

Empire State Stem Cell Board
Funding Committee Meeting Minutes
December 18, 2008

The Empire State Stem Cell Board Funding Committee held a meeting on Thursday, December 18, 2008, at the Department of Health offices, 90 Church Street, New York, New York. Commissioner Richard F. Daines, M.D., presided as Chairperson.

Funding Committee Members Present:

Dr. Richard F. Daines, Chairperson
Mr. Kenneth Adams
Dr. Bradford Berk
Dr. Richard Dutton
Mr. Robin Elliott
Dr. Gerald Fischbach
Dr. Bruce Holm
Dr. Hilda Hutcherson
Dr. Michael Stocker
Ms. Madelyn Wils

Funding Committee Members Absent:

Dr. David Hohn (*participating in part by telephone*)
Dr. Harold Varmus (*participating in part by telephone*)

Department of Health Staff Present:

Dr. David Anders
Ms. Bonnie Brautigam
Dr. Kathy Chou
Mr. Thomas Conway
Ms. Judy Doeschate
Dr. Matthew Kohn
Ms. Amy Nickson
Ms. Lakia Rucker
Dr. Lawrence Sturman
Ms. Mary Szesnat

Observers Present:

Ms. Catharine Crea
Mr. Robert Feldman
Ms. Elaine Marchi

Opening Remarks and Introductions

Chairman Daines called the meeting to order and welcomed Board members, staff, and the public. He then asked members and staff to introduce themselves and provide their title and affiliation.

Approval of Minutes for the November 6, 2008 Meeting of the Funding Committee

Dr. Daines directed members to the draft minutes for the November 6, 2008, meeting of the Funding Committee found under tab 1 in their agenda books. He then asked for a motion to approve the draft minutes. Dr. Holm so moved and Mr. Adams seconded the motion. The motion passed unanimously.

Motion to Convene in Executive Session

Dr. Daines stated that the Committee needed to move into executive session to discuss the evaluations of the applications submitted in response to the Request for Applications (RFA) for funding of Targeted Investigation of Induced Pluripotent Stem (iPS) Cells and Other Derivation Approaches and Investigator-Initiated Research Awards that were issued in May. He asked for a motion to go into executive session. Dr. Stocker so moved and Dr. Hutcherson seconded the motion. The motion passed unanimously.

Dr. Daines then asked members of the public and non-essential staff to leave the room. He advised them that they were welcome to return when the Committee reconvened in public session at about 1:15 p.m. or later.

Executive Session

Dr. Daines advised the Committee that several members would need to be recused for discussion of various applications, but that he would first turn the floor over to Dr. Sturman to provide members with information about the evaluation process.

Dr. Sturman and Ms. Brautigam reminded members of the evaluation criteria they approved for inclusion in the two RFAs and provided members with information about the peer review evaluation process. The Committee was then provided with specific information relating to the applications for Targeted Investigation of iPS and other Derivation Approaches while members who were identified as having a potential conflict of interest left the room during consideration of those applications. The Committee then took up discussion of the applications submitted for funding of Investigator-Initiated Research Awards while members who were identified as having a potential conflict of interest left the room during discussion of those applications.

Upon completion of the discussion of the applications, Dr. Daines asked for a motion to adjourn the executive session and reconvene in public session. Dr. Stocker so moved and Dr. Holm seconded the motion. The motion passed unanimously.

Approval of Targeted Research Award Recommendations

Dr. Daines advised the Committee that the next item on the agenda was the recommendation of awards for applicants who responded to the RFA for funding of Targeted Investigation of iPS and other Derivation Approaches. Dr. Daines noted that due to the current fiscal crisis and in keeping with Governor Paterson's budget bulletin, no awards will be final until approved by the State Division of the Budget and the Office of the Director of State Operations. Dr. Daines also noted that the applications were reviewed by a panel of independent experts from outside of New York State and that summaries of the reviews were shared with the Funding Committee and discussed in executive session.

Dr. Sturman and Ms. Brautigam provided a brief overview of the evaluation criteria and the evaluation process. Dr. Daines then advised members that they would first act on recommendations for the Targeted Investigation of iPS and Other Derivation Approaches – Innovative, Developmental or Exploration Activities (IDEA) Awards for which Committee members had not declared a conflict of interest. They would then take up the applications for which members of the Committee had identified a conflict of interest individually, so that members with a conflict would be able to recuse themselves during consideration of those applications. Dr. Daines then asked Dr. Sturman to read the list of applicants for which no conflicts of interest exist, the amount of the recommended awards, and whether staff recommended that the awards be subject to additional contingencies. Dr. Sturman noted that there were no contingencies for any of the applications submitted in response to this RFA and read the recommended awards as follows:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Evans, Todd	Albert Einstein College of Yeshiva University	N08T-018	Stem Cell Activity and Human Longevity	\$240,000
Schimenti, John, PhD	Cornell University	N08T-064	Genetic background and efficient generation of induced pluripotent stem (iPS) cells	\$228,840
Salero, Enrique, PhD	Regenerative Research Foundation	N08T-061	Human Retinal Pigment Epithelial Multipotent Cells	\$240,000

Dr. Stocker then moved to recommend approval of these awards in the amounts recommended by staff. Dr. Holm seconded the motion. The motion passed unanimously.

