects were carefully selected by a panel of independent scientific experts from forty-nine applications submitted by researchers at New Jersey academic institutions, and approved by vote of the NJCSCR.

The NJCSCR grants often produce the basic research findings necessary to compete successfully for larger NIH and other grants, and help attract talented scientists and students to this exciting and promising field. Each of the funded projects has the potential to contribute significantly to the development of treatments and cures for the paralysis and complications that accompany spinal cord injury.

We wish to thank you, the Department of Health and Senior Services, and the State of New Jersey for your continued support and advocacy of spinal cord injury research.

Respectfully,

Susan P. Howley
Chairperson



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2010 COMMISSION MEMBERS

Susan P. Howley, Chairperson
Cynthia M. Kirchner, M.P.H, Vice-Chair
Peter W. Carmel, M.D.
Robin L. Davis, Ph.D.
John D. Del Colle

ACKNOWLEDGEMENTS

The NJCSCR would like to express its sincere appreciation to all present and past Commission members, and to the New Jersey Department of Health and Senior Services for their expertise, time, and effort.

The NJCSCR also wishes to thank Katherine Hempstead, Director, Office of Injury Surveillance and Prevention, Center for Health Statistics, Department of Health and Senior Services for the spinal cord injury surveillance statistics, and Commission staff members Christine Traynor and Mary Ray for their support.

This report is being submitted in fulfillment of the legislative mandate in the *N.J.S.A. 52:9E-4(f)*. The report describes the implementation of the Spinal Cord Research Act and evaluates the benefit of the Act as evidenced in this report of grant awards for State Fiscal Year 2010.

ADMINISTRATIVE STAFF

Christine Traynor, Administrator
Mary Ray, Fiscal Manager

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EXECUTIVE SUMMARY

The New Jersey Commission on Spinal Cord Research, established in 1999, funds spinal cord injury research projects in New Jersey.

- ❖ ***Since 2001, the New Jersey Commission on Spinal Cord Research (NJCSCR) has awarded over \$31.8 million to individual scientists at six academic and research institutions, and approved 151 separate scientific research projects.***
 - *Since 2001, 102 NJCSCR scientific research projects have been completed.*
 - *Progress made by NJCSCR researchers has been presented in abstracts, scientific conferences, symposia, and meetings.*
 - *NJCSCR programs have enabled wider scientific interaction and research collaborations, many with out-of-state researchers.*
 - *Success in achieving NJCSCR funding has resulted in academic and career advancement for New Jersey researchers, including doctoral dissertations.*
 - *Over 50 applications to NIH, NSF and other organizations based on NJCSCR grants have been made. NJCSCR programs have enabled wider scientific interaction and at least 16 active research collaborations.*

- ❖ ***NJCSCR offered three grant programs in Fiscal Year 2010:***
 - *Individual Research Grants*
 - *Exploratory Research Grants*
 - *Postdoctoral and Graduate Fellowship Grants*

- ❖ ***NJCSCR 2010 Achievements:***
 - *Forty-nine applications requesting \$13.3 million were submitted from four institutions.*
 - *Sixteen awards were made in 2010 totaling \$3.6 million.*
 - *Four Individual Research Grants totaling \$2 million, four Exploratory Research Grants totaling \$798,120 and eight Fellowships totaling \$880,000 were approved.*
 - *Commission outreach efforts continued through attendance and participation in conferences, workshops and symposia.*

NJ Spinal Cord Registry:

- ❖ *NJCSCR supports a central registry of spinal cord injured persons in New Jersey in cooperation with New Jersey Department of Health and Senior Services Center for Health Statistics.*
- ❖ *The database provides resource for research, evaluation, and information on spinal cord injuries.*
- ❖ *All Level 1 trauma centers now collect and submit comprehensive data electronically and soon an on-line system will allow all New Jersey acute care facilities to participate.*



INTRODUCTION



"...an ailment not to be treated..."

- William Smith Surgical Papyri - circa 2500 BC

Spinal cord injury and paralysis has long been regarded as a virtually hopeless diagnosis with a grim prognosis. Only since World War II has the outlook brightened. New approaches to rehabilitation and modern medicines have extended life expectancy from mere months to years and even decades.

