2010 Columbia University Spring Research Symposium

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10:00 a.m. Opening Remarks

10:15 a.m. Poster Session I

11:00 a.m. Keynote Address I

Biomolecular Motors for Directed Assembly and Hybrid Devices

Professor Henry Hess

Department of Biomedical Engineering, Columbia University

11:45 a.m.—12:30 p.m. Research Presentations

Lindsay Hill

Gadolinium-Loaded Micelles as Intravascular Contrast Agent for Micro-Magnetic Resonance Angiography

Radiology, New York University

Kaitlyn Gaynor

Anti-Predator and Social Monitoring Functions of Vigilance in Blue Monkey

Ecology, Evolution and Environmental Biology, Columbia University

Jeffrey Campbell

Synthesis of Hydroxyapatite Coatings on Calcite: Developing a Coating to Protect Marble from Damage in Acid Rain

Chemical and Civil Engineering, Princeton University

12:30 p.m. Lunch

1:30 p.m. Keynote Address II

Professor Ramon Parsons

Institute of Cancer Genetics, Columbia University

2:15 p.m. Poster Session II

3:15 p.m.—4:15 p.m. Research Presentations II

Jian Zhang (Graduate Student)

Design of Steerable Electrode Arrays and Optimal Insertion Path Planning for Robot-Assisted Cochlear Implant Surgery

Mechanical Engineering, Columbia University

Evan Smoak

Abscisic Acid Based Hydrogels as Drug Delivery Vectors

Chemistry, Fordham University

Kristina Rapuano

Humans Mimicking Animals: Implications for Species-Specific Vocalization Processing in Human Cortex

Neuroscience, Pennsylvania State University

Mei Yi Cheung

Mathematical Modeling and Characterization of Coiling Perimodiolar Cochlear Electrode Arrays

