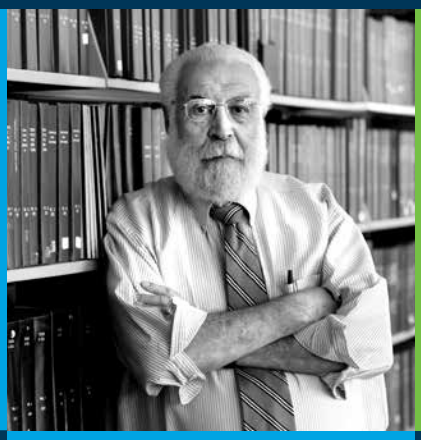
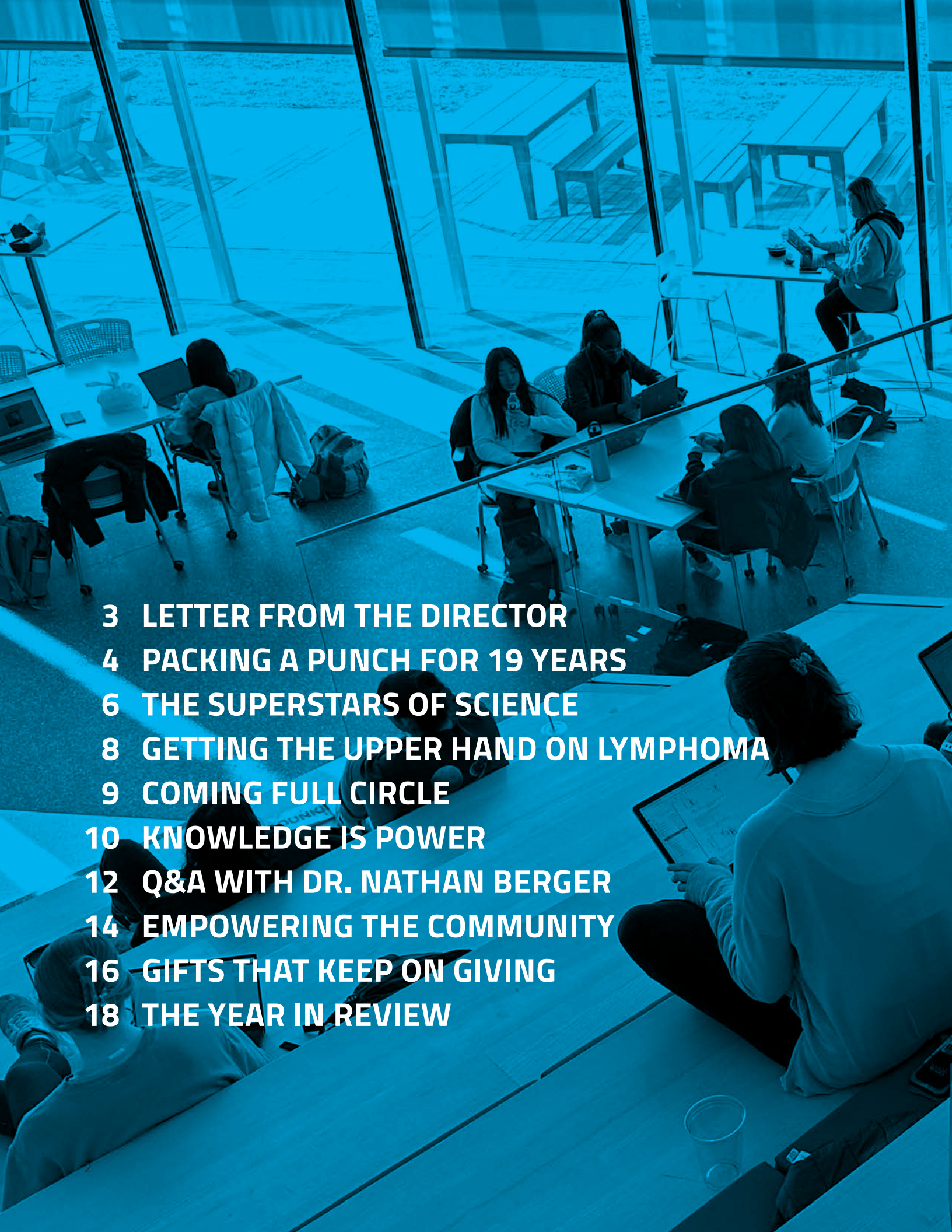
CASE COMPREHENSIVE CANCER CENTER 2022 ANNUAL REPORT

