



THE MICHAEL CUCCIONE CHILDHOOD CANCER THERAPEUTICS PROGRAM

Dear Gloria,

September 14, 2010

Attached is an update on how the current funds for the Michael Cuccione Laboratories and fellowships have been utilized to rapidly expand research capacity at the BC Children's Hospital and CFRI, and a description of the outstanding needs for our vision to build a world-leading research program.

Michael Cuccione was an amazing boy who had a vision to help children and adolescents afflicted with cancer. Michael won his battle with cancer although he later lost his life from the complications of his therapy. Michael's hope was to find a cure for all children with cancer and his vision being carried on by the Foundation he established and worked on so diligently during his life. I feel privileged to have known Michael and to be part of fulfilling Michael's dream as we develop an internationally recognized research program at the BC Children's Hospital and the Child and Family Research Institute that focus on finding a cure for children with cancer.

The Michael Cuccione Childhood Cancer Laboratories

The \$3M of the Michael Cuccione Childhood Cancer Laboratories has facilitated a major step toward achieving our goal of becoming one of the top childhood cancer therapeutics programs in the world. We are building a targeted therapeutics program that focuses on the development of new highly specific strategies with low side effects for the treatment of childhood cancer. The goal will be accomplished by studying the unique characteristics of pediatric cancer cells compared to normal tissues.

Building Critical Mass

The **Michael Cuccione Childhood Cancer Laboratories** target was to recruit two star researchers of the future who can help build the required critical mass and capacity to achieve our goals. We have successfully recruited Drs. Chinten James Lim and Christopher Maxwell. In addition, the funding has allowed the recruitment of a clinician investigator as well, Dr. Rod Rassekh. The laboratories has also provided increased services to the current investigators of the Childhood Cancer Research Program at the CFRI. Presently, there are four other investigators in the Childhood Cancer and Blood Research Program, Drs. Schultz, Pallen, Dunn, and Sorensen.

Progress to Date – based on the funded 3 million dollars of the Michael Cuccione Cancer Research Laboratories

Recruitment of Two Scientists

Chinten James Lim – June 1, 2009

Dr. Lim was recruited from the University of San Diego after an extensive worldwide search. Dr. Lim is an outstanding young researcher who is working on cell movement or "traffic" in the body and he is focused on how cancer cells hide in microenvironmental niches and escape the effects of current cancer therapies. His research is expected to help us target cancer stem cells and resistant cancer cells, a reason for the recurrence of cancer. Dr. Lim has already won two grants: funding for a state-of-the-art live microscopy unit and a national funding for his research.

Christopher Maxwell – November 1, 2009

Dr. Maxwell was identified after a second extensive worldwide search for an outstanding young scientist who we expect to have a significant impact on cancer research. Dr. Maxwell although originally from BC, was recruited from Barcelona where he obtained additional expertise in how cells regulate themselves. He is an expert in the “skeleton” of the cells. His research is focused on better understanding how cancer cells respond to current chemotherapies and how he can develop an approach to attack the specific difference in a child’s cancer compared to normal tissues in the body. Dr. Maxwell has already received a national grant to fund his research, before he has reached the end of his first year. This is a confirmation to his excellence.

Rod Rassekh – January 1, 2010

Dr. Rod Rassekh is a clinician investigator who is focused on understanding why some children suffer devastating and sometimes permanent toxicities with our current therapies for children and adolescents with cancer. If we can understand this better, we hope to decrease the side effects and make our current therapies better until new more targeted agents are identified.

Michael Cuccione Studentships

The Michael Cuccione laboratories funding also support two graduate studentships each year. The funding has now started its second year and the students funded and selected after competitive review are listed below with the titles of their projects.

2009-2011

1) Miraj Chowdhury (Boerkoel lab): grad student funded Sept 2009 -Aug 2010

Title: "Tdp1: a new therapeutic target for treatment resistant pediatric cancers"

2) Ranvikram Khanna (Pallen lab): grad student funded Sept 2009 -Aug 2010

Title: “IGF-1 mediated phosphorylation of protein tyrosine phosphatase (PTP α) and its role in neuroblastoma migration”

3) Chi-Choa Liu (Lim lab): grad student funded Sept 2010 -Aug 2011

Title: “Cell adhesion mediated drug resistance in pediatric Acute Lymphocytic Leukemia”

Additional infrastructure and equipment

As part of the Cuccione laboratories funding, a lab manager, Peter Subrt, was hired to support Drs. Lim, Dunn, Maxwell, and Pallen. In addition, some equipment including a plate reader, animal irradiator (for tumor models), an image analyzer station, and microscope were acquired. Start-up funding (\$350,000 per investigator) for Drs. Lim and Maxwell was part of the funding.

Summary of current funding allocations

Below is a summary of the current amounts spent and projected to be spent for the Michael Cuccione laboratories:

Year 1 (April 2009 – March 2010) – \$1,070,806.63

Year 2 (April 2010 – March 2011) – \$392,796.91

Year 3 (April 2011 – March 2012) - \$408,436.92

Year 4 (April 2012 – March 2013) - \$424,857.58

Year 5 (April 2013 – March 2014) – 361,029.58

Year 6 (April 2014 – March 2015) - \$323,642.15

Total - \$2,981,569.30 (Excess \$6,380.70 for year 7)

Michael Cuccione Fellowships:

The Cuccione Fellowships was established more than 10 years ago with a 1.25 million dollar endowment. Since an appropriate candidate was not always available each year, a fellow was not always funded each year resulting in an accumulation of funds. Because of this, we were able to fund 3 Michael Cuccione fellows this year. Current Fellows are listed below:

2009-2011

1) Dr. Anna Stratford (Dunn lab): Postdoc funded 2010-2011

Title: "BTIC's can be eliminated using agents that interfere with the PI3K pathway"

2) Dr. Lionel Samayawardhena (Pallen lab): Postdoc funded 2010-2011

Title: "Investigation and targeting of a novel IGF-1 activated signaling axis in pediatric solid tumours"

3) Dr. Nina Rolf (Schultz Lab): Postdoc fellow funded 2009-2011

Title: "TLR2 agonists as targeted therapy for Acute Lymphoblastic Leukemia"

Building Critical Mass

With the support from the Michael Cuccione Foundation funding, we have now been able to initiate a number of group initiatives. These include the following:

- a. Creation of A Western Canadian Childhood Cancer Research Network. Lead by members of the Michael Cuccione Foundation, at the BC Children's Hospital, a network of all researchers focused on childhood cancer was formed in May 2010. There is a high level of excitement regarding how this groups will extend a virtual critical mass throughout western Canada
- b. A new Canadian network focused on the developing biomarkers to help identify children and adolescent very early at risk for complications of the successful therapies given for childhood cancer and to develop therapies to minimize or reduce these complications that can impact on the life after the cure. This network is being led by Dr. Kirk Schultz along with Michael Cuccione Clinician Investigator, Dr. Rod Rassekh, Drs. Mary McBride (BC Cancer Agency), and a number of other researchers across Canada.
- c. A Genome Canada initiative is being lead by Dr. Poul Sorensen, the Johal Research Chair, and a member of the Childhood Cancer and Blood Research (CCBR) Group at the CFRI. Other CCBR members of this cross Canadian initiative include Dr. Juliette Hukin and Dr. Kirk Schultz.