

Brooklyn College Cancer Center

Spring 2023

Dear Members of the BCCC-CURE Community,

Happy new year to you all. It is with great pleasure that we welcome you to the first edition of our Brooklyn College Cancer Center (BCCC-CURE) newsletter. As you may know, the BCCC-CURE was launched in the Fall of 2020, with the mission of enhancing the lives of patients affected by cancer with a special focus on Brooklyn residents.

In this issue, we will reflect on successes and accomplishments we celebrated in summer and fall of 2022 and let you know about some of the exciting events we have planned for the Spring 2023. The newsletter will be shared twice per year and will highlight recent events, publications, and accomplishments of members of our team and present upcoming events we will be hosting throughout the upcoming term.

We would also like to take this as an opportunity to say thank you to our donors, foundations, partners, and friends for supporting our mission, our students, and our community. Your contributions are greatly appreciated!

We hope that you will all find this newsletter enjoyable and welcome all of our members to share content and ideas that you would like to see in our upcoming issues. If you have any feedback or comments to make, please do not hesitate to contact me or one of our team at:

BCCC-CURE@brooklyn.cuny.edu



BCCC-CURE Leadership

(Left to right) Maria Contel, Director, Jennifer Basil, Associate Director Community Outreach, and Brian Gibney, Associate Director Education

*Funding Secured by Brooklyn College Cancer Center***American Cancer Society** [2023-2026]

Diversity in Cancer Research Institutional Development Grant Program: "Supporting Cancer Research at Brooklyn College Cancer Center, a Highly Diverse Institution"

\$2.613 M

Gray Foundation [2023]

Operations Support Grant

\$100,000

Michael and Stacey Garil Research Summer Internship Program [2022]

\$23,800

Weill Cornell Medicine Clinical & Translational Science Center [2023-2025]

IMProving Access to Clinical Trials (IMPACT)

\$11,874

In addition to current active grants from BCCC researchers in 2022, the following researchers were awarded new grants. Congratulations to our 12 BCCC-CURE PIs on their success in securing grant funds to support their innovative research.

FEDERAL GRANTS**Professor Alexander Greer**"Mechanic Organic Photochemistry: Dark"
*National Science Foundation***Professor Mariana Torrente**"New Targets in C9orf72 FTD: Exploring Histone H3
S10 Phosphorylation"
*National Institutes of Health***INTERNAL GRANTS****Professor Alexander Greer,**"Mechanic Organic Photochemistry: Dark"
*PSCCNYPSC-CUNY Program Year 53***Professor Anjana Saxena,**"Department Chair Research Account Year 3",
*PSCCNYPSC-CUNY***Professor Margrethe Horlyck-Romanovsky**"Preventing Type 2 Diabetes in Black Communities:
Adapting the PreventT2 Diabetes Prevention Program
to the Black Caribbean Community in NYC"
CUNY Interdisciplinary Research Grant"Diet, Acculturation, Food Security, and the Risk of
Type 2 Diabetes Among African Immigrants Living in
New York City"
*PSCCNYPSC-CUNY Program Year 53***INTERNAL GRANTS (con't)****Professor Devorah Kletenik**"Calculating Adaptivity Gaps for the Stochastic
Boolean Function Evaluation Problem"
*PSCCNYPSC-CUNY Program Year 53***Professor Laura Reigada**"Inflammatory Cytokines"
*PUBFND/Sschawb Charitable Fund***Professor Mara Schvarzstein**"Regulation of Biological Size and Scaling in Polyloid
C.Elegans"
*PSCCNYPSC-CUNY Program Year 53***Professor Shaneen Singh**"In Silico Study Predicts a Key Role of RNA-Binding
Domains 3 and 4 in Nucleolin-miRNA Interactions"
Tow Research and Creativity Grant"An in Silico Approach to Decipher the Mechanism
of Cdc6 Interactions with Key Interaction Partners"
and "Building a Nek10 interactome: A Cancer-
Focused Computational Approach to Map Nek10's
Interacting Protein Partners"
PSC-CUNY

In the last six months of 2022, our researchers published 22 cancer and health related articles and book chapters in more than 15 books and journals.