The Committee then considered the following applications while Dr. Fischbach and Dr. Hutcherson recused themselves and left the room:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Wang, Timothy C., MD	Columbia University New York	N08T-074	Induced Pluripotent Stem (iPS) Cells Derived from Mesenchymal Stem Cells	\$240,000
Lu, Jonathan T., MD PhD	Columbia University Medical Center	N08T-034	The Development of Patient-Specific Cardiomyocytes Differentiated from Induced Pluripotent Stem Cells (iPS Cells)	\$240,000

Dr. Dutton then moved to recommend approval of these awards in the amounts recommended by staff. Dr. Stocker seconded the motion. The motion passed unanimously.

The Committee then considered the following application while Dr. Daines and Dr. Holm recused themselves and left the room.

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Pruitt, Steven C.	Roswell Park Cancer Institute	N08T-056	Replication Errors in Hematopoietic Stem Cells	\$240,000

Dr. Dutton then moved to recommend approval of the award in the amount recommended by staff. Mr. Elliott seconded the motion. The motion passed unanimously.

Dr. Daines then advised members that they would be acting on the applications for the Targeted RFA for Investigation of iPS and Other Derivation Approaches – Investigator-Initiated Research Projects (IIRP) Awards for which Committee members had not declared a conflict of interest and then take up the applications for which members of the Committee had identified a conflict of interest, so members could recuse themselves as needed. Dr. Daines then asked Dr. Sturman to read the list of applicants for which no conflicts of interest exist and the amount of the recommended awards. Dr. Sturman provided the following information:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Lemischka, Ihor	Mount Sinai School of Medicine	N08T-032	Analyses of Pluripotency in Reprogrammed iPS Cells	\$1,080,000
Bouhassira, Eric	Albert Einstein College Of Medicine	N08T-006	Characterization of iPS using a novel high throughput replication timing assay	\$971,489
Ghaffari, Saghi	Mount Sinai School of Medicine	N08T-022	Using a Novel Regulator of hES Cell Pluripotency in Generating iPS Cells	\$1,080,000
Gelb, Bruce D.	Mount Sinai School of Medicine	N08T-020	Noonan Syndrome and Related Disorders: Stem Cells and RAS Pathway Signaling	\$1,079,937
Moll, Ute M., MD	The Research Foundation of SUNY - Stony Brook University	N08T-040	In vivo assessment of tumorigenic potential of iPS-inducing transcription factors in mouse models	\$1,076,309
Bishop, David F., PhD	Mount Sinai School of Medicine	N08T-004	Congenital Erythropietic Porphyria: Evaluation of iPS Cells for Murine and Human Therapy	\$1,080,000
Sadelain, Michel, MD, PhD	Memorial Sloan Kettering Cancer Center	N08T-060	Exploring human iPS cells for the hematopoietic and genetic correction of B-thalassemia	\$1,080,000
Tabar, Viviane	Memorial Sloan Kettering Cancer Center	N08T-070	In vivo function of human iPS derived neural precursors	\$1,068,031
Temple, Sally, PhD	Regenerative Research Foundation	N08T-072	Human RPE and induced pluripotent stem cells for Parkinson's Disease	\$1,000,000

Dr. Hutcherson moved to recommend approval of these awards in the amounts recommended by staff. Dr. Stocker seconded the motion. The motion passed unanimously.

The Committee then considered the following applications while Dr. Fischbach and Dr. Hutcherson recused themselves and left the room:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Wichterle, Hynek	Columbia University Medical Center	N08T-075	Human iPS cells as a model to study ALS pathogenesis	\$1,080,000
Abeliovich, Asa	Columbia University	N08T-002	Intracellular signaling cascades in iPS reprogramming	\$1,080,000
Abeliovich, Asa	Columbia University	N08T-001	Human iPS cell-based models for neurodegeneration	\$1,080,000

Mr. Elliott moved to recommend approval of these awards in the amounts recommended by staff. Mr. Adams seconded the motion. The motion passed unanimously.

The Committee then considered the following application while Dr. Berk recused himself and left the room:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Goldman, Steven A., PhD	University of Rochester Medical Center	N08T-023	iPS Cell Therapy for Diseases of Adult Acquired Demyelination	\$1,047,974

Dr. Holm moved to recommend approval of this award in the amount recommended by staff. Dr. Stocker seconded the motion. The motion passed unanimously.

The Committee then considered the following applications while Dr. Holm recused himself and left the room:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Feng, Jian, PhD	The Research Foundation of SUNY on behalf of the University at Buffalo	N08T-019	Using Improved iPS Derivation and Differentiation Methods to Study Parkinson's Disease	\$1,080,000

Dr. Hutcherson moved to recommend approval of the award in the amount recommended by staff. Dr. Stocker seconded the motion. The motion passed unanimously.