Mechanical Engineering, Columbia University

4:15 p.m. Closing Remarks

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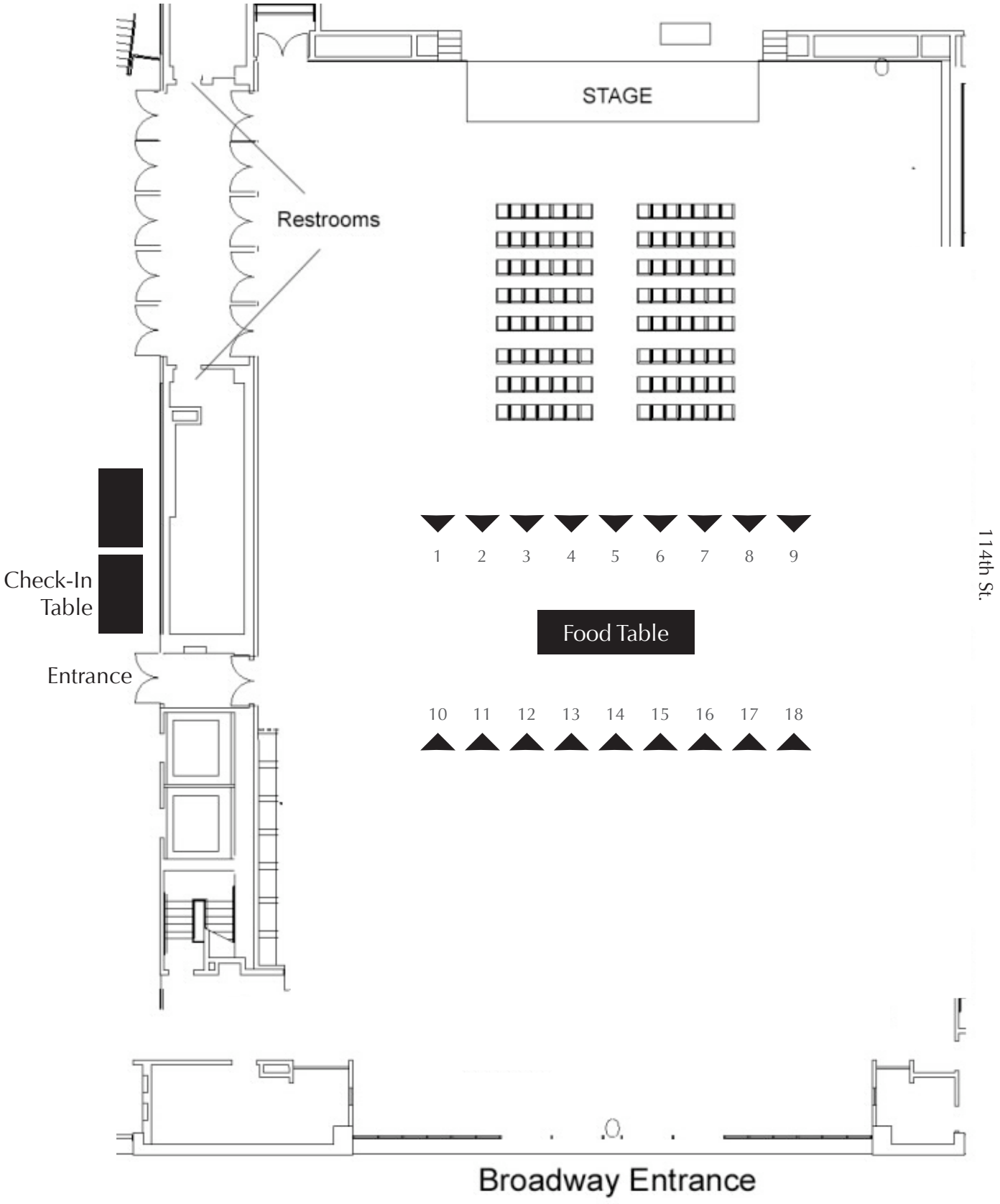
STAGE
Restrooms
Check-In Table
Entrance
1 2 3 4 5 6 7 8 9
Food Table
10 11 12 13 14 15 16 17 18
114th St.
Broadway Entrance

Poster Session I

Biochemistry

Automated Detection of GNRA Tetraloop Prevalance Using 3DNA and Python — A1

Prerana Pradhan*, Mauricio Esquerra, Wilma K. Olsen
Rutgers University

Biology

A Comparison of Methods to Collect Host-Seeking, Blood-Fed and Gravid Mosquitoes in the Surburban Landscape — A2

Lily C. Hughes*, Richard C. Falco, Thomas J. Daniels
Clark University

Analysis of NFkB Protein Subunits in Stimulated Human Macrophages — A3

Steven Kennedy*, Sitharam Ramaswami, Ashish P. Juvekar, Subrata Manna, Ivana Vancurova
St. John's University

From Egg Raft to Emergence: Growth and Survival of Mosquito Larvae in Vernal Pools — A4

Jessie Lanterman*, Mike Rubbo, Rich Falco
Hiram College

The Effect of RNAi Protein Armitage on *oskar* mRNA Transport and Localization in *Drosophila* Oocyte — A5

Linda Molla*, Joseph T. Cammarata*, Irina E. Catrina, Diana P. Bratu
City University of New York (CUNY) - Hunter

Analysis of Bortezomib-Induced Nuclear Protein Translocation in Cutaneous T-Cell Lymphoma Cells — A6

Hung Tran*, Ashish P. Jukevar, Sitharam Ramasswami Ashish P. Juvekar, Subrata Manna, Ivana Vancurova, Subrata Manna, Ivana Vancurova
St. John's University

Bone Marrow Degradation: Correlations Between Lipid Oxidation and Caloric Decline Rates — A7

Lily Xie*, Robert J. Blumeschine, Karen M. Schaich
Rutgers University

Civil Engineering

Structural Glass Shells: The Constructional and Structional Feasbility of a Hyperbolic Umbrella — A8