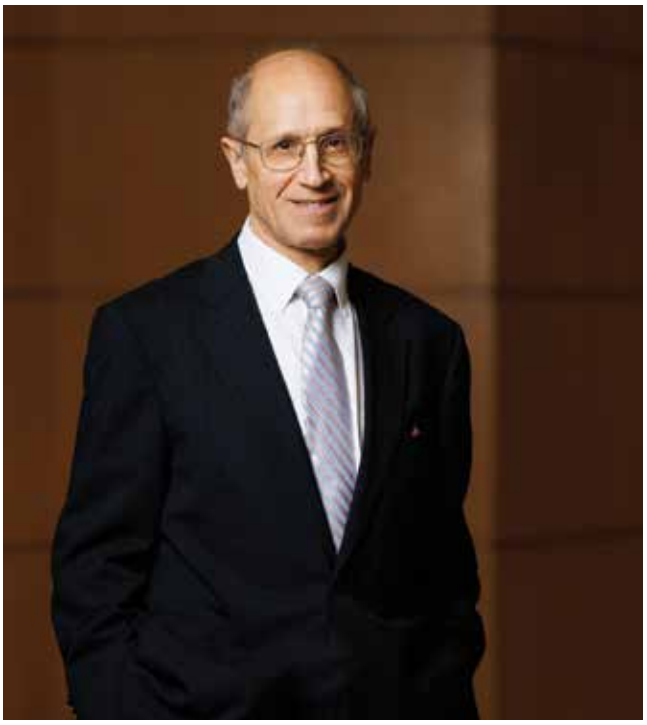


CASE WESTERN RESERVE UNIVERSITY

CASE COMPREHENSIVE CANCER CENTER



SPOTLIGHTING THE SUPERPOWERS OF SCIENCE



Join me to celebrate the incredible accomplishments of our cancer research community at the Case Comprehensive Cancer Center (Case CCC). While 2022 has been a transitional year for us, we continue to recognize that the power of our consortium comprehensive cancer center lies in pushing each discovery toward patient and community impact, linking students to our training programs to enhance greater awareness of and desire to participate in the field, and generating support for our research programs that sustain the work of membership from translational science to clinical benefit.

Our investigator teams continue to make paradigm-shifting discoveries across our three consortium sites—Case Western Reserve University (CWRU), Cleveland Clinic, and University Hospitals (UH). We move these discoveries into early-phase clinical trials and prevention studies in the community. And, we even license our efforts to commercial entities enabling larger-scale clinical evaluation. As the meeting ground for new concepts, we continue efforts to spawn multi-investigator grants and maintain a spectacular therapeutic home-grown pipeline.

Inside this report, you will find evidence of leading-edge discoveries in clinical trials that prolong—and often save—the lives of people whose cancer diagnoses would have been immediately fatal a few years ago. You will see a concentrated effort in cancer training which led to a record-breaking number of applicants for our training programs, including engaging over 80 Cleveland Metropolitan School District students in cancer education programs.

I am excited to announce that, after an intense year-long search, our institutional leaders selected Gary Schwartz, MD, an internationally recognized expert in early-phase clinical investigation of sarcomas and melanoma, as Case CCC Director. I will continue to fully focus on my duties as Dean of the CWRU School of Medicine.

There are many times I have been proud to represent Case CCC during my directorship. However, as I reflect on the past and look toward our future renewal process, the stand-out moment is being the first cancer center in the country to be recognized with a two-year merit extension of our Cancer Center Support Grant from the National Cancer Institute (NCI)—a recognition reserved for the top centers in the country. This vote of confidence in our consortium, talented center members, staff, and, above all, our advanced research and translational capabilities, provides an added impetus for our campaign against cancer.

Stan Gerson, MD
Director
Case Comprehensive Cancer Center

Packing a Punch for 19 Years

As the longest-serving director in the history of Case CCC, while also maintaining a dual role as the Dean of Case Western Reserve School of Medicine for the past three years, Stanton Gerson, MD, optimizes every second. He can't afford not to. As the flute-playing, kitten-loving, avid hiker, and puzzle expert prepares now to don a single hat as Dean, he stopped, for a minute, to reflect on his tenure at Case CCC.