Many people with permanent injury now look forward to far more vital and productive lives. More recently, breakthroughs in research and new horizons in the life sciences are moving us closer towards finding cures for spinal cord injuries. This prospect is, however, not yet a reality.

Facts and Figures

- Approximately 6,000 New Jersey residents suffer from traumatic injuries or diseases that damage the spinal cord.
- Nationally, the number of people living with a spinal cord injury totals 1,275,000.*
- Individual medical costs can easily exceed tens or even hundreds of thousands of dollars per year – lifetime costs can be in the millions.
- Nationally, the cost of spinal cord injuries are estimated at \$40.5 billion.*
- Indirect costs are hard to quantify, but place a significant burden on individuals and their families, and on state and local resources. The toll in emotional costs and quality of life is incalculable.

*Source: *One Degree of Separation – Spinal Cord Injury and Paralysis in the United States.*
Christopher & Dana Reeve Foundation, 2009

Spinal cord injury impacts individuals and families across the state and nation. Though young men remain at greatest risk, the number of women and older people suffering spinal cord injury is increasing. Falls, traffic and worksite accidents are the major causes of injuries. Black and Hispanic populations suffer disproportionately.

The economic and human costs of these injuries remain huge. Better therapies are urgently needed and the task of research is more demanding than ever. Paralysis resulting from spinal cord injury may no longer be "an ailment not to be treated," but the search for the answers remains among the greatest challenges to medical science and the healing arts.



NEW JERSEY'S COMMITMENT TO SPINAL CORD RESEARCH

The Spinal Cord Research Act (N.J.S.A. 52:9e-1 et seq.) created the New Jersey Commission on Spinal Cord Research and the New Jersey Spinal Cord Research Fund to support its activities.

New Jersey is a leader in supporting the quest for a cure and repair of spinal cord injuries and paralysis. The New Jersey Commission on Spinal Cord Research, created in 1999 under New Jersey's Spinal Cord Research Act, represents the successful culmination of years of determined effort to enlist New Jersey in the fight.

The NJCSCR provides research grant programs for both established scientists and younger researchers committed to the goals of spinal cord injury research. The Commission also supports the New Jersey Department of Health and Senior Services ("NJDHSS"), Center for Health Statistics ("CHS") in establishing a database of all spinal cord injured patients in New Jersey.

Now in its 11th year of operation, the NJCSCR has funded 151 scientific research projects and supported individual scientists at research institutions around the state. Its impartial and scientifically rigorous application and review process has helped make the NJCSCR vital to New Jersey's best researchers in their pursuit of answers and cures.

THE NEW JERSEY COMMISSION ON SPINAL CORD RESEARCH

The NJCSCR is one of only nine publicly-funded organizations nationwide that, together with the National Institutes of Health, the Centers for Disease Control, the Veterans' Administration and a few other entities, provide the essential support for the research and learning needed to find the long-sought-for solutions for this devastating and so far incurable injury.

Created as a semi-independent public body, the NJCSCR is "...allocated in, but not of..." the NJDHSS. It is subject to all the administrative rules and procedures of NJDHSS, but is not a part of the Department and is not included in its budget.

The Commission establishes and oversees the operations of the grants process and other activities that are implemented by its administrative staff. Eleven uncompensated Commissioners are appointed by the Governor with the advice and consent of the Senate, and serve for three-year terms.

Five Commission seats are designated by statute to represent the state's major academic research institutions and stakeholders. Public members provide a diversity of backgrounds and interests united by a shared commitment to the cause of spinal cord research. Any qualified person wishing to be considered for appointment may submit his or her name to the Governor's Office of Appointments. The Commission will always have one or more individuals from each of the following institutions and categories:

- *The Commissioner of the NJDHSS, or designee (voting ex-officio member)*



- *University of Medicine and Dentistry of New Jersey*
- *Rutgers, The State University of New Jersey*
- *Spinal Cord Injury Model System (Kessler Foundation Research Center)*
- *Christopher & Dana Reeve Foundation (American Paralysis Foundation)*
- *Public Members (at least one spinal cord physician and a spinal cord injured individual)*

The NJCSCR holds public meetings at least four times a year. Two-thirds of sitting members constitutes a quorum for all purposes. Members are recused from discussing or voting on matters in which they may have a potential conflict. A Chair and Vice-Chairperson are elected annually and preside over all formal proceedings.