Approval of Investigator-Initiated Research Award Recommendations

Dr. Daines then advised members that they would be acting on the applications for the generic investigator-initiated IDEA awards for which Committee members had not declared a conflict of interest and then take up the applications for which members of the Committee had identified a conflict of interest so members could recuse themselves as

needed as they had for the prior RFA. Dr. Daines then asked Dr. Sturman to read the list of applicants for which no conflicts of interest exist, the amount of the recommended awards and whether staff recommended the awards be subject to additional contingencies. Dr. Sturman then provided the following information regarding the recommended awards:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Hernando, Eva PhD	New York University	N08G-186	Study of the Cell-of-Origin and Cancer Stem Cells in Melanoma	\$240,000
Steidl, Ulrich, Dr.	Albert Einstein College of Medicine	N08G-426	Identifying Epigenomic Determinants of Hematopoietic Stem Cell Commitment	\$200,000
Nance, Jeremy	New York University	N08G-316	Establishing the C. elegans Germline Stem Cell Niche	\$240,000
Fraser, Stuart	Mount Sinai School of Medicine	N08G-138	Copper transporter-1, Ctr1: A Critical Regulator of Embryonic Stem Cell Differentiation	\$240,000
Lowry, Natasha PhD	Regenerative Research Foundation	N08G-271	Novel Surface Markers for Neural Stem Cell Enrichment	\$240,000
Bernstein, Emily PhD	Mount Sinai School of Medicine	N08G-037	Investigation of Polycomb-Mediated Chromatin Alterations During Embryonic Stem Cell Differentiation	\$240,000
Timmermans, Marja PhD	Cold Spring Harbor Laboratory	N08G-450	The role of the Chromatin-Remodeling Factor HIRA in Recruitment of Polycomb Complexes and Regulation of Pluripotency	\$239,134
Wallenfang, Matthew	Barnard College	N08G-466	Transplantation Of Adult Male Germline Stem Cells Of Drosophila Melanogaster	\$227,452
Kumar, Mukesh PhD	Albert Einstein College of Medicine	N08G-233	Manipulation of Stem Cells for Treating Viral Hepatitis	\$240,000
Zhao, Jihe, M.D., Ph.D.	Albany Medical College	N08G-497	Transcriptional Control of Stem Cell Metastasis of Breast Cancer	\$240,000
Bach, Erika A., PhD	New York University	N08G-020	Elucidating the Role of the JAK/STAT Pathway in Stem Cell Self-Renewal	\$240,000
Yan, Jun, PhD	Regenerative Research Foundation	N08G-481	Identification and Characterization of endothelial niche factor(s) that stimulates self-renewal and neurogenesis of neural stem cells (NSCs)	\$240,000
Hadjantonakis, Anna-Katerina PhD	Memorial Sloan-Kettering Cancer Center	N08G-175	Characterization of Extraembryonic Endoderm (XEN) Cells	\$240,000
Brown, Anthony M.C. PhD	Weill Cornell Medical College	N08G-056	Regulation of Mammary Stem Cells by Wnt Signaling	\$240,000
Anderson, Stewart	Weill Cornell Medical College	N08G-010	Deriving Forebrain Interneurons from ES Cells by Inducible Expression of Lhx6	\$240,000

Dr. Sturman advised the Committee there were no contingencies recommended for these applications. Ms. Wils moved to recommend approval of these awards in the amounts recommended by staff. Dr. Stocker seconded the motion. The motion passed unanimously.

The Committee then considered the following applications while Dr. Fischbach and Dr. Hutcherson recused themselves and left the room:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Raghavan, Srikala	Columbia University	N08G-362	Exploring the Function of MicroRNAs in Epidermal Stem Cells	\$240,000
Owens, David M	Columbia University	N08G-335	Epithelial Progenitor Cells as Targets for Cutaneous Neoplasia	\$240,000
Hazelrigg, Tulle PhD	Columbia University	N08G-182	Maintenance of adult germ stem cells by histone modification	\$200,000
Matushansky, Igor	Columbia University	N08G-282	Using Mesenchymal Stem Cells to Deliver Tumor Environment Activated Quantum-Dot Drug Conjugates Targeting Cancer Bulk and Cancer Stem Cells.	\$239,580
Kottmann, Andreas H., Ph.D.	Columbia University	N08G-231	Does Graded Expression of Shh by Dopaminergic Neurons of the Mesencephalon Influence the Maintenance and Differentiation of Neural Stem Cells of the Adult Subventricular Zone?	\$239,787
Laufer, Edward	Columbia University	N08G-240	Differentiation of ES Cells into Adrenocortical Lineages	\$240,000
Doetsch, Fiona	Columbia University	N08G-104	Molecular profiling and differentiation potential of purified adult neural stem cell lineages	\$240,000
Manley, James L PhD	Columbia University	N08G-278	Alternative Splicing of mRNA Precursor-links to Pluripotency of Human ES Cells	\$240,000

Dr. Sturman advised the Committee that there were no contingencies for these applications. Dr. Dutton moved to recommend approval of these awards in the amounts recommended by staff. Mr. Adams seconded the motion. The motion passed unanimously.