Algorithmica

Grammel, N., Hellerstein, L., **Kletenik, D.** & Liu, N. 2022. Algorithms for the unit-cost stochastic score classification problem.

Bioconjugate Chemistry

Dragulska, S.A., Poursharifi, M., Chen, Y., Wlodarczyk, M.T., Acosta Santiago, M., Dottino, P., Martignetti, J.A. & **Mieszawska, A.J.** 2022. Engineering and Validation of a Peptide-Stabilized Poly (lactic-co-glycolic) Acid Nanoparticle for Targeted Delivery of a Vascular Disruptive Agent in Cancer Therapy.

Cancer Research

Silva, A. & **Singh, S.** 2022. A computational analysis of NEK10 and its novel protein-protein interaction with HspB1.

Cell Cycle

Murph, M., **Singh, S.** & **Schwarzstein, M.** 2022. A combined in silico and in vivo approach to the structure-function annotation of SPD-2 provides mechanistic insight into its functional diversity.

Current Developments in Nutrition

Caviglia, J., St Rose, K. & Yan, J. 2022. Diet-Induced Mouse Model of Nonalcoholic Steatohepatitis That Replicates the Human Disease.

Jiang, X., Kadam, I.I. & Trasino, S. 2022. Influence of Maternal Choline Supplementation on Metabolic Outcomes of Offspring With Prenatal and Postnatal Alcohol Exposures.

Frontiers in Molecular Biosciences

Golan, N., Schwartz-Perov, S., Landau, M. & **Lipke, P.N.** 2022. Structure and Conservation of Amyloid Spines From the *Candida albicans* Als5 Adhesin.

Hepatology Communications

St. Rose, K., Yan, J., Xu, F., Williams, J., Dweck, V., Saxena, D., Schwabe, R.F. & **Caviglia, J.M.** 2022. Mouse model of NASH that replicates key features of the human disease and progresses to fibrosis stage 3.

Molecular Ecology

Lue, C.H., Abram, P.K., Hrcek, J., Buffington, M.L. & **Staniczenko, P.P.** 2022. Metabarcoding and applied ecology with hyperdiverse organisms: Recommendations for biological control research.

Nature

Filliol, A., Saito, Y., Nair, A., Dapito, D.H., Yu, L.X., Ravichandra, A., Bhattacharjee, S., Affo, S., Fujiwara, N., Su, H., ... **Caviglia, J.M.** ... & Schwabe, R.F. 2022. Opposing roles of hepatic stellate cell subpopulations in hepatocarcinogenesis.

Nutrients

Jiang, K., Zhang, Z., Fullington, L.A., Huang, T.T., Kaliszewski, C., Wei, J., Zhao, L., Huang, S., Ellithorpe, A., Wu, S. & **Jiang, X.** 2022. Dietary Patterns and Obesity in Chinese Adults: A Systematic Review and Meta-Analysis.

Pathogens

Cobos, S.N., Janani, C., Cruz, G., Rana, N., Son, E., Frederic, R., Paredes Casado, J., Khan, M., Bennett, S.A. & **Torrente, M.P.** 2022. [PRION+] States Are Associated with Specific Histone H3 Post-Translational Modification Changes.

Klotz, S.A., Bradley, N. & **Lipke, P.N.** 2022. Blocking serum amyloid-P component from binding to macrophages and augmenting fungal functional amyloid increases macrophage phagocytosis of *Candida albicans*.

Klotz, S.A. & **Lipke, P.N.** 2022. The Paradoxical Effects of Serum Amyloid-P Component on Disseminated Candidiasis.

Photochemistry and Photobiology

Baptista, M.S., Cadet, J., **Greer, A.** & Thomas, A.H. 2022. Practical Aspects in the Study of Biological Photosensitization Including Reaction Mechanisms and Product Analyses: A Do's and Don'ts Guide.