The NJCSCR also maintains standing committees that meet and provide an informal structure to discuss issues and proposals on an *ad hoc* basis in advance of presenting them to the full Commission.

ADMINISTRATION

The NJCSCR's administrative office provides the vital linkages and machinery that implement the NJCSCR's programs and ensure the integrity of its operations. The Executive Director and office staff manage the NJCSCR's day-to-day operations, including program administration, interaction with applicants and grantees, contract administration, budgeting and financial matters, record-keeping and reporting.

The office schedules and facilitates all NJCSCR activities, manages the scientific merit review process, negotiates with outside vendors, and maintains the necessary relationships within state government.

The Executive Director, through outreach and other activities on behalf of NJCSCR, serves as its main spokesperson and liaison with NJDHSS, other state entities, outside institutions and third parties. The Executive Director is also responsible for monitoring, measuring, and reporting on NJCSCR performance and activities.

NEW JERSEY SPINAL CORD RESEARCH FUND

The work of the NJCSCR is supported entirely by a statutory one dollar surcharge on all traffic and motor vehicle fines or penalties. Similar sources of funding have been implemented successfully by several other jurisdictions – vehicular accidents are a significant cause of spinal cord injury.

Revenue is collected by the State Treasurer for deposit into the New Jersey Spinal Cord Research Fund. The NJCSCR funds all its grant programs and other activities entirely from this dedicated source. No part of the NJCSCR's operating budget is paid for out of New Jersey's general tax revenue.



MISSION AND GOALS

The New Jersey Commission on Spinal Cord Research implements the commitment of New Jersey to the international quest for cures for catastrophic spinal cord injuries. Through its grants programs and related activities, the NJCSCR reinforces New Jersey's preeminence as a center of biomedical research and a leader in neuroscience, neurotrauma and spinal cord research.

- *The NJCSCR supports meritorious research projects that advance the understanding of spinal cord injury and explore potential therapeutic strategies.*
- *The NJCSCR supports the progression of research from laboratory to animal and clinical applications.*
- *The NJCSCR programs enhance the reputation of New Jersey as a focus of research and increases its attractiveness to researchers and business.*

OBJECTIVES

The NJCSCR seeks to accelerate research that will deepen our understanding of spinal cord injury and open the way to interventions and cures for paralysis and associated conditions. The NJCSCR has identified the following objectives:

- *Advance the field of spinal cord research in New Jersey by encouraging established scientists to apply their expertise to spinal cord research.*
- *Foster collaborative, interdisciplinary approaches to spinal cord research.*
- *Nurture future generations of spinal cord researchers by supporting young scientists and postdoctoral fellows.*
- *Prevent or treat secondary biological conditions resulting from spinal cord injury.*
- *Promote dissemination of the research findings generated by scientists supported by the NJCSCR.*



RESEARCH FUNDING PRIORITIES

The ***NJCSCR Research Guidelines*** set forth the Commission's scientific agenda, research criteria and areas of particular interest. They offer applicants detailed guidance and instruction on funding criteria and policies. The full text appears on the NJCSCR website: www.state.nj.us/health/spinalcord.

NJCSCR currently offers an array of grant programs including Individual Research Grants, Fellowships, and Exploratory Research Grants. Each of these programs is designed to support and encourage



spinal cord research in New Jersey in a unique way. The NJCSCR is continually evaluating its programs and seeking ways to improve performance and results.

The NJCSCR Research Guidelines

The New Jersey Commission on Spinal Cord Research will fund research activities that hold promise of developing effective interventions and cures for paralysis and other consequences of spinal cord injury and disease. The areas of research listed below highlight the focus of current NJCSCR emphasis and funding:

