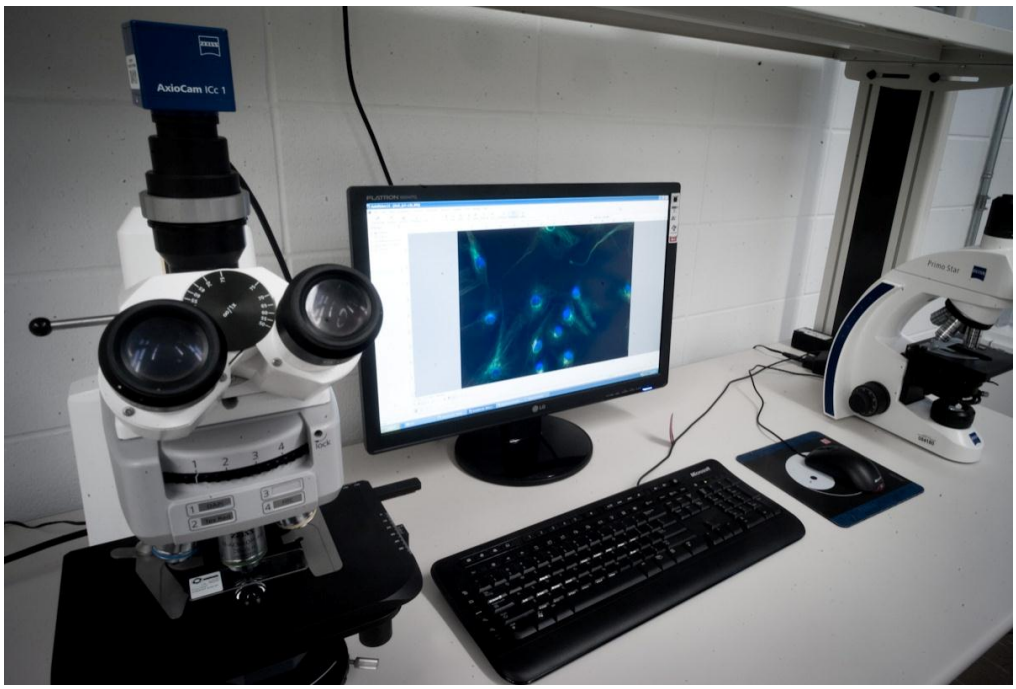
The Biomedical Youth Program (BYP)

What began as one researcher's desire to give something back to his adopted country has grown into a nationally recognized program to reduce racial, social, and economic barriers for disadvantaged youth to access education, training and careers in health fields. The Biomedical Youth Program (BYP) was created in 2006 by Dr. Francis Amara, a world class researcher in neurodegenerative diseases, in response to the lack of diversity in the University of Manitoba medical schools. Aboriginal and inner city youth are traditionally underrepresented in the sciences, and even fewer are in the health professions, such as medicine, nursing, pharmacy, dentistry and rehabilitation. Since 2006 over 3000 pupils have benefited from the activities and services of the BYP. as an essential long-term strategy to increase enrolment of Aboriginal, inner city and disadvantaged youth in health-related areas.



Inner-City Science Centre, located at the Niji Mahkwa Elementary School, Winnipeg

The BYP has eight programs with its main facility at the Inner City Science Centre, located in Niji Mahkwa School, an Aboriginal school located in Winnipeg's north end, the poorest and most violent part of the city. Three technologically-advanced laboratories – one for each of biology, chemistry and physics – provide opportunities for students from all over the city as well as for those living in the core to use equipment usually not available in schools. In some instances, the technology is more current than the equipment available at universities and colleges throughout Winnipeg and Manitoba. The specific programs include:

Head Start Aboriginal Science Project- This project specifically targets Aboriginal kids in Grade 1-3 in Winnipeg's North end, so that they can develop interest and engage in science at an early age.

Science Buddies- Science Buddies are After-school science clubs that engage students in creative thinking and problem solving. This is accomplished through hands-on science activities for Grade 4-12 pupils. These activities are organized by collaborative efforts involving parents, volunteers, and teachers.

Annual Summer Camp- This 5- day camp held in July for Grade 5-12 students, provide opportunities for them to explore and discover their interests in science, biomedical research and medicine. The camp is organized at several locations in the city, including the Health Sciences Centre and Winnipeg's North end.

Inner City Science Centre- A key feature of this Centre is that it brings a range of high-end science resources and environment directly to primary, middle, high school pupils and their teachers.

Mentoring-In partnerships with local science organizations and universities, we have recruited several volunteers to mentor students for grades 5-12 science fair projects and exhibitions.

Mobile Science Laboratories- In partnerships with Manitoba Innovation, Mines and Energy, under the leadership of Mr. Norman Lee. BYP has visited selected First Nations and mining communities For example, Swan River, Fish River, Cross lake, Skownan, Flin Flon, and Powerview to deliver hands-on activities and health sciences career exhibitions.

Learning and Leading in Science Institutes for Manitoba Teachers. In partnership with Manitoba Education, Science Teachers Association of Manitoba (STAMM), Manitoba Teachers Society, Manitoba First Nations Education and Resource Centre, and Winnipeg School Division, the BYP has organized and delivered several workshops and seminars for continuous professional development in science for primary, middle, and high school teachers.

Friends of the Inner City Science Incorporation- This is a group of about 30 parents and other stakeholders in Winnipeg's North end, who are responsible for raising funds for the Inner City Science Centre (ICSC) to cover part of its operating expenditure.

A new program comes on stream very soon with the completion of the **International Institute for Learning and Leading in Science** to be located on the campus of the University of Manitoba Medical School. With national interest in the BYP from other medical schools and educational organizations, the new institute is a logical outgrowth of the present program. Besides the expected benefits to participants who will be learning the science and technology skills they will be delivering, the institute will share its successful implementation models and,

over time, develop new programs which should be of interest to those providing science, technology, engineering and mathematics education and training around the world.

Today, Dr. Amara has succeeded where many other organizations were not able to start or maintain programs. His success, both in terms of getting the necessary financial and human resources, is related to the large number of partners he has been able to recruit and engage over several years. There are 59 partner organizations and a number of school districts who use the resources of the program. Among the partners are government departments, post-secondary institutions, NGOs, businesses and philanthropic organizations.

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The Biomedical Youth Program with its teacher professional development and student programs is an innovative program that seeks to increase participation of underrepresented in health-related education through developing the participants self-esteem so they can “see” themselves as doctors, nurses, pharmacists, dentists, technicians and therapists.