Can you talk about the culture at Case CCC today and how it came to be?

All cancer center consortiums in the country struggle with integration of effort for cancer research priorities across institutions. We have three institutions and perhaps we'll add others. Full integration establishes the culture for all consortium situations. Providing a platform for collaboration of ideas that promote high-quality science across the institutions is most important. Maintaining a collaborative spirit and environment where collective ideas win out is perhaps the hardest work of the center.

What drove your decision to become the Case CCC director?

I wasn't really looking for the job. I was chief of the division of Hematology/Oncology at UH and associate director for clinical research under Case CCC director Jim Willson. In 2003-2004, Cleveland Clinic School of Medicine affiliated with CWRU School of Medicine to create the Cleveland Clinic Lerner College of Medicine at CWRU. This allowed physicians to become faculty members and Case CCC participants, thus an important turning point as it enabled Jim to orchestrate one of the few supplemental applications permitting the Cleveland Clinic to join the Case CCC consortium. After this huge accomplishment, Jim became the Director at UT Southwestern in Dallas, and I stepped in.

Tell me about one of your favorite "firsts" in your career.

Shortly after I became an associate professor, I was incredibly lucky to design an experiment with a number of collaborators that introduced the MGMT gene into transgenic mice with a genetic construct that focused expression on the thymus. We injected our first litter with the T-cell informer carcinogen. At 110 days, half of the mice had died and only the surviving mice had the transgene. We published the paper about six months prior to competitors in Manchester and Tokyo who were working on similar systems targeting the liver. The work was reviewed in a textbook, and I received R01 funding to take the concept to protect bone marrow from chemotherapy in patients with glioma to clinical trials at the NCI, City of Hope, and Case CCC.

If you could choose a top discovery to come out of Case CCC in your tenure, what would it be?

Critical discoveries typically take five to 10 years to fully mature, so it's never a good idea to pick one or two major research topics. We have a surprising number of discoveries that have been licensed for application in clinical trials and as commercial products—after all, this impacts the community more than the discovery itself. But since you asked, I would include MRI fingerprinting and its role in diagnosis, the use of AI to support MRI and histology diagnostics, a variety of genetic discoveries important in cancer diagnosis and prognosis including a large number of genetic mutations found in metabolic lineage giving rise to AML and MDS, esophageal cancer discovery genes leading to a diagnostic test, identification of a polymorphism in steroid metabolism affecting diagnosis and treatment in prostate cancer and breast cancer, an appreciation of epigenetic changes in cancer progression resistance and predisposition, and finally a wide range of immunology oncology applications from genetic discovery to novel CAR-T.

When you took the reins of Case CCC, did you think you'd still be here today?

I've thought much more about retiring over the past 20 years than I've thought about still being the Case CCC Director but suffice it to say the job has changed considerably due to shifts in the interface between our institutions. These changes were my impetus to step down in 2016 from my role as University Hospitals Seidman Cancer Center Director. My time at Seidman was rewarding. I helped design the building and reinforced the importance of translational and clinical research across disease teams. Advice I'd give to any leader—and that I follow—is listen to, find, and promote the best ideas. Go with the winners.

What has surprised and rewarded you most about your journey?

First, I cherish leading a team of remarkably capable translational and clinical investigators passionate about uncovering the basic biology of cancer for life-saving therapeutic and diagnostic impact. Case CCC is different from any other consortium in the country.

It is well recognized by our community and NCI that the institutions working together have made much more progress than they would have individually. NCI gave us an exceptional score at the last review due to the collective work by investigators across the institutions. Due to restructuring, Case CCC now has a direct line of authority to institutional leadership. I believe it is critical to have decision-makers in the room together. Finally, changes and advances in cancer research mean the job is never stagnant. Opportunities always exist to invent solutions to complex organizational or scientific issues. I view Case CCC as the enabler to reducing barriers to success and providing resources to bring concepts from the bench to patient care.

THE SUPERSTARS OF SCIENCE

Together with its partners—CWRU, University Hospitals, and Cleveland Clinic—Case CCC engages in powerful cancer-relevant discovery science that serves as the foundation for translational science. In other words, we bring good science to the fore to benefit our catchment-area population and, later, the general public. Without research that discovers new treatments, cancer will continue to kill 1,670 individuals daily according to the American Cancer Society.