Gregor J. Horstmeyer*, Sigrid Adriaenssens, George Scherer
Princeton Unviersity

Chemistry

Anticarcinogenic and Prooxidant Properties of Pomegranate Juice Extract and Olive Fruit Extract — A9

Loriel J. Solodokin*, Audrey Canter, Ahuva Freilich, Orli Haken, Chana G. Ovits-Levy, A.G. Schuck, H. Babich
Stern College for Women

Computer Science & Engineering

Optical Observations of Thermoelectric Effects of Self-Heated Nanocrystalline Silicon Microwires — A10

Niaz Khan*, Gokhan Bakan, Ali Gokirmak, Helena Silva
University of Connecticut

Implementation and Analysis of Passive Online Schemes for Rogue Access Point Detection in Ethernet Networks — A11

Oscar A. Perez*, Bing Wang
University of Connecticut

Materials Science

Electrical Properties of Methyl Based Hybrid Melting Gels — A12

Louis Gambino*, Andrei Jitianu, Lisa C. Klein
Rutgers University

Mechanical Engineering

Mathematical Modeling and Characterization of Coiling Perimodiolar Cochlear Electrode Arrays — A13

Mei Yi Cheung*, Jian Zhang, Nabil Simaan
Columbia University

Pressure Distribution and Forefoot Geometry in Ballet Pointe Shoes — A14

Antonia Zaferious*, D.M. Wooton
Cooper Union

Medicine & Health Services

Redistribution of Muscle Mitochondria Assocaited With Vertebrate Neuromuscular Synaptogenesis — A15

Mohammad Gilani*, Joav Prives
State University of New York (SUNY) - Stony Brook

Psychology & Neuroscience

Elucidating the Toll Like Receptor Signaling Pathways of the Immune Response in Monocytes — A16

Jennifer Deluty*, Jeremy Seto, Stuart Sealfon
Mt. Sinai School of Medicine

Humans Mimicking Animals: Implications for Species-Specific Vocalization Processing in Human Cortex — A17

William J. Talkington, Kristina Rapuano*, Chris Frum, James W. Lewis
Pennsylvania State University

Poster Session II

Biochemistry

Elucidating the Interaction of LPA with Model Membranes — B1

Evan Minzter, Rivkah Rogawski*
Stern College for Women

Biology

Anti-Predator and Social Monitoring Functions in Blue Monkeys — B2

Kaitlyn M. Gaynor*, Marina Cords
Columbia University

Evaluating Nest Protectors for Turtle Conservation: Unintended Consequences for the *Malaclemys terrapin hatchli* — B3

Shahriar Rahman*
City University of New York (CUNY) - Brooklyn College

Biomedical Engineering

Phase-Change Oscillations and Pulse Generation in Silicon Microwaves — B4

Adam Cywar*, Gokhan Bakan, Helena Silva, Ali Gokirmak
University of Connecticut

Chemical Engineering

Synthesis of Hydroxyapatite Coatings on Calcite: Developing a Coating to Protect Marble from Damage in Acid Rain — B5

Jeffrey I. Campbell*, Sonia Naidu, George W. Scherer
Princeton Unviersity

Targeting Nanoparticles to Macrophages Infected with Tuberculosis — B6

Lila Cheung*
Princeton Unviersity

Chemistry

Size-Controlled Growth of Selenium Nanoparticles on Self-Assembled Kinetin Nanostructures and Their Applicatior — B7

Stacey N. Barnaby*, Ipsita A. Banerjee
Fordham Unviersity

Abscisic Acid Based Hydrogels as Drug Delivery Vectors — B8

Evan M. Smoak*, Stephen H. Frayne, Karl R. Fath, Ipsita A. Banerjee
Fordham Unviersity

Medicine & Health Services

Gadolinium-Loaded Micelles as Intravascular Contrast Agent for Micro-Magnetic Resonance Angiography — B9

