

Brooklyn College Cancer Center Annual Report May 2021

Introduction of BCCC-CURE

The Brooklyn College Cancer Center for CommUnity Outreach, Research, and Education (BCCC-CURE) was approved by the CUNY Board of Trustees in November of 2019. It was established virtually in September of 2020. The Brooklyn College Foundation provided a generous seed grant of \$250,000 for two years. The mission of the center is to enhance the lives and care of patients affected by cancer with a special focus on Brooklyn residents. Through this center, Brooklyn College (BC) seeks to expand its fundamental (basic and applied) research on cancer and combine research forces with local (NYC) cancer treatment centers and hospitals, and Brooklyn communities, while delivering first-class educational opportunities to our undergraduate and graduate students. Brooklyn College prides itself as an engine of socioeconomic mobility that serves a highly diverse community with transformative, distinctive, and affordable educational opportunities. BC has a student enrollment of 17,811 students—14,970 undergraduates and 2,841 graduates—who come from 143 nations and speak 92 languages. We have a special commitment to serving immigrants and first-generation college students, and other underrepresented students from diverse communities that make up our borough, city, and state.

BCCC-CURE scientists conduct research to understand the causes and mechanisms of cancer and to develop potential treatments for cancer patients. We are interested in developing tools and computational methods useful in medical diagnoses and treatments. Community-based patient support and cancer prevention are also areas of interest for BCCC-CURE researchers. As the focus of BCCC-CURE is on Brooklyn residents, we are initiating new modes of translational cancer research in the borough through partnerships with Brooklyn and NYC medical centers. Translational research is the “bench-to-bedside” model that transforms the findings of fundamental research into actual medical practice and treatment. Several our faculty members are funded by the National Institutes of Health, other federal agencies and private foundations to conduct cancer or cancer-related research. The cancer researchers at BCCC-CURE (see profiles in our web site¹) collaborate with many prestigious cancer centers, medical schools, and universities in New York, across the U.S., and overseas.² Brooklyn College is at the core of multiple community outreach efforts led by scientist and students alike, creating and maintaining broad collaborative educational and community-based programs with local schools and organizations within our area. Specific goals for community outreach include public seminars (science, resources); information on treatment options, access to clinical trials, prevention, supportive care, aftercare; and medical-translation training. Lastly, the educational mission of BCCC-CURE is to educate STEM professionals to improve cancer outcomes through research, education, and outreach. We offer a wide range of educational opportunities in the classroom (degree programs, seminars, and workshops), the laboratory (research opportunities), and the community (internships, translational training).

The Brooklyn College Cancer Center leadership includes Prof. Maria Contel, PhD, as Director and Research Area Leader, Prof. Jennifer Basil, PhD, as Associate Director of Community Outreach, and Prof. Brian

¹ BCCC-CURE. (2021). *Research*. <http://bccc.blog.brooklyn.edu/research/>

² BCCC-CURE. (2021). *Collaborating institutions*. <http://bccc.blog.brooklyn.edu/research/collaboration/>

Gibney, PhD, as Associate Director of Education. The Director and Associate Directors receive 6 and 4 hour of reassigned time per year respectively (teaching load at Brooklyn College is at 18 hours per year for the two academic semesters Fall and Spring or 6 three-credit courses). The BCCC-CURE Team also includes Ms. Ana Bartolome (Operations Manager and Administrative Assistant, part-time 15 hours per week) and Sheena Philogene (Assistant Professor and Science Librarian) with a commitment of 6 hours per week during the Fall and Spring semesters. We have additional support from the web designer Ms. Leonora Kisis from the Brooklyn College Information Technology Services. BCCC-CURE has currently two office interns (2h/ week).