- *Studying strategies to promote neuronal growth and survival, encourage the formation of synapses, enhance appropriate myelination, restore axonal conduction, replace injured cells, or otherwise improve function after spinal cord injury.*
- *Evaluating efficacy of drugs and other interventions that prevent or reduce secondary neuronal injury or providing insight into the mechanisms causing progressive damage.*
- *Defining anatomical characteristics of spinal cord injury or disease in well-defined animal models and in the human spinal cord, specifically documenting the cellular systems vulnerable to injury or disease and the functional losses which occur as a result thereof.*
- *Elucidating biological or physical mechanisms underlying approaches to improve functions compromised by spinal cord injury, e.g., bladder, bowel, and sexual function, and alleviate chronic pain, spasticity, and severe hypertension.*
- *Developing strategies to prevent or treat secondary complications arising from injury or disease to the spinal cord.*
- *Developing innovative restorative rehabilitation strategies to promote recovery of biological function.*
- *Translating basic and pre-clinical findings into clinical application.*
- *Supporting the investigation of promising new approaches.*

OTHER ACTIVITIES

The NJCSCR is engaged in activities that promote awareness and interest in spinal cord injury and opportunities for research.

The NJCSCR supports the efforts of the New Jersey Department of Health and Senior Services Center for Health Statistics under a Memorandum of Agreement to establish a "*Spinal Cord Injury Registry*" - a centralized data base of a standardized data set collected and submitted by each treating hospital on each new case of spinal cord injury in New Jersey.

Such a registry is mandated by statute as a resource for research, evaluation, and information on spinal cord injuries. CHS provides an annual report on spinal cord injury in the state as well as periodic updates to the NJCSCR.



THE NJCSCR APPLICATION AND REVIEW PROCESS

The NJCSCR grants review process was designed to emulate National Institutes of Health standards and procedures to provide an impartial and rigorous review. This effort has been largely successful and has earned respect from grantees and applicants. The NJCSCR application process is now entirely electronic utilizing the *New Jersey System for Administering Grants Electronically* (NJSAGE) grants management system, and is accessible through the NJCSCR website.

The on-line process ensures broad access, convenience and flexibility, and greatly reduces administrative workloads for applicants, the NJCSCR office, and the Scientific Merit Review Panel.

The NJCSCR administrative staff reviews all applications for completeness and accuracy and assists applicants in correcting errors or omissions.

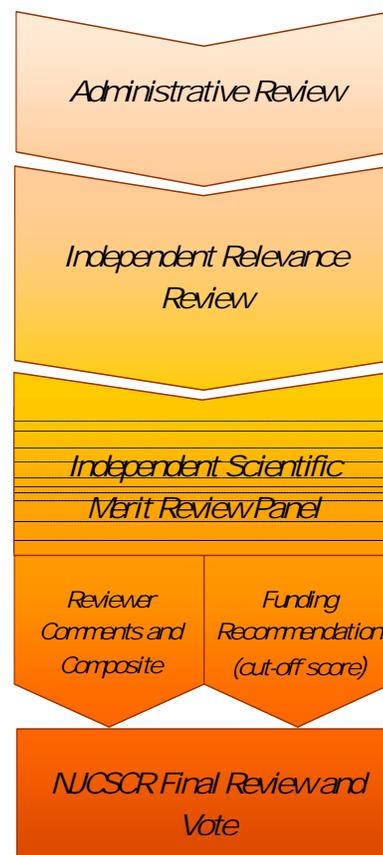
Relevance to the overall goals of the NJCSCR is assessed by an expert panel who also recommend reviewers for each grant from a pool of over 100 highly qualified scientists.

Each application is reviewed and scored independently by two or three peers prior to discussion at the Scientific Merit Review Panel meeting; “triaged” applications are not discussed or scored.

The remaining applications are fully discussed and scored by the entire panel and given a composite score. The panel also suggests a cut-off point for funding. The scores, comments and funding recommendations are delivered to the NJCSCR for final consideration and vote.

The NJCSCR makes the final decision whether to fund each application by majority vote. The Commissioners pay close attention to the results of the Independent Scientific Merit Review, but retain discretion to take other factors into consideration in judging the merit of each application. Any application that was scored and not funded may be resubmitted with appropriate changes in the next grant cycle.

All applicants, regardless of the decision, receive “blinded” reviewer comments. These are often valuable and may help a researcher rethink a project or reframe a future application.



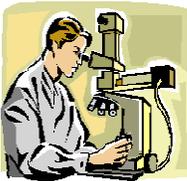


CURRENT GRANT PROGRAMS

NJCSCR grant programs are designed to provide opportunities attractive to a wide range of researchers. The Individual Research grant is designed to fund senior independent researchers, while Fellowship grants offer encouragement to graduate students and post-doctoral researchers, and the Exploratory Research grant enables researchers to apply innovative ideas from other areas of science to spinal cord injury and repair in order to acquire preliminary data and successfully apply for larger grants from the NJCSCR, National Institutes of Health, and elsewhere.