Lindsay K. Hill*, Karen C. Briley-Saebo, Moustafa Doudai, Asad Baig, Susan Pun, Brian J. Nieman, Daniel H. Turnbull
New York University (NYU)

SB-T-1214 Dramatically Downregulates Stem Cell-Related Gene Expression Profiles in Metastatic Colon Cancer Cell — B10

Yan Leyfman*, Yuan Wang, Iwao Ojima, Galina I. Botchkina
State University of New York (SUNY) - Stony Brook

Physics

Imbibition of Gases Between Silica and Graphene — B11

Kate E. Noa*, Milton W. Cole, Angela D. Lueking
Pennsylvania State University

Performance of Different Jet Clustering Algorithms in Reconstructing Hadronic Tops — B12

David Krohn, Cristina Popa*, Liantao Wang
Princeton University

Psychology & Neuroscience

Experiences and Challenges of Women Combining Academic Careers and Motherhood — B13

Danielle L. Auriemma*, Tovah P. Klein
Barnard College

Subcortical Localization of Ectopic Cell Cycle Events in Five Alzheimer's Mouse Models — B14

Luming Li*, Timmy Cheung*, Jianmin Chen, Karl Herrup
Rutgers University

Graduate Students

Using Continuum Robots for Contact Detection and Estimation of Contact Location — B15

Andrea Bajo*, Nabil Simaan
Columbia University, Mechanical Engineering

Validation and Benchmarking of Computational Fluid Dynamic Simulations for Wind Building Response — B16

Francesca Ceccarini*, Rene B. Testa
Columbia University, Civil Engineering

High Frequency Plateau Responses Recorded in Gerbil Auditory Nerve Tuning Curves — B17

Stanley Huang*, Wei Dong, Elizabeth Olson
Columbia University, Biomedical Engineering

Design of Steerable Electrode Arrays and Optimal Insertion Path Planning for Robot-Assisted Cochlear Implant Surgery — B18

Jian Zhang*, J. Thomas Roland Jr., Spiros Manolidis, Nabil Simaan
Columbia University, Mechanical Engineering

Keynote Speakers Biographies

Dr. Henry Hess
11:00 p.m.

Born and educated in Germany, Henry Hess received a M.S. and Ph.D. in Experimental Physics. His undergraduate research focused on the hydrodynamics of penguins, his Masters thesis on nanoscale refrigerators, and his PhD thesis on filming chemical reactions. For the past decade Dr. Hess has studied the engineering applications of molecular motors while holding faculty appointments at the University of Washington, the University of Florida, and since 2009 Columbia University. Among other honors, he was recognized with the Distinguished Mentor Award of the UF/HHMI "Science for Life" undergraduate research program.

Dr. Ramon Parsons
1:30 p.m.

Ramon Parsons graduated from Columbia College in 1983 with a major in History and a concentration in Pre-Medicine. He later graduated from the MD-PhD program at Stony Brook in 1992 and completed a postdoctoral fellowship in Molecular Oncology at Johns Hopkins University in 1995. Dr. Parsons joined the faculty of the Departments of Pathology and Medicine at the College of Physicians & Surgeons of Columbia University in 1995 and was one of the founding members of the Institute for Cancer Genetics in 1999. Dr. Parsons is currently Avon Foundation Professor of Pathology & Cell Biology & Medicine in the Institute for Cancer Genetics and Herbert Irving Cancer Center. He is interested in understanding the signaling pathways that cause cancer.