BCCC-CURE has 25 faculty members (with 17 specifically focused on cancer research), 5 postdoctoral fellows, 35 doctoral students, 8 masters students and full-time research assistants, and over 40 undergraduate research students/assistants. Membership is open to all Brooklyn College principal investigators who may want to get involved cancer-related research projects as well as PIs from partner/collaborating institutions. We currently have three main areas of research: 1) Cancer Biology and Biochemistry; 2) Drug Development and Delivery; and 3) Patient Oriented Research (broadly defined). Faculty belong to the School of Natural and Behavioral Sciences, mostly to the Departments of Chemistry and Biology, with members from the Departments of Health and Nutrition Science, Psychology, and Computer Science. Faculty member, Michael Menser, PhD (Philosophy Department) is a community partner for BCCC-CURE and we are collaborating with the Immigrant Student Success Office, the Brooklyn College Haitian Institute, and the Brooklyn College Caribbean Program. We have collaborated on specific events across schools with the Departments of Puerto Rican and Latino Studies and the Sociology Department at Brooklyn College. We are currently expanding the number of faculty community and education partners.

Main Outcomes for the First Year (June 2020 to May 2021)

The first-year plan, designed over the summer of 2020, can be found at the end of this document along with proposed dates for specific tasks, and the proposed first year budget. We have added labels for accomplished/postponed/in progress for each activity. While the cancer center started activities in September of 2020, a task force worked on the elaboration of the first-year plan, budget, design of web site, working with a professional designer to create the BCCC-Cancer logo, and hiring of part-time operations manager during summer of 2020.

At the time we elaborated the plan, we were uncertain of how the pandemic would influence the return to campus and many of the proposed activities. Brooklyn College was not open to the public during Fall of 2020 (and there were very strict limitations allowing access to specific staff members and researchers). During Spring of 2021, only a few hybrid courses (mostly for science lab experiments and performing arts) were available. We have therefore run all events and meetings in a virtual format and have had to postpone the in-person inauguration of the Center. We had to also postpone some fundraising efforts to align with Brooklyn College priorities for 2020-2021 (focused on student support and relief due to the pandemic). We summarize the main achievements of the center in this period below.

General Functioning of the Center

- Establishment of BCCC-CURE leadership; governance plans, and advisory board.
- Design of the web site and BCCC-CURE logo.
- Design of first year plan and budget.
- Hiring a part-time Operations Manager/Administrative Assistant.
- Processing paperwork for reassigned time for Director/Associate Director, salary supplement for Librarian, stipends Task Force summer 2020.
- Design of BCCC-CURE fliers for publicity purposes. Establishment of social media accounts (FB, Twitter and Instagram).
- Meetings with BC administrators.
- Establishment of weekly meetings for the BCCC-CURE Team and weekly office hours for Director/Associate Directors. Establishment of a group in Teams (Microsoft) to work virtually.
- Overseeing plans for construction of office space, a state-of-the art teaching laboratory, and renovations of labs of two BCCC-CURE members which are under way (starting in 2022).
- Interviews on BCCC-CURE for Brooklyn College Alumni Magazine and for Brooklyn College.

Partnerships and Center Grant Submissions

- Establishment of formal partnerships with Maimonides Medical Center, the CUNY Advanced Science Research Center (ASRC), and the CUNY Graduate Center. Process on going with Memorial Sloan Kettering Cancer Center and SUNY Downstate.
- Establishment of formal partnerships with Community Organizations in Brooklyn and New York City (see community outreach outcomes).
- Preliminary conversations with program officers from the National Institutes of Health (Health Disparities) and National Cancer Institute to gather information for center grants (e.g. U54). No grants available for an institution like ours (they are only allowing submissions of renewals). RCMI can be a possibility, but we were recommended to partner with a Medical School (NCI-designated center preferred) and to have preliminary data and proof of collaboration.
- Research/Identification of Foundation Grants for specific center projects.
- Grant submitted to New York Community Trust (February 2021). Title: "Addressing Cancer Disparities in the Haitian/Caribbean Communities in Brooklyn". Amount: \$287,567 for three years. Under review.
- Grant to be submitted to the Cabrini Foundation (LOI/preliminary grant June 2021, Final submission by invitation in August of 2021). Title: "Addressing Cancer Disparities in the Latino Communities in Brooklyn". Amount: \$ 136,323 for one year. Possibility of yearly renewals. Both grants have research, education and community outreach components that includes the establishment of cohorts of students as health ambassadors in their communities, as well as the incorporation of underrepresented students in STEM/Biomedical labs and some small grants for researchers to pilot health-disparities component in their research.
- Participation in a round table at Brooklyn College Faculty Day to engage faculty from different schools in interdisciplinary programs (May 2021).