Fonseca, J.L., Sosa, M.J., Petroselli, G., Erra-Balsells, R., Quindt, M.I., Bonesi, S.M., **Greer, A.**, Greer, E.M., Thomas, A.H. & Vignoni, M. 2022. Synthesis, Characterization, and Photocleavage of Bis-Decyl Pteric Acid: A Folate Derivative with Affinity to Biomembranes.

Journal of the American Chemical Society

Marciano, Y., Del Solar, V., Nayeem, N., Dave, D., Son, J., **Contel, M.** & Ulijn, R.V. 2022. Encapsulation of Gold-Based Anticancer Agents in Protease-Degradable Peptide Nanofilaments Enhances Their Potency.

Journal of Map & Geography Libraries

Philogene, S. 2022. The Brooklyn Health Map: Reflections on a Health Dashboard Visualizing Connections between Social Factors and Health Outcomes in Brooklyn, NY.

Journal of Photochemistry and Photobiology B: Biology

Tonon, C.C., Ashraf, S., de Souza Rastelli, A.N., Ghosh, G., Hasan, T., Xu, Q., **Greer, A.** & Lyons, A.M. 2022. Evaluation of photosensitizer-containing superhydrophobic surfaces for the antibacterial treatment of periodontal biofilms.

Photochemistry and Photobiology

Jabeen, S., Ghosh, G., Lapoot, L., Durantini, A.M. & **Greer, A.** 2022. Sensitized Photooxidation of Ortho-Prenyl Phenol: Biomimetic Dihydrobenzofuran Synthesis and Total 1O₂ Quenching.

Turque, O., O'Connor, R.M. & **Greer, A.** 2022. Singlet Oxygen's Potential Role as a Nonoxidative Facilitator of Disulfide S–S Bond Rotation.

PLOS One

Geerling, E., Murphy, V., Mai, M. C., Stone, E. T., Casals, A. G., Hassert, M., ... **Murelli, R.P.** ... & Brien, J. D. 2022. Metal coordinating inhibitors of Rift Valley fever virus replication.

Congratulations to our recent BCCC-CURE doctoral graduates!

Alex Berkowitz (advisor: Prof. [Ryan Murelli](#))
Yaron Marciano (advisor: Prof. [Maria Contel](#))
Shakeela Jabeen (advisor: Prof. [Alec Greer](#))
Avdar San (advisor: Prof. [Shaneen Singh](#))

2022
STUDENT
GRADUATES

VISITING
SCHOLARS
FALL 2022

**Dr. Ignacio Leon**

Research Associate in CEQUINOR (CONICET-UNLP) and Professor at the Universidad Nacional de La Plata, Argentina

*Fulbright Scholar at BCCC-CURE
(Contel Lab)*

Through our four student centered education programs, the BCCC-CURE provided specialized educational opportunities and funding to students through the:

- [Mount Sinai Tisch Cancer Center Lay Health Navigators Program](#)
- [Memorial Sloan Kettering Hospital Medical Interpreting Training](#)
- [Maimonides Cancer Center College Summer Internship Program](#)
- [Stacey and Michael Garil Summer Research Internship](#)

2022 STUDENT
PROGRAMS

Scientific Seminars and Symposia



September 9th, 2022 12:30PM BCCC-CURE Scientific Seminar by Dr. Nagi Ayad (Professor, Lombardi Comprehensive Cancer Center, Georgetown University Medical Center). “Chemical Biology Approaches in Brain Cancer”. Hosted by Dr. Theodore Muth.

September 23rd | October 14th | November 18th, 2022 9:00AM – 2:00PM “Drug Development” Short Training Course for principal investigators, postdoctoral fellows, graduate students, and advanced undergraduate students. Imparted by Dr. Benjamin Blass (Assistant Professor of Medicinal Chemistry, School of Pharmacy, Temple University). In person event hosted at BC Library – Tanger Auditorium. Coordinator: Dr. Maria Contel.