Dr. Hutcherson returned to the room and Dr. Fischbach remained out of the room while the Committee considered the following applications:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Levy, David E PhD	New York University	N08G-252	Derivation and Characterization of Dendritic Cell Lineages from Hematopoietic Stem Cells	\$240,000
Ortiz, Benjamin D PhD	Hunter College, CUNY	N08G-333	TCRalpha locus control region activity during in vitro stem cell differentiation: application towards improving lentiviral gene therapy vectors	\$283,863

Dr. Sturman advised the Committee that there were no contingencies for these applications. Dr. Dutton moved to recommend approval of these awards in the amounts recommended by staff. Mr. Adams seconded the motion. The motion passed unanimously.

The Committee then considered the following application while Dr. Holm recused himself and left the room:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Neelamegham, Sriram	SUNY at Buffalo	N08G-013	Glycan Engineering of Stem Cells	\$240,000

Dr. Sturman advised the Committee that there were no contingencies for this application. Ms. Wils moved to recommend approval of the awards in the amount recommended by staff. Dr. Hutcherson seconded the motion. The motion passed unanimously.

The Committee then considered the following applications while Dr. Berk recused himself and left the room:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Awad, Hani PhD	University of Rochester	N08G-019	Modulating Stem Cell Differentiation using Novel Allograft Scaffolds for Cartilage Repair	\$240,000
Tall, Gregory G PhD	University of Rochester	N08G-438	Deciphering the Role of Mammalian Ric-8 Proteins in Stem Cell (Asymmetric) Division	\$232,678
Xu, Lei	University of Rochester	N08G-480	Identifying the Stem Cells in Malignant Melanoma	\$240,000

Dr. Sturman advised the Committee that staff recommended that approval of application number N08G-438 be made subject to the contingency that the Gene Pulsar is not sufficiently needed to warrant its purchase. Mr. Adams moved to recommend approval of these awards in the amounts and with the recommended contingency. Dr. Fischbach seconded the motion. The motion passed unanimously.

The Committee then considered the following applications while Dr. Daines recused himself, turned the Chair over to Dr. Stocker, and left the room with Dr. Holm, who also recused himself:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Huss, Wendy J	Roswell Park Cancer Institute	N08G-203	High transporter and aldehyde dehydrogenase activity in benign and cancer prostatic stem cells	\$240,000
Hylander, Bonnie	Roswell Park Cancer Institute	N08G-370	Role of Cancer Stem Cells in resistance to targeted therapy and tumor recurrence	\$238,547

Dr. Sturman advised the Committee that there were no contingencies for these applications. Dr. Fischbach then moved to recommend approval of these awards in the amounts recommended by staff. Dr. Dutton seconded the motion. The motion passed unanimously.

After Dr. Holm returned to the room, the Committee considered the following application while Dr. Daines remained out of the room:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Lopez, Maria C	Health Research, Inc.	N08G-270	Hematopoiesis of the Gut Immune System and Gut Immunity in Immunodeficient Mice	\$240,000

Dr. Sturman advised the Committee that there were no contingencies for this application. Mr. Adams moved to recommend approval of the award in the amount recommended by staff. Dr. Berk seconded the motion. The motion passed unanimously.

Dr. Daines advised members that these approvals brought the Committee to the limit of the funds that had been set aside for the generic investigator-initiated IDEA awards. He noted that there were some applications that were not recommended for funding that had the same global score as other applications that were recommended for funding and that the score for “innovation” was used as a tie-breaker as specified in the RFA. Dr. Daines explained that funding may become available for additional awards if the projects recommended for funding receive support from other sources or if researchers decide not to contract with the NYSTEM program for other reasons. As a result, the Committee would be recommending additional projects for approval, but not for funding unless the applications previously recommended for approval and higher ranked applications are declined or reduced. He explained that where a tie occurs, priority shall be given to the application with the best score for “innovation,” and that if additional tie-breakers are needed, the scores for “feasibility” and then “approach” shall be used in that order.

The Committee then considered the following application while Dr. Fischbach and Dr. Hutcherson recused themselves and left the room:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Reizes, Boris	Columbia University	N08G-367	Directed Differentiation of Embryonic Stem Cells into Plasmacytoid Dendritic Cells	\$240,000

Mr. Elliott moved to recommend approval of the award in the amount recommended by staff, but not the funding of such award until the applications previously recommended for approval and applications that are higher ranked using the established tie-breakers are funded or declined. Dr. Stocker seconded the motion. The motion passed unanimously.