Case CCC is organized into six interdisciplinary scientific research programs that include over 400 members across its affiliated institutions. Members work collaboratively within and across programs on a broad range of cancer-related topics, including the following highlights from 2022.

CANCER IMAGING

Satish Viswanath, PhD, and his interprogrammatic team utilize biologically inspired computational imaging features to determine a patient's response to therapy. Their approach involves developing novel AI algorithms to interrogate the tumor phenotype in detail via measurements of tumor heterogeneity, topology, shrinkage, and deformation. The goal is for physicians to use these prognostic and predictive tools to plan the best course of treatment for a patient—watchful waiting or further therapeutic interventions. This technology is being validated on clinical trial cohorts for the management of colorectal cancer but is likely to be applicable to many other cancers.

IMMUNE ONCOLOGY

Led by David Wald, MD, PhD, and Paolo Caimi, MD, investigators undertook a multi-omic approach to profile CD19 CAR T cell products produced in Case CCC's cell therapy facility as part of the non-Hodgkin's lymphoma CAR T trial conducted by Caimi, revealing that TIGIT may be an important marker of CD19 CAR T cell dysfunction. The team evaluated this hypothesis by utilizing CAR T against PDX models of non-Hodgkin's lymphoma in immune-compromised NSG mice and showed that treatment with CAR T along with anti-TIGIT antibody can prolong tumor-bearing mice survival. Multi-PI grant applications have been submitted to further sustain and expand this important work.

DEVELOPMENTAL THERAPEUTICS

A study by Jordan Winter, MD, demonstrates that genetic deletion of IDH1 reduces the growth of pancreatic cancer cells in cell culture under low nutrient conditions and in mouse models of pancreatic cancer. It also found the FDA-approved mutant IDH1 inhibitor, Ivosidenib, was surprisingly potent against the wild-type form

of the protein, especially when combined with the important low magnesium condition—a point neglected in previous studies. On these findings, Winter and colleague David Bajor, MD, enrolled 15 patients with resectable pancreatic cancer in a Phase I Single-Center, Open Label, Dose De-escalation and Expansion Study of Ivosidenib + mFOLFIRINOX in resectable pancreatic adenocarcinoma. The trial is ongoing.

POPULATION AND CANCER PREVENTION

Using population-based data, Nima Sharifi, MD, and colleagues have identified a gene, HSD3B1, that is associated with extragonadal synthesis of androgens. In this study, men with prostate cancer and the "adrenal restrictive" allele, which limits extragonadal synthesis, have a much more favorable survival than men with the "adrenal permissive" allele. Researchers then studied this polymorphism in women with breast and endometrial cancers and found comparable results. These findings may contribute to observed survival disparities in our catchment area.

CANCER GENOMICS & EPIGENOMICS

Mapping 3D genome architecture is useful to understand human diseases including cancers. However, generating high-resolution 3D genome maps with Hi-C has been a major challenge due to the complex bias structure, severe data sparsity, and high sequencing cost. Fulai Jin, PhD, and colleagues performed the first allele-specific chromatin loop analysis in human cells, which is not possible with conventional Hi-C pipelines. They combined HiCorr with deep learning-based image enhancement methods and published a new tool named DeepLoop for Hi-C analysis. DeepLoop reduces the sequencing depth requirement for Hi-C by at least 10-fold, thus democratizing the genome-wide 3D genome analysis and demonstrating the feasibility to perform kb-resolution 3D genome mapping in complex tissues with single cell Hi-C. DeepLoop significantly expands the use of Hi-C technology to provide loop-resolution insights into the function and genetics of 3D genome.

MOLECULAR ONCOLOGY

A study led by Maria Hatzoglou, PhD, suggests that adaptive pausing response provides a mechanism for cancer cells to survive anti-cancer therapies. While it remains unclear how tumor cells adapt to the number of stressors to which they are subjected, Hatzoglou's team observed that cellular stress, modeled by a hypersomotic state, forces cells into an adaptive pausing state which limits ATP supply and consumption through mitochondrial fragmentation, which can be reversed in less stressful conditions. This new mechanism is being investigated in a variety of cancers as a novel therapeutic opportunity. The research team includes Saba Valadkhan, MD, PhD, and Youwei Zhang, PhD.

GETTING THE UPPER HAND ON LYMPHOMA

When Jack Boyle went to the UH Seidman Cancer Center for a second opinion on an aggressive subtype of non-Hodgkin lymphoma attacking his body, he discovered his superpowers.