Research

- Incorporation of twenty-five BCCC-CURE principal investigators and researchers in their groups. Design of their faculty profiles for the web site.

- Establishment of scientific seminars series on Fridays at 12:30 PM. We had 26 Scientific Seminars (6 external speakers/20 internal BC speakers) on a variety of topics. Over 70% of the speakers were female. Seminars were very well attended with an average participation of 35 people.
- Organization of a Symposium on Colorectal Cancer with Maimonides Medical Center (5 MMC speakers/3 BC speakers).
- Identification of funding opportunities for different research fields in the cancer areas (both individual and institutional) including conversations with program officers from NIH. Dissemination of this information to all cancer researchers on a bi-weekly basis by email and updates on the web site.
- Update of the web site with news (grants, publications, patents, awards, etc from BCCC-CURE members). Publicizing scientific achievements/events in social media.
- Researching and mining data on cancer disparities in Brooklyn to write grant proposals.
- Creation of a “Brooklyn Health Map” by BCCC-CURE reference/library support member Ms. Sheena Philogene. The map can be found on this page: <http://sunsp.net/demo/p/>. It is a full dashboard looking at various aspects of health on the census tract, zip code, and neighborhood income level.
- Organization of a Fall 2020 general meeting with BCCC-CURE principal investigators and end of the Fall social event.
- Establishment of the Ethel & Bernard Garil Summer Research Internship program that allows seven undergraduates to perform research in the laboratories of BCCC-CURE members.

Education

- Planning two symposia with colleagues at the CUNY ASRC for the 2021-2022 academic year. One will be focused on nanomedical approaches to cancer and is scheduled for October 8, 2021. The second will be held in February 2022 and focus on the epigenetics of cancer.
- Investigations of the possibilities of developing certificate or degree programs related to cancer at Brooklyn College. These include discussions with and between the Departments of Chemistry and Biology on possible certificate or masters programs in cancer science. Preliminary conversations with Department of Health and Nutrition Sciences related to a Community Health Care Worker program.
- Working with Maimonides Medical Center to facilitate the placement of Brooklyn College undergraduates into physician shadowing opportunities.
- Offered Memorial Sloan Kettering Cancer Center’s Medical Interpretation Training course to 19 bilingual Brooklyn College students in Spring 2021. Plans are in place for the training of an additional 20 students in Fall 2021.
- Maintain accurate & timely information on scholarship/fellowship/training opportunities on the BCCC-CURE website.
- Working with colleagues at the CUNY ASRC, the Graduate Center, City College of New York, and Lehman College to provide all CUNY summer undergraduate researchers social and professional development events to augment their research training.
- Seminars by BCCC-CURE Director to the Immigrant Student Success Office ISSO (November 2020), CUNY Macaulay Against Cancer Students (March 2021) and students from underrepresented groups program at Brooklyn College like MARC, LSAMP, and CSTEP (April 2021) to raise awareness of research possibilities at BCCC-CURE for undergraduate students.

Community Outreach

- Discussions with a number of community organizations and individuals involved in community outreach efforts in Brooklyn and New York City.
- Establishment of collaborations with: Maimonides Community Outreach, Caribbean Women's Health Association; Global Women's Health Initiative (Dr. Christina Pardo, SUNY Downstate); Memorial Sloan Kettering Cancer Center (Dr. Abraham Aragones, focus Cancer Disparities), CUNY Graduate Center, Public Health Program; Kings County Cancer Center; Brooklyn College Haitian Institute, and Brooklyn College Caribbean Studies Program.
- Organization of three virtual community outreach talks from Brooklyn College members on Screening and Clinical trials for faculty and staff, students, and students/families respectively (impacted by Jody Steinhardt, Maimonides Medical Center).
- Organization of a community outreach event as part of the virtual Symposium on Colorectal Cancer with Maimonides Medical Center "Stomping Out Colorectal Cancer" impacted by Dr. Rebecca Rhee and Dr. Meredith Pittman (Maimonides Cancer Center).