The Committee then considered the following application while Dr. Daines recused himself, turned the Chair over to Dr. Stocker and left the room with Dr. Holm, who also recused himself:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Li, Fengzhi	Roswell Park Cancer Institute	N08G-254	Development of a Novel Mouse Model for Cancer Stem Cell (CSC) Research: Surviving and CSC During Lung Tumorigenesis and Progression	\$239,476

Dr. Dutton moved to recommend approval of the award in the amount recommended by staff, but not the funding of such award until the applications previously recommended for approval and applications that are higher ranked using the established tie-breakers are funded or declined. Mr. Adams seconded the motion. The motion passed unanimously.

Dr. Daines then advised members that they would be acting on the applications for the generic investigator-initiated IIRP awards for which Committee members had not declared a conflict of interest. They would then take up the applications for which members of the Committee had identified a conflict of interest, so that members with a conflict could recuse themselves during consideration of those applications. Dr. Daines then asked Dr. Sturman to read the list of applicants for which no conflicts of interest exist, the amounts of the recommended awards and whether staff recommended any contingencies, as follows:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Roy-Chowdhury, Jayanta	Albert Einstein College of Medicine	N08G-380	Amelioration of Hepatic Metabolic Defects by Stem Cell-Derived Human Hepatocytes	\$1,080,000
Baron, Margaret H., MD, PhD	Mount Sinai School of Medicine	N08G-024	Red Blood Cell Development in Differentiating Embryonic Stem (ES) and Induced Pluripotent Stem (iPS) Cells	\$1,080,000
Feuer, Gerold	SUNY- Upstate Medical University	N08G-127	HTLV Infection of Human Hematopoietic Stem Cells: Induction of Novel Lymphoma in Humanized SCID Mice	\$1,069,779
Aaronson, Stuart A MD	Mount Sinai School of Medicine	N08G-001	Role of Wnt Signaling in Sarcomas Initiated from Human Mesenchymal Stem/Progenitor Cells	\$1,080,000
Bahou, Wadie F	SUNY- Stony Brook	N08G-021	Therapy of Hemophilia A Using Megakaryocyte-Targeted Stem Cell Delivery	\$1,080,000
Temple, Sally PhD	Regenerative Research Foundation	N08G-443	Changes in RNA Synthesis and Timing of Cortical Development	\$1,049,036
Fishman, Glenn I	New York University	N08G-132	Embryonic Stem Cell Derived Cardiac Conduction System Cells	\$1,080,000
Enikolopov, Grigori PhD	Cold Spring Harbor Laboratory	N08G-116	Regulation of the Life Cycle of Adult Neural Stem Cells	\$1,079,996

Dailey, Lisa	New York University	N08G-094	Functional Identification of Transcriptional Determinants of the ES Cell State and Early Lineage Commitment	\$933,618
Tumbar, Tudorita	Cornell University	N08G-456	Control of Hair Follicle Stem Cell Proliferation and Epithelial Skin Tumorigenesis by Concerted RUNX1 and CDKN1a Action	\$1,033,979
Zhou, Ming-Ming	Mount Sinai School of Medicine	N08G-498	Molecular Deciphering of Stem Cell Epigenetic Silencing	\$1,080,000
Fishell, Gordon	New York University	N08G-130	The Directed Differentiation of Embryonic Stem Cells Into Specific Cortical Interneuron Subtypes	\$900,000
Pessin, Jeffrey E.	Albert Einstein College of Medicine	N08G-347	Identification of Adipocyte Progenitor Cells During Adipose Tissue Turnover And Obesity	\$1,044,000
Aguirre-Ghiso, Julio A.	Mount Sinai School of Medicine	N08G-006	Plasticity of Head and Neck Cancer Initiating Cells	\$1,080,000
Rogler, Charles E., PhD	Albert Einstein College of Medicine	N08G-374	Roles of microRNAs in hepatic stem cell differentiation.	\$1,068,054
Snoeck, Hans-Willem	Mount Sinai School of Medicine	N08G-422	Generation of Thymic Epithelial Cells from Embryonic Stem Cells	\$1,048,941
Terracio, Louis	New York University	N08G-446	Skeletal Muscle Derived Stem Cells	\$1,002,134
Wang, Hsien-Yu	SUNY- Stony Brook	N08G-469	Novel Chimeric Frizzleds as Tools to Program hESC Differentiation	\$813,496
Ferland, Russell PhD	Rensselaer Polytechnic Institute	N08G-123	The Role of Filamins and Formins in Stem Cell Development	\$1,080,000
Steidl, Ulrich, Dr.	Albert Einstein College of Medicine	N08G-425	Transcriptional Control of Cancer Stem Cells in Acute Myeloid Leukemia	\$961,499
Lacy, Elizabeth	Memorial Sloan-Kettering Cancer Center	N08G-235	Mechanisms by which Nuclear Pore Composition Regulates Stem/Progenitor Differentiation	\$1,007,280
Rutishauser, Urs	Memorial Sloan-Kettering Cancer Center	N08G-382	Use of Polysialic Acid to Improve Integration of ES-Derived Cells into the Brain	\$1,070,964
Schildkraut, Carl	Albert Einstein College of Medicine	N08G-388	Differential Regulation of DNA Replication During Neural Lineage Specification in Human ES Cells and Human iPS Cells	\$1,080,000

Dr. Sturman noted that staff recommended a contingency for an excessive personnel budget for application number N08G-446. Dr. Stocker then moved to recommend approval of the awards in the amounts and with the contingencies recommended by staff. Ms. Wils seconded the motion. The motion passed unanimously.