Inter-institutional and/or inter-state collaboration is strongly encouraged. Complete details on all NJCSCR programs are available on-line.

Individual Research Grants



- *Individual Research Grants support senior scientists to explore meritorious novel scientific and clinical ideas.*
- *Up to \$600,000 for up to three years (\$200,000 per year)*
- *Key goal is to enable established researchers to test and develop pilot data needed for future funding.*

Fellowship Grants

- *Postdoctoral and Graduate Student Fellowships engage promising young investigators in spinal cord research.*
- *All fellowships include an annual stipend, research allowance and travel budget.*
- *Post-doctoral Fellowships run for three years with a total award of \$150,000; (\$50,000 per annum)*
- *Graduate Fellowships run for two years with a total award of \$60,000 (\$30,000 per annum)*



Exploratory Research Grants



- *Enable independent investigators to apply their specific expertise to spinal cord research.*
- *Develop preliminary data needed to justify higher levels of funding.*
- *Apply innovative ideas from other areas to spinal cord research.*
- *Encourage inter-institutional and/or inter-state collaborations.*
- *Up to \$200,000 for a two-year non-renewable grant.*



2001-2010 NJCSCR SUMMARY AND PERFORMANCE RECORD

Since 2001, the New Jersey Commission on Spinal Cord Research has funded 151 separate scientific research projects to scientists at six academic and research institutions. These awards represent an investment in spinal cord injury research of \$31.8 million.

The NJCSCR receives over 50 applications annually, approving 20 or more new awards, totaling between \$2.5 and \$3.5 million.

As the NJCSCR continues to invest in spinal cord research, the number of New Jersey researchers interested in the field is growing. The NJCSCR has been successful in attracting large numbers of new applicants to its programs every year.

First-time applicants represent a significant majority of applications received by the NJCSCR each year. These applications are an indication of the continued interest generated by the NJCSCR in participating in spinal cord research.

Grant Applications

The NJCSCR has received 439 applications from professors, post-doctoral fellows, and graduate students at 14 New Jersey research institutions which cumulatively total \$117.4 million in grant requests.

The NJCSCR has explored a range of grant programs that provide opportunities for both very senior and younger researchers, and larger programs for establishing new spinal cord research facilities and support for professorships.

Applications for Individual Research grants typically account for about two-thirds of the total. Interest in both the Fellowship and Individual Research grant programs is historically strong. Fellowships offer the advantage of engaging the greatest number of scientists in spinal cord research for the least cost.

Grant Funding

The NJCSCR has an overall funding rate of approximately 35%. This rate is consistent with its goals of advancing spinal cord research, encouraging New Jersey scientists to get involved in the field, and funding the exploratory and pilot research often needed to obtain larger grants from sources such as National Institutes of Health (“NIH”) and the National Science Foundation.

NJCSCR Individual Research Project grants awarded to established investigators are the mainstay of spinal cord research in New Jersey. These projects aim at advancing the field in significant ways and are most productive as measured by publications and applications for additional funding.



The NJCSCR is also committed to bringing new researchers and promising students into the field as well. Its programs of graduate and post-doctoral Fellowships have been a success, in both numbers and the quality of applicants.

The Fellowship program is the NJCSCR's most cost-effective initiative, as measured by the number of researchers supported per grant dollar. The Individual Research grants generally support work of greater sophistication and potential importance.

New Jersey Qualified Research Institutions

Under The Spinal Cord Research Act, NJCSCR funds may only go to researchers affiliated with "***New Jersey Qualified Research Institutions***" ("NJQRIs".)

Five institutions are named in the Spinal Cord Research Act and nine others have been designated by the NJCSCR. These organizations provide a continuing source of interest and applications for NJCSCR funds.

