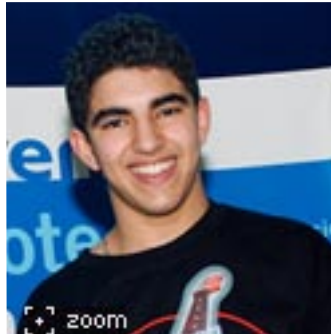


THE GREAT HOPE

17-YEAR-OLD SAMI OBAID HAS STEPPED INTO THE RESEARCH RING, AND IS GETTING READY TO DELIVER A KNOCK-OUT PUNCH TO PARKINSON'S DISEASE AND A HOST OF OTHER DEGENERATIVE DISORDERS.

By Mathieu Larocque



When Sami Obaid first saw Christopher Reeve in a wheelchair, he wondered how Superman could have ended up in such a predicament.

Later on, Sami found himself asking the same question the day he saw the great prizefighter Mohammed Ali—who could once “float like a butterfly, sting like a bee”—suffering from the debilitating effects of Parkinson's disease.

Spurred on by his own curiosity and the Science Fair program at his high school—Collège Regina Assumpta in Laval, Quebec—17-year-old Sami stepped into the research ring. He brought with him a determination to knock out the degenerative disorders—including Parkinson's disease—that had struck down his idols and continue to affect millions of people worldwide.

Parkinson's disease causes tremors, muscular rigidity, and speech problems, and sometimes confusion or dementia as well. It results from deterioration in the neurons that produce dopamine. Dopamine is a neurotransmitter (a substance that transmits brain signals) in the nervous system, and comes into play in the neurons that control body movements. In Parkinson's disease, the brain is short of dopamine; this translates into motor impairments.

In his fight against these degenerative disorders, Sami's challenge was to attack the problem from an original angle. Although a great deal of research has been conducted into this phenomenon and is still underway, Sami wanted an innovative approach that would make his work different. He came across the answer in ancient Chinese writings in a book about stem cells that quoted the centuries-old Chinese maxim “the brain is a sea of marrow.”

After thinking about this idea, the young researcher set about developing a way to alleviate Parkinson's symptoms by using new neurons from a plentiful source: bone marrow. The Chinese were right. Although studies have been done on neuron production from bone marrow, the novel aspect of Sami's work is that the neurons extracted from bone marrow produce dopamine.

Sami's promising research has earned him many awards. In 2005, his experiment entitled *À la rescousse du Parkinson!* was successful at every stage of the Canadian Wide Science Fair (CWSF). In May 2005, he went to Phoenix, Arizona, to represent Canada at the Intel International Science and Engineering Fair where he won second place in the medical



category. He also took first place at the Aventis Biotechnology Challenge (ABC) in Montreal. In 2004, with another experiment, he won a number of prizes in the ABC and the CWSF, and a place on Canada's team at the International Science Fair in Chile in July 2005.

Although many universities are ready to welcome Sami when he finishes high school—he has been awarded scholarships from Université de Montréal, the University of Western Ontario, and the Université du Québec à Trois-Rivières—he has his eye on McGill University. For the last two years, his research into Parkinson's and neurons has been conducted in Dr. Josephine Nalbantoglu's Montreal Neurological Institute research laboratory, at McGill University, under the supervision of Dr. Nicolay Ferrari. "I want to continue my studies there," says Sami. "I was made very welcome at McGill." Dr. Ferrari hopes his protégé will continue his research at McGill. "A résumé like Sami's opens all the doors."

He is so passionate about science that when the Conseil de développement du loisir scientifique du Québec asked him to be the coordinator of the science promotion program known as Student Mentorship Association Regarding Technology & Science (SMARTS), he readily agreed. "I was honoured to take on this mission," says Sami. "I've always wanted to spread my passion and introduce other Canadian kids to science." His job is to help Quebec's budding researchers to find labs to conduct their research projects.

But intellectual pursuits don't take up all his time. Exercise and sports also play an important part. In addition to spending a few hours every day at Dr. Ferrari's lab, Sami is a black belt and Pan American Tae Kwon Do gold medalist, and top scorer in his elite league college soccer team. He also plays golf and tennis. Sami credits sport with motivating him to take his scientific research to the highest level.

When asked how he finds time to excel at everything he does, Sami says time management is the key. "I have to be highly organized—my day is scheduled to the minute," he stresses. He acknowledges that his parents make his hectic life easier by ferrying him to all these activities. They also play a prime role in the pursuit of his goals. For the Obaid family, education is paramount. Sami and his sister can count on their parents' wholehearted support when it comes to education. "They often tell me that education is the one thing they can bequeath to me."

It's safe to say that Sami will use this inheritance from his parents to full advantage. With the many doors open to him at Canadian universities, this young researcher can take his time to choose the ideal environment in which to pursue his research. Maybe one day he'll even attain his ultimate goal: "To achieve something great for humanity."



Learn More:

For more information about Sami's research:

- SMARTS Network
<http://www.ysf-fsj.ca/files/PDF/YSMonth/SMARTS-e.pdf>
- University of Western Ontario - Sami Obaid
http://quark.physics.uwo.ca/teamcana/2005/sami_obaid.html

For more information about Parkinson's Society Canada :

- www.parkinson.ca
<http://www.parkinson.ca/>