September 30th, 2022 12:30PM BCCC-CURE Scientific Seminar by Dr. Marlene Camacho-Rivera (Assistant Dean for Student Engagement and Success, Assistant Professor, Department of Community Health Sciences, SUNY Downstate Health Sciences University) “Within the Box: Elucidating Heterogeneity across the Cancer Continuum among Latinos in the U.S.” and Prof. Sheena Philogene (Assistant Professor, Brooklyn College Library) “Evaluating Healthcare Barriers and Outcomes Within Hispanic and Latino Populations in Brooklyn, NY Using Spatial Trend Analysis”. Hosted by Dr. Jennifer Basil.

October 7th, 2022 9:00AM-12:00PM Symposium on “Nanoscience Approaches to Cancer” co-hosted by the Brooklyn College Cancer Center (BCCC-CURE) and the CUNY Advanced Science Research Center (ASRC). Hosted by Dr. Brian Gibney.

October 21st, 2022 12:30PM BCCC-CURE Scientific Seminar by Dr. Eszter Boros (Assistant Professor, Department of Chemistry, Stony Brook University). “Medicinal Inorganic Chemistry – Opportunities for Diagnostics and Therapeutics with Diverse Mechanisms of Action”. Hosted by Dr. Maria Contel.

October 28th, 2022 8:45AM-7:00PM Second Brooklyn Breast and Women’s Cancer Symposium co-hosted by BCCC-CURE and Maimonides Health, with the participation of SUNY Downstate Health Sciences University, Memorial Sloan Kettering Cancer Center (MSKCC), Weill Cornell Medicine, and Mount Sinai Tisch Cancer Center, American Cancer Society, and Johnson & Johnson. (In-person/virtual talks).

November 4th, 2022 12:30PM BCCC-CURE/Chemistry Department Joint Scientific Seminar by Dr. Dan Gibson, (School of Pharmacy, The Hebrew University, Jerusalem, Israel) “Pt(IV) Prodrugs: Can We Find The Roadmap To The Holy Grail?” Hosted by Dr. Maria Contel.

Community Outreach Events

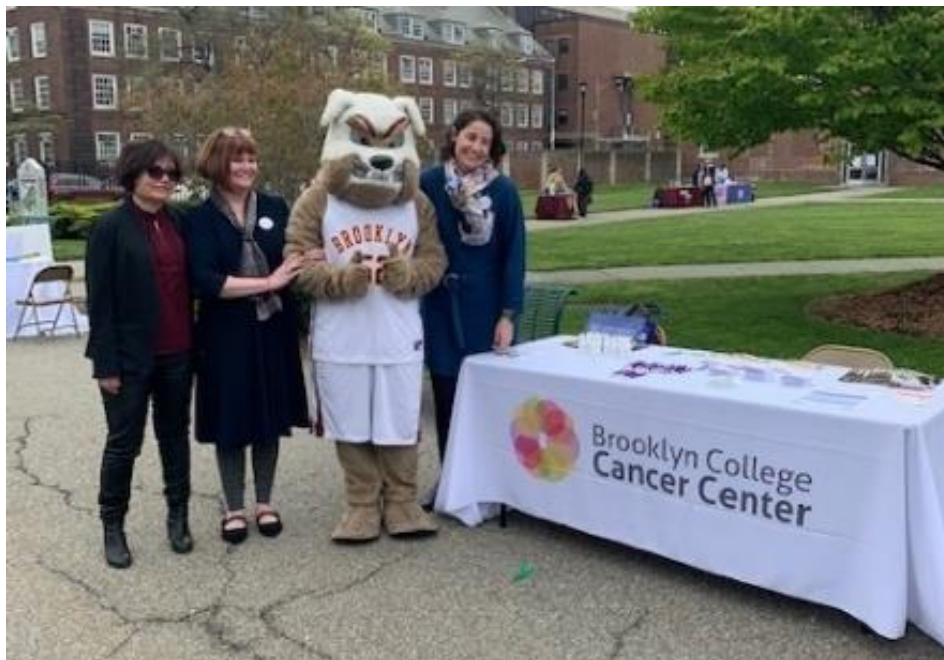


September 21st, 5:00PM – 7:00PM Community Outreach In-Person/Facebook Live Event “Women’s Cancer Prevention Workshop in Spanish” Co-Hosted by BCCC-CURE, Mixteca, and Mount Sinai Tisch Cancer Center.