Statutory NJQRIs

Rutgers, The State University of New Jersey
University of Medicine and Dentistry of NJ
Kessler Foundation Research Center
Princeton University
Coriell Institute

NJCSCR Designated NJQRIs

New Jersey Institute of Technology
Veteran's Biomedical Research Institute
Stevens Institute
Drew University
JFK Medical Ctr. NJ Neuroscience Institute
Progenitor Cell Therapy, LLC
Seton Hall University
Wyeth Research
TRIM-edicine, Inc.

Institutional Performance

Interest in NJCSCR programs has been broad-based in both public and private universities and within each institution - over 33 academic departments have applied for funds from 14 New Jersey institutions.

Of the 439 applications received by the NJCSCR thus far, 203 have been submitted by researchers at Rutgers (all campuses) – followed by 146 for the UMDNJ system.

An additional 90 applications were submitted from 11 other institutions around the state, including Princeton University, Kessler Foundation Research Center and the New Jersey Institute of Technology.

The public universities, Rutgers and UMDNJ, have benefited substantially from NJCSCR grants, these institutions have become the center of gravity for spinal cord research in the New Jersey.



Other academic and research institutions have also benefited. A new spinal cord research facility was established at New Jersey Institute of Technology through a grant from the NJCSCR. Researchers from Princeton have been successful applicants, with 50% of its proposals approved for funding.

Results and Achievements

Cure of spinal cord injury remains an elusive and frustrating goal. Years of intensive research and the investment of millions of dollars by NJCSCR and other organizations still leave much work to be done.

NJCSCR grantees and, to a lesser extent, grantee institutions have capitalized on the opportunities afforded by the availability of Commission funding through advancement of individual careers, increased institutional investment, and applying for additional outside funding. The NJCSCR has been a major factor in fostering this interest and continued involvement in spinal cord research within the State of New Jersey.

The NJCSCR continues to pursue its mission, encouraging and supporting spinal cord research in New Jersey. Many of its researchers can point to significant accomplishments.

- *Since 2001, NJCSCR has awarded 151 scientific research projects, of which 102 are now completed.*
- *Over 80 scientific articles reporting on work funded by NJCSCR have appeared in peer-reviewed scientific publications, and additional articles are in preparation.*
- *Progress made by NJCSCR researchers has been presented in numerous abstracts, scientific conferences, symposia, and meetings.*
- *NJCSCR programs have enabled wider scientific interaction and research collaborations, many with out-of-state researchers.*
- *Success in achieving NJCSCR funding has resulted in academic and career advancement for New Jersey researchers, including doctoral dissertations.*
- *Over 50 applications to NIH, NSF and other organizations have been submitted, based in part on work funded by NJCSCR grants.*

The NJCSCR is committed to broadening its portfolio of institutional grantees and increasing the size and diversity of its funding activities. Through outreach activities, the NJCSCR encourages participation by all research organizations with an interest in spinal cord research.



2010 NJCSCR YEAR IN REVIEW

2010 Spinal Cord Research Grants Program

The NJCSCR awarded sixteen applicants a total of \$3.6 million dollars in 2010. Four Individual Research grants, eight Fellowships and four Exploratory Research grants were funded after a careful review of the 49 applications submitted.

The NJCSCR authorized one grant cycle for Fiscal Year 2011 offering Individual Research grants, Fellowship grants and Exploratory Research grants. Announced in August 2010, the NJCSCR reserved up to six million dollars for spinal cord research projects.

2010 Applications

2010 saw the New Jersey Commission on Spinal Cord Research in its 11th year of operation and its 15th cycle of grants. 49 applications were submitted with requests for funds totaling nearly \$13.5 million.

2010 Outreach and Development Efforts

NJCSCR maintains an ongoing interest in expanding spinal cord injury research in New Jersey. Direct contacts, attendance at events and meetings, plus website and publication resources are some of the resources used to publicize NJCSCR grant opportunities throughout the state.

Publication of Grant Programs

Official Notices of Grant Availability advise interested parties of NJCSCR grant programs. These are published in the *New Jersey Register* and in the New Jersey Department of Health and Senior Services *Directory of Grant Programs*.

In 2010, the NJCSCR offered two grant cycles, 2010B and 2010A. The NJCSCR has allocated up to six million dollars for spinal cord research projects in 2010, but is not required to award any, or all of that amount.