The Committee then considered the following applications while Dr. Berk recused himself and left the room:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Bohmann, Dirk	University of Rochester	N08G-048	Nrf2 as a Regulator of Stem and Progenitor Cell Function	\$1,050,872
Calvi, Laura	University of Rochester	N08G-322	Therapeutic stimulation of the hematopoietic stem cell niche	\$358,500
Ovitt, Catherine, Ph.D.	University of Rochester	N08G-334	Salivary gland progenitor cells	\$820,841
Zhang, Xinping	University of Rochester	N08G-495	Gli2 Activated MSCs for Bone Regeneration and Reconstruction	\$756,732
Chen, Di MD PhD	University of Rochester	N08G-070	Canonical Wnt Signaling Controls Mesenchymal Stem Cell Differentiation	\$1,001,308
Palis, James MD	University of Rochester	N08G-338	Erythroid Precursor Self-Renewal	\$1,049,110

Dr. Sturman advised the Committee that there were no contingencies for these applications. Dr. Dutton then moved to recommend approval of the awards in the amounts recommended by staff. Dr. Holm seconded the motion. The motion passed unanimously.

The Committee then considered the following applications while Dr. Holm recused himself and left the room.

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Andreadis, Stelios T	SUNY at Buffalo	N08G-011	High-Throughput, Real-Time Dynamic Monitoring of Stem Cell Differentiation	\$1,055,958
Andreadis, Stelios T	SUNY at Buffalo	N08G-012	Hair Follicle Stem Cells for Cardiovascular Tissue Regeneration	\$1,010,489
Suzuki, Gen MD PhD	SUNY at Buffalo	N08G-433	Modification of Resident Cardiac Stem Cells by Circulating Hematopoietic Stem Cells in Ischemic Cardiomyopathy	\$1,022,300
Tzanakakis, Emmanouhl S	SUNY at Buffalo	N08G-459	Scalable expansion and directed differentiation of human embryonic stem cells to pancreatic progeny	\$589,686

Dr. Sturman advised the Committee that there were no contingencies for these applications. Dr. Stocker then moved to recommend approval of the awards in the amounts recommended by staff. Mr. Elliott seconded the motion. The motion passed unanimously.

The Committee then considered the following applications while Dr. Daines recused himself and left the room:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Linhardt, Robert J., Ph.D.	Rensselaer Polytechnic Institute	N08G-264	Stem Cell Glycomics in Microarray Format	\$1,080,000
Morse, Randall	Health Research, Inc.	N08G-307	Epigenetic Control of Murine Neural Stem Cell Self-Renewal and Differentiation Mediated by Bmi-1	\$1,040,161

Dr. Sturman advised the Committee there were no contingencies for these applications. Dr. Hutcherson then moved to recommend approval of the awards in the amounts recommended by staff. Dr. Dutton seconded the motion. The motion passed unanimously.

The Committee then considered the following applications while Dr. Fischbach and Dr. Hutcherson recused themselves and left the room.

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Perera, Tarique, MD	Columbia University	N08G-344	The Role of Endogenous Hippocampal Stem Cells in Treating Non-Human Primate Models of Depression and Anxiety	\$1,053,458
Jessell, Thomas M., PhD	Columbia University	N08G-214	The Molecular Logic of Embryonic Stem Cell Derived Motor Neurons	\$1,080,000
Goff, Stephen P.	Columbia University	N08G-152	Characterization of the Retroviral Silencing Machinery in Embryonic Stem Cells	\$1,002,630
Mao, Jeremy DDS PhD	Columbia University	N08G-280	Functional Synovial Joint Replacement by Stem Cell Homing	\$1,079,986
Lu, Helen H. PhD	Columbia University	N08G-273	Stem Cell-mediated Integrative Rotator Cuff Repair	\$719,890
Jacobs, Christopher	Columbia University	N08G-210	Mechanosensitive Primary Cilia in Osteogenic Differentiation of Stem Cells Due to Loading	\$1,049,875
Rosen, Michael R., M.D.	Columbia University	N08G-375	Stem cell-based platform therapy for lethal cardiac arrhythmias	\$1,023,800
Ghazizadeh, Soosan	SUNY- Stony Brook	N08G-149	Immune Responses to Allogeneic Stem Cell Transplantation	\$591,420
Hen, Rene PhD	Research Foundation for Mental Hygiene, Inc.,	N08G-184	Contribution of Hippocampal Stem Cells to the Action of Antidepressants: From Mice to Men	\$1,080,000
Christiano, Angela M. PhD	Columbia University	N08G-075	Stem Cell Therapy for Epidermolysis Bullosa	\$1,080,000

Dr. Sturman noted that staff had recommended a contingency for application number N08G-210 for a high budget relative to the scope of the project. Dr. Dutton moved to

recommend approval of the awards in the amounts and with the contingency recommended by staff. Dr. Stocker seconded the motion. The motion passed unanimously.