October 9th, 8:00AM – 12:00PM American Cancer Society and BCCC-CURE Community Outreach Event, Making Strides – Breast Cancer Walk – BC Against Cancer Team (at Coney Island, Maimonides Stadium)

October 11th, 5:45PM – 8:00PM Community Outreach Event, “A Talk for Survivors” Domestic Violence and Breast Cancer Prevention. Co-Hosted by BC Women of Color Club, BC Health Clinic, and BCCC-CURE with the participation of Mt. Sinai Tisch Cancer Center.

October 28th, 3:00PM – 3:00PM Community Outreach Event “Community Outreach Breast Cancer Prevention Workshop” – Session 3 of the Second Brooklyn Breast and Women’s Cancer Symposium co-hosted by BCCC-CURE and Maimonides Health, with the participation of SUNY Downstate Health Sciences University, Memorial Sloan Kettering Cancer Center, and Mount Sinai Tisch Cancer Center.



Guillermo Gerona-Navarro, Ph.D

Associate Professor, Chemistry Department,
Brooklyn College



In 2-3 sentences can you describe your cancer research topic?

Our laboratory focuses on studying the role of epigenetic regulation of gene transcription on cancer development and progression. Our current goal is to develop allosteric inhibitors of the polycomb repressive group of proteins (PRC2), a multimeric protein complex responsible for methylation of histone 3 at lysine 27. This repressive methylation mark is highly upregulated in several different types of cancer, including Diffuse large B cell lymphoma (DLBCL), breast, ovarian, and kidney cancer, among others.

When and where did you start doing cancer research?

I started doing cancer research, particularly studying cancer epigenetics, in 2007 during my postdoctoral work at Mount Sinai School of Medicine in NYC.

When did you start your research at Brooklyn College?

I joined the Chemistry Department of Brooklyn College as an Assistant Professor in the Fall 2013, where I started my chemical biology lab.

Briefly, what are the most rewarding and most challenging components of your cancer research career?

The most rewarding component of my cancer research career is the feeling of giving my best to contribute in the fight against a disease that impacts so many people's lives. This has become an even more sensitive topic for me after having lost my father to cancer two years ago. The most challenging component of my research career right now is to be able to keep my lab fully funded in the current funding environment. From a scientific point of view, it is certainly a huge challenge to design a molecule that binds selectively a protein domain, and by doing so, it triggers a desired cellular response, particularly given the extreme complexity of the cellular machinery.

Do you collaborate with external institutions?

Yes, we have currently several active collaborations with external institutions, such as Mount Sinai School of Medicine, Memorial Sloan Kettering Cancer Center and Hostos Community College of CUNY.

How has BCCC-CURE supported you or helped with your cancer research?

Although BCCC-CURE is fairly new, it has already provided an excellent environment for cancer researchers in our institution. The seminars and symposiums organized by BCCC-CURE have also been excellent, giving us a great opportunity to get to know some outstanding cancer scientists and to learn about their cutting-edge research. The grants recently awarded to BCCC-CURE by the American Cancer Society and Gray Foundation, will certainly be pivotal in supporting and enhancing our cancer research/training capacity.

What do you do for fun in your free time?

My favorite thing to do is to spend time with family and friends. I love working out, playing basketball, and traveling. I also try to enjoy the many cultural opportunities that the city offers: opera, Broadway musicals, classic ballet, museums, concerts, basketball games and outdoors activities.

Nazia Nayeem

Fifth Year Doctoral Candidate, CUNY Graduate Center Biology PhD Program, Brooklyn College



In 2-3 sentences can you describe your cancer research topic?