Challenges & Opportunities

Despite of the pandemic we believe we were able to advance with most of the activities proposed in August of 2020. We met virtually with the leadership teams of medical institutions, community groups, funding agencies, and private foundations to build a network of willing partners. We now have the opportunity use the natural connections with, and between, our partners to strengthen these relationships in furtherance of our mission. We have also held successful virtual scientific talks, symposia and community outreach events which were well received by engaged audiences as exemplified by the well-attended Colorectal Symposium with Maimonides Medical Center. Many of these events were recorded and are available on the BCCC-CURE website. We look forward to the opportunity to offer these events in-person where we expect attendance to increase significantly. We will also work with our partners to increase the extramural educational opportunities for Brooklyn College students. The demand for such experiences is significant as exemplified by the medical interpretation training course. Over 150 applications were received from bilingual Brooklyn College students and we were able to train 19. The challenge here it to scale up to meet the overwhelming demand for this training and the need for medical interpreters in the clinics of Brooklyn.

BCCC-CURE has been able to submit one grant proposal with submission of a pre-proposal for a second grant imminent. This in a year when several significant federal funding opportunities for centers were either restricted to renewals (U54) or in some cases suspended in the case of P20 grants to prepare for larger P30 grants. We will continue to engage with our partners at NCI-designated medical institutions to build the collaborations necessary for successful grant proposals. Our efforts to engage with alumni benefactors were curtailed by the pandemic, but we were able to raise funds to support summer undergraduate internships and we are working on prospectuses for additional fundraising campaigns to support BCCC-CURE and its activities including postdoctoral research fellowships and graduate student fellowships).

The growth of BCCC-CURE over the past year is the result of the tireless efforts of the Director and Associate Directors to this project. Increasing the current level of teaching reassign time ($\frac{1}{3}$ teaching load for the Director, $\frac{1}{4}$ for each Associate Director) and summer stipend (the equivalent of 7 days) will ensure their ability to maintain this level of commitment to the success of BCCC-CURE. Additionally, the activities of BCCC-CURE necessitate that the part-time Operations Manager position be made a full-time position to support larger and more complex BCCC-CURE grant submissions and to manage these grants as they materialize. The BCCC-CURE team is working hard to raise funds.

Expenses (June 2020 -August 2021)

- Summer stipends (2020) to the three members of the BCCC-CURE summer 2020 Task Force (\$3,500 per person plus fringe) \$12,075
- Part-time Operations Manager/Administrative Assistant (September 1st, 2020 - August31st, 2021, 15h/week plus fringe) \$35,349.79
- Salary supplement to Science Librarian for Library/reference support (6 h/ week for two semesters Fall 2020 & Spring 2021) \$13,000
- Reassigned time for Director and Associate Directors at reduced (adjunct) rate plus fringe (3 h/week and 2 h/week for two semesters, respectively) \$30,849
- Summer stipends (2021) to the Director and Associate Director (\$3,500 per person plus fringe) \$12,075

Total = \$103,348

We have a surplus of ca \$21,000 with respect to what we had planned for the year (\$125,000) since we did not hold seminars or events in person (we did not have expenses associated with travel support, food, or even honoraria). We are planning several scientific and community outreach events in person for the academic year 2021-2022 and we will budget for those expenses (along with the official in person inauguration of the center).

Summary of Second Year Plan*

General Functioning of the Center

- Design of detailed second year plan and detailed second year budget.
- Organization of the formal in person inauguration of the center (end of Fall 2021/ Spring 2022).
- Processing paperwork for reassigned time for Director/Associate Director, salary supplement for Librarian, stipends Task Force summer 2021, hiring part-time Operations Manager/Administrative Assistant 2021-2022.
- Identify a space for an interim office for Brooklyn College Cancer Center for the academic year 2021-2022, phone line as well as computers/printer.