The Committee then considered the following application while Dr. Fischbach remained out of the room and Dr. Hutcherson returned:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Ross, Margaret Elizabeth MD PhD	Weill Cornell Medical College	N08G-376	Neuronal Specification, Expansion and Self-renewal of hESC Derived Precursors	\$1,080,000

Dr. Sturman advised the Committee that there were no contingencies for this application. Mr. Adams then moved to recommend approval of the award in the amount recommended by staff. Dr. Dutton seconded the motion. The motion passed unanimously.

Dr. Daines advised members that these approvals brought the Committee to the limit of the funds that had been set aside for the generic investigator-initiated IIRP awards. He noted that, as with the IDEA awards, there were a few additional applications that were not recommended to be approved for funding that had the same global score as some of the applications that were recommended for funding. He stated that the same tie-breakers had been used as with the IDEA awards for this RFA and that the Committee would be recommending additional projects for approval, but not actual funding, under the same conditions as were set forth for the additional IDEA applications that had been recommended for approval, but not funding.

The Committee then considered the following applications:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Wolosin, Jose Mario PhD	Mount Sinai School of Medicine	N08G-477	Dual Specificity Phosphatases in Ocular Surface Side Population Stem Cells Cell Cycle	\$701,375
Dupont, Bo	Memorial Sloan-Kettering Cancer Center	N08G-110	Humanized Mouse Models for Analysis of Barriers for Tissues Derived from Stem Cells	\$1,080,000

Dr. Stocker moved to recommend approval of the awards in the amounts recommended by staff, but not the funding of such awards until the applications previously recommended for approval and applications that are higher ranked using the established tie-breakers are funded or declined. Mr. Adams seconded the motion. The motion passed unanimously.

The Committee then considered the following application while Dr. Berk recused himself and left the room:

PI	Sponsoring Institution	Application #	Proposal Title	Recommended Funding
Jordan, Craig T PhD	University of Rochester	N08G-216	Therapeutic Targeting of Leukemia Stem Cells	\$1,079,790

Mr. Elliott moved to recommend approval of the award in the amount recommended by staff, but not the funding of such award until the applications previously recommended for approval and applications that are higher ranked using the established tie-breakers are funded or declined. Dr. Holm seconded the motion. The motion passed unanimously.

Dr. Daines reported that all of the applications approved at today’s meeting, including those that were approved but were not funded, were recommended based upon the scores of the peer-reviewers and none of the projects were taken out of score order to receive funding.

Program Updates

Dr. Sturman advised members that 19 of the 25 institutions awarded Institutional Development Grants have submitted vouchers for reimbursement totaling \$2.7 million. He noted that NYSTEM staff has been encouraging funded institutions to submit vouchers for payment in a timely manner to ensure the full \$14.5 million made available is distributed prior to the end of the contract period. Ten of the 25 grantees have submitted progress reports, which are being reviewed by program staff. He also reported on the progress that has been made with the submission of necessary information and forms by the recipients of the Planning Grants for Emerging Opportunities and Consortia Development and Shared Equipment and Facilities awards. Dr. Sturman also provided a brief update on plans for the June NYSTEM Grantees Conference.

Dr. Sturman noted that Committee members had been provided with a copy of a letter received from the Academic Medicine Development Company (AMDeC) offering assistance in constituting a scientific advisory board. He advised members that he would like their input on this suggestion and that the topic will be included on the agenda for the full Board meeting in June.

Discussion of Recurring Requests for Applications for Shared Facilities and Investigator-Initiated Research

Dr. Daines reminded members of their prior discussions regarding the development of additional funding proposals. He noted that because of the Committee’s interest in committing a substantial portion of the funding to recurring RFAs for investigator-initiated projects, staff had prepared a draft RFA that was included in their agenda books. He then turned the floor over to Dr. Sturman to facilitate the discussion about this and other funding mechanisms.

Dr. Sturman noted that there were a number of issues for the Committee to provide guidance on so staff could finalize the recurring RFA. He first asked Committee members

for their input about how frequently the RFA should be issued and suggested it should be issued either once every nine months or once a year. Dr. Fischbach suggested the Committee may want to issue the RFA once every six months. Ms. Brautigam advised members that with an every six months submission schedule by issuing an RFA every six months, researchers would not have the evaluations of their prior applications in enough time to modify their subsequent submissions based upon the comments made by the peer reviewers. Several members urged staff to do everything possible to make the critiques available to researchers as quickly as possible so that researchers have the benefit of those comments to help move the science forward. It was noted that with the science progressing as rapidly as it is, the comments made by the peer reviewers may no longer be relevant or helpful if there is a substantial delay in the transmittal of those comments. Several members suggested that the delay in the transmittal of the evaluations will cause researchers to lose interest in the program and be counterproductive.