I am working on the pre-clinical evaluation of a ruthenium metal based potential chemotherapeutic agent. This compound has been tested in cancer cells and in mice, showing great efficacy against fighting triple negative breast cancer, the most aggressive form of breast cancer. There is a great deal of tumor growth inhibition with the drug and we hope to continue testing and finding its exact mechanism of action. Since the compound is water soluble, the hopeful eventual transition into clinical studies and trials will be easier as it can be delivered orally.

When did you start your research at Brooklyn College? When did you join the Graduate Center?

I joined the graduate center as part of the biology PhD program in August 2018. In July 2019, I officially joined my group, the Contel Laboratory, at Brooklyn College.

Briefly, what are the most rewarding and most challenging components of your doctoral studies?

There is a lot of joy that I derive from research! I'm essentially solving a giant puzzle – does my hypothesis match my results? Are the

experiments I'm doing worthwhile to expand my research interests? Are there other experiments I should look into that would be advantageous to complete? Each result fits a different piece of the puzzle and my research interests? Are there other experiments I should look into that would be advantageous to complete? Each result fits a different piece of the puzzle and it's super interesting to see how the story comes together in the end.

Do you collaborate with external institutions?

Being in the NYC area is super beneficial for collaborations. I have been able to work with different CUNY institutions such as City College and the Advanced Science Research Center (ASRC). I was also able to complete a project with Memorial Sloan Kettering Cancer Center. Even outside of NYC, I have collaborated with research scientists at Temple University in Philadelphia, PA and at Dartmouth College in Hanover, NH.

How has BCCC-CURE supported you?

The BCCC-CURE has introduced me to some of the leading scientists in the field from their seminars. I was able to introduce myself to people I would normally not be able to, and learn about many interesting and cutting edge topics. I have also gotten a lot of caffeine support from the office by coming in during their office hours – something I would recommend for all Brooklyn College students to do 😊

What do are your plans for the future?

I am hoping to graduate toward the end of this spring semester and find a position in the industry. I have loved being in academia but I would be interested in exploring other roles in the research world.

What do you do for fun in your free time?

I enjoy going to concerts and listening to new music! I almost always have my headphones on in the lab. I also enjoy taking pottery classes and making ceramic pieces as a way to destress over the weekends.



Sheena Philogene

Assistant Professor, Science Librarian, Brooklyn College



In 2-3 sentences can you describe your role at BCCC-CURE?

I am the librarian of the BCCC-CURE and in that role, I find for and share potential funding opportunities that would be appropriate for the center and our researchers. I also work in other areas of the center developing tools and resources that are used by our researchers and collaborators.

When did you start your role at BCCC-CURE?

I started in my role in the Fall of 2020 when the BCCC-CURE first launched.

Briefly, what are the most rewarding and most challenging components of your role at BCCC-CURE?

The most rewarding component of my role is seeing the funding opportunities I find and the resources I create to help benefit other people. Knowing that a grant I share can help support breakthrough cancer research and the tools I build make it easier for people to find important information is really very satisfying.

And, the most challenging component of my role is deciding where to spend my time. There are many different projects that I'd like to work on but it can be challenging to prioritize everything with the time I have available.

Can you tell us a little bit about your own research?

My research focuses on spatial analysis using GIS. I graduated with a Master's degree in Geoinformatics in the spring of 2022, and my thesis involved a spatio-epidemiological assessment of the sociocultural, demographic, and environmental risk factors that were associated with a higher incidence of the six most commonly diagnosed cancers in Brooklyn between 2013 and 2017. I also created the [Brooklyn Health Map](#) as online health dashboard to make it easier for people to find relevant health information about Brooklyn.

In your role, do you collaborate with external institutions?

Being the librarian of the center hasn't involved a lot of collaboration with external institutions yet, but through this role I have been able to connect with collaborators for my research at external institutions, like the SUNY Downstate Health Sciences University.

What do you do for fun in your free time?