- Continue meetings with BC administrators, and the BCCC-CURE Team and weekly office hours for Director/Associate Directors.
- Work on Fall 2021 Fundraising Campaign for the center (Giving Tuesday).
- Organization of two Advisory Board meetings (one in Fall of 2021 and one in Spring of 2022).
- Continue overseeing plans for construction of office space, a state-of-the art teaching laboratory and renovations of labs of two BCCC-CURE members which are under way (starting in 2022).
- Continue with work related to publicity of the center (fliers, web site, social media, presentations to potential partners and donors).
- Set-up of a newsletter (to be distributed twice a year).
- Preparation of annual report (second year) and proposed plan for the third year.

Partnerships and Center Grant Submissions

- Establishment of formal partnerships with Memorial Sloan Kettering Cancer Center and SUNY Downstate.
- Continue with the establishment of formal partnerships with Community Organizations in Brooklyn and New York City (see plans for community outreach).
- Identification of Federal grant opportunities for a realistic Spring-Summer 2022 center grant submission.
- Continue with the research/Identification of Foundation Grants for specific center projects.

Research

- Update of profiles and directory on the web site. Incorporation of interested researchers from other institutions.
- Continuing scientific seminars series on Fridays at 12:30 PM. We anticipate 8 seminars per semester (Fall 2021 and Spring 2022). Bringing speakers from industry and training seminars for researchers.
- Organization of a second edition of Symposium on Colorectal Cancer with Maimonides Medical Center (March 2022).
- Organization of an in-person event with one Partner Institution including the showcase of research in both institutions (End of Spring 2022/Summer 2022).
- Continue with the identification of funding opportunities for different research fields in the cancer areas (both individual and institutional) including conversations with program officers from NIH. Dissemination of this information to all cancer researchers on a bi-weekly basis by email and updates on the web site.
- Set-up of a peer-review system for BCCC-CURE grant submissions.
- Set-up a program for fellowships (postdoctoral, doctoral and masters and undergraduate students) through donations.
- Securing funds for summer internships for undergraduate student research (2022).
- Continuing the update of the web site with news (grants, publications, patents, awards, etc. from BCCC-CURE members). Publicizing scientific achievements/events in social media.
- Organization of a Fall 2021 general meeting with BCCC-CURE principal investigators and end of the Fall social event.

Education

- Offer the Medical Interpretation Training course to Brooklyn College students in both Fall 2021 and Spring 2022.
- Organization of two scientific symposia with the CUNY Advanced Science Research Center (one in nanomedicine in October of 2021 and one in epigenetics in February 2022). Symposia to include participants from medical institution partners.
- Implement system to facilitate pairing of Brooklyn College undergraduates with shadowing opportunities at BCCC-CURE medical institution partners.
- Develop a proposal for a certificate or masters program related to cancer science.
- Continuing the update of the web site and social media with educational opportunities for students
- Continuing with seminars to student's organizations to raise awareness of research possibilities at BCCC-CURE for undergraduate students.

Community Outreach

- Establishment of a Committee or Task Force for Cancer Community Outreach efforts at Brooklyn College.
- Continue work with partners in the borough and identify new funding opportunities.
- In conjunction with the committee/partners continue developing specific activities for community outreach (including public schools and high schools).
- Facilitate seminars by cancer-focused medical centers (from the borough and NYC) in community centers for different topics (like clinical trials and treatment).
- Continue the medical translation course in partnership with MSKCC.
- Identify new training opportunities open to BC students for community outreach engagement in cancer topics (medical schools and centers, community centers).
- Identify possibilities for collaboration with other schools in the college.

*The plans for the second year will be modified accordingly if some of the foundation grants submitted during the first year are awarded (to achieve the specific aims of the grants)

Appendixes (attached)

- Detailed First Year Plan (Summer 2020).
- Report Financial Accounts for Brooklyn Cancer Center (*Board Designated Cancer Research Center Fund* (Unrestricted Fund) and *Brooklyn College Cancer Research Fund* (Temporarily Restricted Fund)).