

## Dr Joshua Brumberg

Program Head, Neuropsychology PhD Subprogram, Queens College and the Graduate Center, CUNY

Dr. Joshua Brumberg has to be ranked as one of the most brilliant educators around. His laboratory at Queens College, CUNY is a veritable United Nations.

Students from all over the world can be found there working to make their mark in Science. Under Dr. Brumberg's care and supervision many of these students will graduate and become ambassadors in their fields. Dr. Brumberg takes all of this in his stride as his humility, simplicity and compassion for others win the day.

Dr. Joshua Brumberg was born in Manhattan, New York City. His dad Dr. Stephan Brumberg hails from Baldwin in Long Island while his mom Pamela was born in the Bronx. Sadly, she is no longer with us but both of his parents have instilled in young Joshua qualities that would take him to the very top of his profession. Joshua attended PS 175 in Manhattan and Junior High School 167, also in Manhattan. While he was in the third grade, his teacher Mr. Burns, got him interested in science and from then there was no turning back.

Growing up in Manhattan meant regular visits to the American Museum of Natural History, including weekends and in his senior year. Then came the big break. Dr. Stephan Brumberg is an education-historian and a distinguished scholar in his own right. He has a wealth of knowledge about the school system in New York. When the President of Rockefeller University wanted to write his memoirs he called on Dr. Stephan Brumberg for information about schools. The President of Rockefeller University was no ordinary person. He was Professor Joshua Lederberg who had won a Nobel Prize in Physiology in 1956. Professor Lederberg argued that bacteria can mate and exchange genes. As a

result of a meeting with Professor Lederberg, the young Joshua Brumberg was contacted by a laboratory. Little did he know that this lab was headed by another distinguished academic, Professor Torsten Wiesel. He too was a Nobel Prize winner whose seminal work was to figure out how the visual system works. Dr. Joshua Brumberg says, "I would go to the lab about two to three days a week while I was still in high school and they offered me an internship in the summer. I didn't know that Torsten Wiesel had won the Nobel Prize. He was nice to me and I am forever grateful to him. He is one of the outstanding figures in Neurobiology. Whenever I see him I would tell him that he is responsible for what I do today."

As it happens, this year marks

of Psychology.

What is Neurobiology and why was Joshua Brumberg attracted to it? Neurobiology is the science of trying to understand the brain in a general way. The brain is a complex organ and there are many techniques that can be used to study it, some of which include biology, genetics, behavior and pharmacology. Joshua Brumberg and his team

points out further that the object is to find out how the system works in the native state and "this can tell us how the system dysfunctions in the pathological state." Dr. Brumberg considers himself very privileged to be working with many talented scholars in the CUNY system. He says that he feels "very fortunate that I have had the opportunity to be my own boss and pick the research questions and get to answer them".

Dr. Brumberg realizes that his success is due to a number of persons. He wishes to thank his wife Dr. Heather Brumberg, a physician, for her unstinted support and encouragement and for being a wonderful mother to their daughters Tamar, and Sydney. There are also others who have helped to shape Dr. Brumberg into an outstanding scientist. Professor Heather Williams, his undergraduate research advisor was instrumental in getting the young Joshua to ask questions that were answerable by experiments. Professor

Daniel Simmons, his Ph.D supervisor, taught Joshua to keep things in perspective. Nobel Laureate, Torsten Wiesel remains his idol. But it was Professor Simmons who provided the focus and a sense of direction for Dr. Brumberg. He also credits Judith Hirsch for her many perceptive questions.

In his spare time Dr. Brumberg listens to music, indulges in road racing and of course is a devoted father to his children. His advice to young people is that they should be determined. He says, "if there is something you want to do in life, never take 'no' for an answer. Do not give up. Be active, follow your dreams and in the end success will be yours." It is not surprising then with his brilliance and positive outlook that the plaudits have been forthcoming from both students and peers. Michael Schwemmer who was an undergraduate student researcher in Brumberg Lab is currently working on his Ph.D at UC Davis, in

Applied Mathematics.