I spend a lot of my free time crafting, baking, and practicing an assortment of musical instruments. I really enjoy learning and trying new things too, so I spend time taking classes in things like tap dance and ice skating. I also really love reading and will use any spare moment in a book.

UPCOMING BCCC-CURE EVENTS

BCCC-CURE Spring 2023 Scientific Seminars

Friday, Feb 3rd, 12:30-1:30PM Joint Scientific Seminar with the Computer Science Department by PhD Student Naifeng Liu (Advisor: [Dr. Devorah Kletenik](#) - Zoom seminar. "Biomedical Triple Extraction Using NLP" Host: [Dr. Jennifer Basil](#)

Friday, Feb 10th, 11:00-12:00PM Joint Scientific Seminar with the Chemistry Department by [Dr. Daniele Di Marino](#) (Associate Professor, Polytechnic University of Marche, Department of Life and Environmental Science, Italy) "Tackling translational control in cancer: structural and functional characterization of CYFIP1-derived peptidomimetic". Host: [Dr. Emilio Gallicchio](#)

Thursday, Feb 23rd, 12:30-1:30PM Joint Scientific Seminar with the Biology Department by [Dr. Debyani Chakravarty](#), (Lead Scientist, OncoKB, Kravis Center for Molecular Oncology and Assistant Attending, Molecular Diagnostic Service, Department of Pathology and Laboratory Medicine) "Clinical Cancer Genomics and Precision Oncology at MSK". Host: [Dr. Maria Contel](#) at the BC Library, Woody Tanger Auditorium **1:30-2:30PM** Networking Light Lunch for students and faculty at the Lily Pond Room. [Click to register for this event.](#)

Friday, March 3rd, 12:30- 1:30PM Joint Scientific Seminar with the Chemistry Department by [Dr. Dan Sackett](#) (Division of Basic and Translational Biophysics Eunice Kennedy Shriver National Institute of Child Health and Human Development, NIH). "Colchicine: A Gift from the Past with Novel Leads for the Future". Host: [Dr. Ryan Murelli](#)

Friday May 5th, 12:30-1:30PM Joint seminar with the Chemistry Department by [Dr. Annie Castonguay](#) (Armand-Frappier Santé Biotechnologie Research Centre. INRS, Montreal, Canada) Title "Design of Biologically Active Ruthenium-Based Organometallic Complexes". Host: [Dr. Maria Contel](#)

BCCC-CURE Spring 2023 Community Outreach Events

Saturday, Feb 4th, 9:00-4:00PM Health Fair with Free Mammograms for Latinas (at Mixteca Organization) **11:00-12:00PM** Facebook Live Talk on Preventing Men's Cancers in Latinos **1:00-2:00PM** Facebook Live Talk on Preventing Women's Cancers in Latinas

Thursday, March 23rd, 12:00-2:00PM Cancer Prevention, Treatment and Clinical Trials in Brooklyn: Talking about Cancer. These Conversations Save lives. Luncheon for BC Staff will be served (at the Maroon & Gold Rooms in SUBO). [Click to register for this event.](#)

Thursday, April 27th, 12:00-2:30PM BC Health and Wellness Fair: Taking Care of Your Own Health (at the BC West Quad) Co-hosted by BCCC-CURE and BC Division of Student Affairs, Health and Wellness.

BCCC-CURE Spring 2023 Educational Opportunities

Thursday, March 9th, 12:30-1:15PM BCCC-CURE Career Talk for Students with [Dr. Oscar Lahoud](#) (Medical Director, Strategic Partnerships, Division of Hematologic Malignancies, Memorial Sloan Kettering Cancer Center) Title: TBD. Host: [Dr. Brian Gibney](#). **1:15-2:00PM** Networking Light Lunch for students at the BC Library, Room 411

Please visit our [website](#) to find timely information about our past and upcoming educational opportunities, community outreach events, and information about becoming a BCCC-CURE member.

Thank you,
The BCCC-CURE Team

[Contact our office!](#)