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ELSABET CAFE

Appletree Market

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Appletree Market

Restaurants in the Area

On Broadway

115th to 116th
Ollies – Chinese
Vine – Pan-Asian

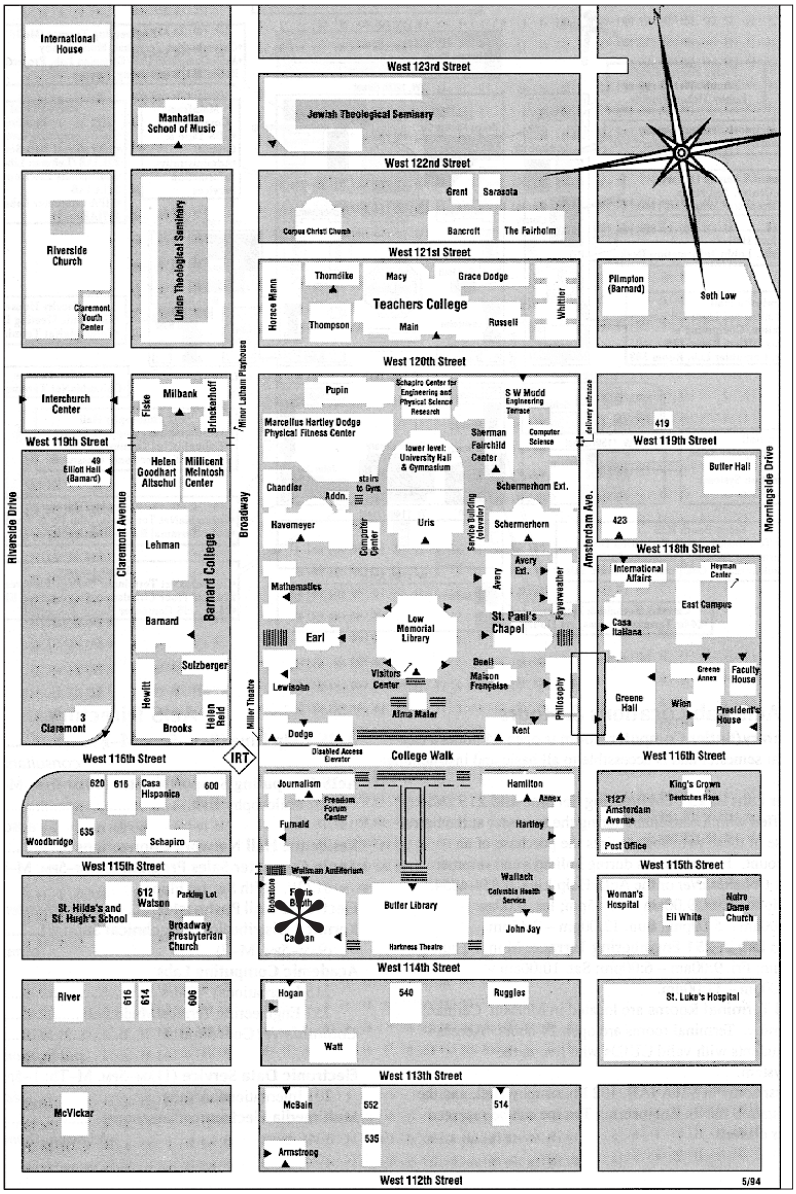
114th to 115th
Sunday Farmer's Market
Pinnacle – Pizza, Deli
M2M – Deli, Japanese
Café Nana – Kosher

113th to 114th
Havana Central – Cuban
Amir's Falafel – Middle Eastern

112th to 113th
Deluxe – Diner
Campo – Italian
Korean Mill – Korean
Tom's Restaurant – Diner

111th to 112th
Famiglia – Pizza, Italian

110th to 111th
Chipotle – Mexican
Koronet's – Pizza
Famiglia – Pizza, Italian



On Amsterdam

122nd to 123rd
Elsabet Cafe – Ethiopian/American

121st to 120th
Appletree Markey – Grocery
Ajanta – Indian
Masawa – Ethiopian

119th to 120th
Subs Conscious – Sandwiches
Che Bella – Pizza, Italian

115th to 116th
Hamilton Deli – Deli
Camille's – Italian

113th to 114th
Strokos – Pizza, Deli
Artopolis – Crepes, Desserts

110th to 111th
Columbia Cottage – Chinese