Thanks to Boyle's oncologist, Molly Gallogly, MD, PhD, member of Case CCC's Immune Oncology Program, he learned of a novel CAR T immunotherapy treatment offered through a clinical trial led by Benjamin Tomlinson, MD, Case CCC's Developmental Therapeutics Program member.

The researchers explain, "The study on which the trial is based determines the possibility of treating relapsed or refractory lymphoid malignancies (Non-Hodgkin Lymphoma, Acute Lymphoblastic Leukemia, Chronic Lymphocytic Leukemia) with a new type of T cell-based immunotherapy when traditional treatments have not worked."

HOW IT WORKS

A Chimeric Antigen Receptor T Cell, or CAR T cell, is cancer's kryptonite. CAR T-cell therapy re-engineers cells from the cancer patient in a lab to recognize and attack cancer. The newly powerful cells are deployed into the patient to annihilate the cancer.

While most cancer centers offering the treatment develop cells offsite in commercial labs, which takes a month or more, Case CCC's hematopoietic biorepository and cellular therapy services and the Wesley Center for Immunotherapy at UH Seidman can do this onsite in less than two weeks.

"CAR T is especially attractive for patients who have relapsed after a transplant," Gallogly explains. "We have more cancer treatment options than we've ever had, especially for patients who have had multiple relapses. It has a track record of getting patients into a durable remission."

SINCE HIS TREATMENT, BOYLE HAS BEEN IN REMISSION.

"It was a relief to be eligible for this trial," Boyle said. "I don't have any regrets about my life, and it is worth trying. Cancer treatments are growing by leaps and bounds."

COMING FULL CIRCLE

Case CCC's comprehensive programming—ranging from education and training activities for middle schoolers through tenure-track faculty—is supported by researchers and physician-scientists from the three top medical institutions in the region, creating a powerhouse network in which an individual can spend an entire career.

Christopher Hubert, PhD, has witnessed the impact of being a member of this system. Hubert, now an Assistant Professor at CWRU and a member of Case CCC's Molecular Oncology Program, moved to Cleveland several years ago for postdoctoral research at the Cleveland Clinic's Learner Research Institute, where he worked under the wing of Jeremy Rich, MD, and got his first exposure to Case CCC, its members, and the training opportunities the center offers for postdocs.

"It's a really great collaborative group," Hubert said when discussing the pros of being a member of Case CCC. "There are a lot of people at the research level who want to help each other do better."

Hubert received the KL2 Career Development Award through the Clinical and Translational Science Collaborative (CTSC) at CWRU and, most recently, was awarded an NIH Research Project Grant (R01), an honor he couldn't have imagined accomplishing without the help of his mentors, including Justin Lathia, PhD, a Co-Leader of the Case CCC's Molecular Oncology Program (pictured below).

Hubert is thrilled for the next step in his career: starting as an assistant professor at CWRU and setting up his own lab here, which he hopes will allow him to make findings to directly impact the lives of patients.

"People at Case CCC really lift each other up," he shared, adding that his time here has "come full circle" now that he'll mentor others to make a difference through translational cancer research in the same way his Case CCC mentors taught him.

KNOWLEDGE IS POWER

Case CCC offers training and education initiatives supported by the Office of Cancer Training, Education, and Research (OCTER). OCTER, in collaboration with cancer training leaders from partner institutions, empowers individuals at all career levels with seminars, retreats, and career enhancement opportunities.

TRAINEE DREAM EXPERIMENT FELLOWSHIP

This fellowship facilitates discovery—or hypothesis-generating research. Its goal is to turn the grant application process—preparing, writing, and reviewing—into an educational experience. In 2022, OCTER expanded the fellowship to two cycles per year to provide trainees the opportunity to respond to reviewers' critiques from unfunded applications. Also, OCTER added two areas of focus. Trainees can apply for $10,000 individual awards in basic, population, or clinical cancer research, or as a team of trainees for a Team Dream Translational Cancer Research Award that includes both basic/population research and a clinical application. This year, the NIH-style review panel received 41 applications over two rounds and recommended 13 applications to the Case CCC Executive Committee for funding. Recipients represent all eligible trainee academic ranks, each partner institution, and each type of award, including the new Team Dream Translational award.