2010 B Grant Cycle

Grant Application Deadline: June 8, 2009

Award Notification Date: November 30, 2009

- *Individual Research Grants*
- *Exploratory Research Grants*
- *Fellowship Grants*



2010 A Grant Cycle

Grant Application Deadline: December 8, 2009

Award Notification Date: June 1, 2010

Available Grant Programs:

- *Individual Research Grants*
- *Exploratory Research Grants*
- *Fellowship Grants*

GRANTS PROGRAM FOR 2011

For Fiscal Year 2011, the NJCSCR has allocated up to six million dollars for spinal cord injury research projects. The NJCSCR offered one grant cycle during Fiscal Year 2011.

2011 Grant Cycle

Grant Application Deadline: December 8, 2010

Award Notification Date: June 1, 2011

Available Grant Programs:

- *Individual Research Grants*
- *Exploratory Research Grants*
- *Fellowship Grants*



NEW JERSEY SPINAL CORD INJURY REGISTRY

The Spinal Cord Research Act mandates the establishment and maintenance of a central registry of persons who sustain spinal cord injuries throughout the State. NJCSCR has been supporting the work of the NJDHSS' Center for Health Statistics to create the mechanism for the collection and analysis of spinal cord injury data.

The registry will serve as a resource for research, evaluation, and information on spinal cord injuries. CHS publishes an annual report providing data on spinal cord and brain injury in New Jersey.

The table below summarizes data collected by CHS on non-fatal hospitalizations for spinal cord injury in New Jersey for the years 2007 – 2009.

	2007 - 2009	
<u>GROUPS</u>		
<u>SEX</u>	<u>n</u>	<u>Rate</u>
Males	781	6.2
Females	349	2.3
<u>AGE</u>	<u>n</u>	<u>Rate</u>
Under 15 Years	21	0.4
15-24 Years	179	5.4
25-44 Years	235	3.3
45-64 Years	352	5.0
65 Years and Older	343	9.9
<u>RACE & ETHNICITY</u>	<u>n</u>	<u>Rate</u>
White Non-Hispanic	673	3.6
Black Non-Hispanic	216	6.3
Hispanic	135	3.5
Asian/Pacific Islander	31	2.3
Other Race/Ethnicity	75	---
<u>MECHANISM</u>	<u>n</u>	<u>%</u>
All Vehicular	267	23.6
Falls	496	43.9
All Other Injuries	367	32.4



FINANCIAL STATEMENTS

The activities and programs of the NJCSCR are supported by the New Jersey Spinal Cord Research Fund as established by the Act. A one dollar (\$1.00) surcharge is imposed on all fines or penalties levied under the provisions of Title 39 of the Revised Statutes or any other motor vehicle or traffic violation. The revenue surcharge is collected and forwarded to the State Treasurer and deposited annually in an interest-bearing account designated as the New Jersey Spinal Cord Research Fund.

The Fund opened FY 2010 with a balance of \$9 million. Disbursements and expenses for FY 2010 were \$9.1 million. The Fund closed the year with a balance of \$3.7 million.

The NJCSCR is committed to granting a substantial majority of the Fund each year to support as much meritorious research as possible, while retaining the ability to meet expenses. FY 2011 disbursements to grantees of \$6.03 million and expenses of \$566,920 are projected for budgeting purposes.

FUND BALANCE STATEMENT:			
	SFY 2010 <i>Projected</i>	SFY 2010 <i>Actual</i>	SFY 2011 <i>Projected</i>
Opening Fund Balance (July 1)	\$9,033,344	\$9,033,334	\$3,733,009
Revenues			
Assessments ¹	\$4,000,000	\$3,857,889	\$3,600,000
Investments Earnings - Interest ²	\$75,000	\$34,786	\$32,000
Total Revenue:	\$4,075,000	\$3,892,675	\$3,632,000
Total Funds Available	\$13,108,344	\$12,926,009	\$7,365,009
Disbursements and Expenses			
Spending Plan Reduction		\$5,150,000	
Disbursements to Grantees	\$6,030,000	\$3,696,500	\$6,030,000
Total Disbursements	\$6,030,000	\$8,846,500	\$6,030,000
Expenses			
Administrative & Office expense	\$466,918	\$309,500	\$466,920
Professional Review Panel	\$55,000	\$35,000	\$50,000
NJCSCR Registry	\$50,000	\$2,000	\$50,000
Total Expenses	\$571,918	\$346,500	\$566,920
Total Disbursements and Expenses	\$6,601,918	\$9,193,000	\$6,596,920
Closing Fund Balance (June 30)	\$6,506,426	\$3,733,009	\$768,089
¹ Net revenue variance			
² Funds plus interest deposited annually in Jan.			