Dr. Sturman then asked Committee members for their input on the amount of funds that should be committed to the recurring RFA and the amount of the awards. He noted the draft RFA provided \$300,000 in direct costs per year for three years for the R01-type awards and \$275,000 over two years in direct costs for the R21-type awards. He noted that if approximately \$15 million was committed to this RFA, that would be about one-third of the funds available for the program each year. Dr. Sturman reminded members they had agreed it would be appropriate to reduce the amount of effort of the principal investigator for the R21 awards to ten percent, while keeping it at twenty percent for the R01 awards.

Dr. Sturman noted the draft RFA suggests that the cut-off for the Committee's consideration of any application would be a score of 2.5. He asked members whether they thought the cut-off should be higher, or if the Committee would want to use a cut-off based upon the amount of funding available. Dr. Fischbach expressed concern that increasing the cut-off above 2.5 could preclude funding of quality applications if the next peer review panels have a lower overall scoring range. Dr. Berk also indicated he preferred to retain the 2.5 cut-off to cast a wider net and allow the Committee to consider applications that are innovative and have a very high standard deviation.

Ms. Brautigam then asked if the Committee wanted to adjust the review criteria to combine innovativeness, significance, impact, feasibility, environment and approach as one score. Dr. Berk commented that there were some advantages to keeping some scores separate, such as innovativeness and significance. He suggested that if staff wanted to combine some scores, it might be appropriate to combine environment, investigator and feasibility. Members also expressed support for the scientists on the peer review panels to be involved in evaluating the budget for all applications. Members also suggested that the RFA emphasize the fact that the budget will count for twenty percent of the score.

Dr. Sturman then asked members whether they wanted to include provisions in the RFA that would allow very high scoring applications to be approved for funding without waiting for a Committee meeting. Ms. Brautigam explained that the start date identified in the RFA would be the same for all approved applications, but that this would speed the processing time and increase the likelihood that contract will be executed by the anticipated start date specified in the RFA. Drs. Fischbach and Berk expressed strong support for this since it will help applicants receive early notification and allow researchers to plan accordingly. In response to members' comments expressing concern that awards for very

high levels of funding should not be approved in this manner, Dr. Sturman clarified that the Committee could address this issue in each RFA on a case by case basis.

Ms. Brautigam then advised members that the indirect cost provided for in the draft RFA had been changed from twenty percent of total cost to twenty percent of modified costs as a result of staff conversations with administrators at various institutions who requested this change.

Dr. Sturman then directed Committee members to a handout that was provided that showed the breakdown of the amount of funds committed in the different categories of funding set forth in the Board's Strategic Plan. He explained that approximately \$140 million of the initial \$150 million appropriated had been committed, which left approximately \$60 million with the anticipated appropriation for 2009-10, to be used for the recurring investigator-initiated awards, additional shared facilities awards, career development programs, consortia and any targeted awards for ground-breaking research. In response to questions, Ms. Brautigam clarified that the Committee cannot make a commitment for anything beyond what has been appropriated. Dr. Dutton observed that this explained the logic behind jump-starting the program with a \$100 million commitment in the first year so huge commitments could be made in the beginning, but the actual expenditures over time would be much more flat.

Several Committee members expressed support for developing a fellow-to-faculty award to help establish younger promising investigators. Dr. Sturman confirmed that members would favor supporting up to two years of a fellowship and the transition to faculty for three years. In response to questioning, members expressed support for committing approximately \$5 million for such awards.

Dr. Sturman then asked members if they wanted to issue an additional RFA to support shared facilities. There was general agreement that it would be appropriate to offer additional funding for shared facilities. Several members noted that the recently-approved awards were likely to have an impact on the amount of support various consortia proposals would receive from their institutions, and consequently, affect the types of consortia proposals that will be submitted to NYSTEM for funding. It was noted that in some cases investigators may not have sufficient "percentage effort" left to commit to the consortia. Dr. Sturman reminded members that at the last meeting they had expressed support for consortia that would fund R01 type grants through the consortia, with approximately \$2 million being made available each year for four years for three to four consortia. He noted that would involve a large commitment for one year and suggested it may be appropriate to stagger them. Dr. Berk expressed support for staggering them.

Dr. Sturman noted the Committee had accomplished a lot during this meeting and thanked the Committee for their input.

Adjourn

Dr. Daines then asked for a motion to adjourn the Funding Committee meeting. Dr. Berk so moved and Dr. Dutton seconded the motion. The motion passed unanimously.

Approved: February 12, 2009