CANCER-FOCUSED SUMMER UNDERGRADUATE RESEARCH (CANSUR) PROGRAM

CanSUR is an NCI-funded career-enhancement program supporting 32 undergraduates in summer research activities with Case CCC members. It includes one full week of interactive cancer research lectures followed by nine weeks of laboratory immersion and weekly seminars. CanSUR received 331 applications from 142 colleges and universities from across the United States in 2022. Of the participants, 28% were underrepresented minorities (URM) in science and 41% were from disadvantaged backgrounds as defined by the National Institutes of Health (NIH).

YOUTH ENGAGED IN SCIENCE (YES) PROGRAM

An NCI-funded initiative, YES accepts 40 high school students from Cleveland Metropolitan School District and Cleveland area high schools to work in laboratory settings with Case CCC members during the summer to stimulate interest in pursuing science careers. Students also participate in a curriculum that includes a writing workshop, career café, cancer in the news, and common book reading. All students identify as URM in science as defined by the NIH.

SUMMER HEALTHCARE EXPERIENCE (SHE) PROGRAM

Designed to increase the participation of women in biomedical fields, especially cancer research and medicine, SHE is a two-week, virtual summer experience for female high school students developed by the American Cancer Society. The curriculum includes in-home scientific experiments supervised over Zoom and a series of cancer research, career development, and cancer patient perspective presentations and discussions. Fourteen students from the Cleveland Metropolitan School District or Cleveland area high schools were engaged in 2022. They participated with 66 high schoolers from cancer centers across the U.S. All participants were URM in science as defined by the NIH.

BENCH-TO-BEDSIDE RETREAT

The summer Bench-to-Bedside Retreat, planned each year by Case CCC Ambassadors for training, invites Case CCC members, trainee associate members, CanSUR and YES participants to bridge the knowledge gap between cancer research and clinical care during a one-day retreat. This year included four trainee-led presentations of laboratory research and clinical application. The sessions focused on translational science discoveries and career development paths. A networking lunch allowed trainees with different areas of focus and at various stages in their training to meet.

ANNUAL SCIENTIFIC RESEARCH RETREAT

Each summer, trainees highlight their work at a judged poster session during Case CCC's Annual Scientific Retreat. This year, trainees presented 65 posters. Presenters are grouped by scientific area and academic rank. Case CCC members judged in pairs, designating 14 trainees with outstanding presentation awards.

Q&A WITH DR. NATHAN BERGER

We interviewed Nathan Berger, MD—founding director of the Case CCC and now a member of Case CCC's Population and Cancer Prevention Program—about the inspiration behind the organization's amazing training programs that engage Cleveland middle and high school students in cancer research. The following has been condensed and edited.

What is your history with the Case CCC?

I came to Case Western Reserve University in 1983. At that time, there were few people practicing hematology and there were few hematologists practicing cancer therapy. Things were in a very early stage of development. We started the first combined hematology oncology division and, although faculty had some independent fellows, there was no real fellowship program. So we started the first hematology oncology training program.

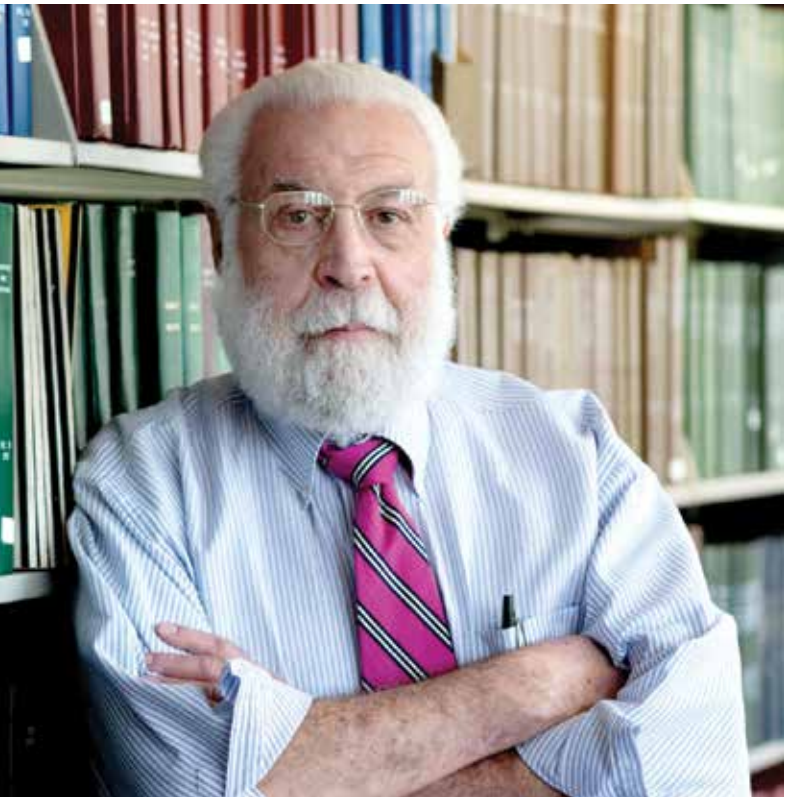
In 1985, we started a cancer center. We formally were awarded the first NCI Cancer Center Research Grant in 1987, and it's been funded ever since. It subsequently was recognized by the NCI as Case CCC.