2010 RESEARCH GRANT AWARDS

INDIVIDUAL RESEARCH GRANT RECIPIENTS:

James Millonig, Ph.D.

University of Medicine & Dentistry New Jersey - Robert Wood Johnson Medical School

Grant Award: \$600,000

Proposal Title: *Orphan GPCR, Gpr161, A Regulator of Spinal Cord Development*

Li Cai, Ph.D.

Rutgers, The State University of New Jersey - Biomedical Engineering

Grant Award: \$600,000

Proposal Title: *Non-Coding DNA Sequence in Oligodendrocyte Development*

Jonathan Eggenschwiler, Ph.D.

Princeton University - Molecular Biology

Grant Award: \$400,000

Project Title: *The Role of Trpm6 in Shh Signaling and Neural Cell Identity*

Michael Matisse, Ph.D.

University of Medicine & Dentistry New Jersey – Robert Wood Johnson Medical School

Grant Award: \$400,000

Project Title: *Signaling Pathways Regulating Axon Remyelination*

EXPLORATORY RESEARCH GRANT RECIPIENTS:

Bharat Biswal, Ph.D.

University of Medicine & Dentistry New Jersey - New Jersey Medical School

Department of Radiology

Grant Award: \$198,120

Project Title: *Altered Brain Connectivity in SCI Patients using Fmri*

Patricia Buckendahl, Ph.D.

Rutgers, The State University of New Jersey - Center of Alcohol Studies

Grant Award: \$200,000

Project Title: *Role of Osteocalcin in Spinal Cord Injury*

Lei Yu, Ph.D.

Rutgers, The State University of New Jersey - Genetics & Center of Alcohol Studies

Grant Award: \$200,000

Project Title: *Spinal Cord SIP30 Mediates Injury-Induce Neuropathic Pain*

Prabhas Moghe, Ph.D.

Rutgers, The State University of New Jersey - Biomedical Engineering

Grant Award: \$200,000

Project Title: *Nanobioactive Scaffolds for Management of Spinal Cord Injury*



FELLOWSHIP GRANT RECIPIENTS:

Robert O'Hagan, Ph.D.

Rutgers, The State University of New Jersey - Human Genetics Institute

Grant Award: \$150,000

Project Title: *The NNA-1 Carboxypeptidases and C. Elegans Neuroregeneration*

Jeffrey Fox

Rutgers, The State University of New Jersey - Chemical & Biochemical Engineering

Grant Award: \$60,000

Project Title: *Optimized Synergistic Cues to Facilitate Spinal Cord Repair*

Eunchan Park, Ph.D.

Rutgers, The State University of New Jersey - Waksman Institute

Grant Award: \$150,000

Project Title: *Neuronal Signaling in Response to Hypoxia*

Kurt Gibbs, Ph.D.

Rutgers, The State University of New Jersey - W.M. Keck Ctr. Collaborative Neuroscience

Grant Award: \$150,000

Project Title: *The Effects of mir-133 on Functional Recovery after SCI*

Jeffrey Barminko

Rutgers, The State University of New Jersey - Biomedical Engineering

Grant Award: \$60,000

Project Title: *Encapsulated Mesenchymal Stem Cells for Spinal Cord Injury*

Gary Monteiro

Rutgers, The State University of New Jersey - Biomedical Engineering

Grant Award: \$100,000

Project Title: *Bimodal Delivery of L1 for Spinal Cord Regeneration*

Aruni Singamkutti Arachchige Don, Ph.D.

University of Medicine & Dentistry New Jersey - Robert Wood Johnson Medical School

Grant Award: \$150,000

Project Title: *Molecular Mechanisms of mTOR-mediated Axonal Outgrowth*

Neeraja Syed

Rutgers, The State University of New Jersey - Biological Sciences

Grant Award: \$60,000

Project Title: *Promoting Myelination on Adult Axon by Soluble Neuregulin-1*