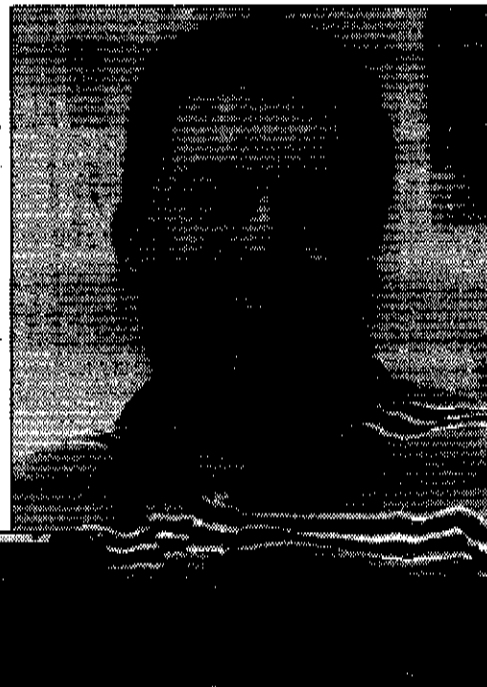
According to Michael Schwemmer, "Dr. Brumberg was an excellent mentor and definitely one of the main reasons why I decided to continue into graduate school." Janice Lenger, a Ph.D student in Neuropsychology at CUNY says "Josh offers an open-door policy to his students. He is encouraging, brilliant, motivating, inspiring and well-rounded, making him the perfect person for the job. You just have to love him."

Dr. Richard Bodner, Dean of Research and Graduate Studies at CUNY said, "Dr. Brumberg is one of the top researchers hired by Queens College in the past decade and provides great opportunities for ethnically-diverse graduate and undergraduate students alike."

Dr. Susan D. Croll, Professor and Director of the Neuroscience Program at Queens College points out that, "Josh is one of those rare individuals with the ability to get things done regardless of the magnitude of the obstacles. It is this gift, among others that makes him such an accomplished leader in his field and on our program. He is an absolute pleasure to have as a colleague."

Dr. Raddy Ramos, was a post-doctoral fellow in the Brumberg Lab at Queens College. He is currently at the New York College of Osteopathic Medicine, at the New York Institute of Technology. He says, "Josh is great at sparking a true interest in Neuroscience research in graduate students, undergraduates and even among high school students. Research in the Brumberg lab has important implications for understanding how neocortical circuits are organized as well as how they work to control behavior."

These are indeed high accolades for a gifted scientist. It is quite foreseeable that early one morning he will receive a phone call from Stockholm and would be given the exciting news that he has won the Nobel Prize. It would be a fitting reward for a great career.



ABOVE: Dr. Joshua Brumberg  
LEFT: Dr. Joshua Brumberg and Dr. Dhanpaul Narine

focus on the anatomy and the physiology with some computation.

The popular image of the brain is an organ that is convoluted. That is the cortex or the outer portion. Neurobiology focuses on the area that processes touch information. According to Dr. Brumberg, "if you raise the animal in a normal environment, you get one result but if you deprive the animal of this environment, you will see that change in experience affect the structure of the neurons. The environment can impact the development of the neuron which is important because you hear in early childhood education the importance of the environment."

Dr. Brumberg points out that the idea is to understand how the system works. He says that if we want to cure the disease we have to understand what the baseline circuitry is and how pathology can alter and repair that circuit. He

the 50th Anniversary of the landmark paper that Professor Wiesel wrote on the organization of the visual system. It was published in the Journal of Physiology in 1959. After Joshua finished high school at Bronx Science, it was time for him to go to College. He went to Williams College in Massachusetts where he did his Bachelor's and Master's Degrees. In 1997 he completed his Doctorate in Neurobiology at the University of Pittsburgh School of Medicine. This was followed by post-doctoral studies at Yale University in Neurobiology and from 2000 to 2002, Joshua Brumberg was a post-doctoral Research Scientist in the Department of Biological Sciences at Columbia University. In the Fall of 2002, he joined the faculty at Queens College in the Department

*"If there is something you want to do in life, never take 'no' for an answer. Do not give up. Be active, follow your dreams and in the end success will be yours" - Dr. Joshua Brumberg*