How has cancer research evolved over the years you've worked in this field?

When I started in cancer research in the late 1960s, it was very unidisciplinary. You were a biochemist, a pathologist, or a pharmacologist, and you worked on one focused activity. Over the years, research became multidisciplinary—where you might get a biochemist and a pharmacologist working together—and then it became what it is now, which is transdisciplinary. Now people from different disciplines work together and brainstorm about how to most effectively approach a problem. Also important in cancer research and in all biomedical research is translational research. This means that what you work on in the laboratory, you take to the bedside—in other words, to patients. Translational research also means taking observations or questions from the patients back to the laboratory.

What inspired you to start the Scientific Enrichment Opportunity (SEO) and Youth Engaged in Science (YES) programs?

As Dean of the School of Medicine at CWRU, one of the things I realized was that Cleveland had not only severe health and economic problems, but also significant educational challenges. At that time, only 47% of students were graduating high school, and a smaller percentage of them were going to college. They weren't getting their required vaccinations. The cancer incidence rates and death rates in the city were higher than in most places.



So, in 2003, we started the SEO program to provide opportunities for select students to improve their career outlooks. The program gradually grew.

In 2017, the NCI—realizing the deficit of underrepresented minorities in biomedical research and cancer research—developed the YES grant program. We applied and were among the first in the country awarded the grant. In 2022, we were funded for another five years. We accept somewhere between 80 and 100 students a year. We train them in STEM and immerse them deeply in cancer-related research to really engage and excite them about pursuing careers in cancer research and patient care.

Why is it important to engage youth in science?

This is really a very formative part of their life, so it's exactly the right time to excite them about science and help them understand what the opportunities are.

If we have more underrepresented minorities in the profession, we will have greater creativity in cancer research and health care. More diversity is going to help reduce health disparities and achieve health equity.

What do you like most about working with these students?

It's really rewarding to see how excited the students get. It's so neat when you see the students go into the laboratory and do an experiment and get their results. I mean, we have these kids who just had a vague idea of what a gene was, and now they come into the lab and in a matter of weeks they're cutting genes and pasting them and making new cells. It's very exciting.

What is the biggest success of the YES program?

When students start to come to us for letters of recommendation to get into college or to get into graduate school and they start winding up at places like Harvard, Yale, Columbia, and CWRU. You feel like your own kid got into Harvard. We've had almost 500 students come through the class, and during these last couple of years, we've had 100% of them graduate high school and 95% of them go to college.

What is your hope for the future of these students?

The first hope is for a successful future for each student. We want them to become successful healthcare professionals. The second hope is that some of them will come back to Cleveland so that we can develop a community of scholars to promote health equity here.

Empowering the Community

With robust community participation, Case CCC accelerates cancer care progress in the translational space by looking at and listening to how four million neighbors in its 15-county catchment area experience what can be, for some, a tragic diagnosis.

In 2022, a research team led by Jennifer Cullen, PhD, MPH, Associate Director for Cancer Population Sciences, Erika Trapl, PhD, Associate Director for Community Outreach and Engagement (COE), and Kristina Austin, MSEd, LSW, Director of Community Engagement, facilitated these conversations in myriad ways:

- Over 200 researchers, clinicians, health professionals, patient advocates, students, community organizations, and government representatives gathered virtually for the 6th Annual Cancer Disparities Symposium: Intersection of Racism, Poverty, and Biology in Cancer Prevention, Screening, and Treatment. The symposium included sessions on precision medicine and disparities, clinical and community-based disparities research, and a poster session showcasing both scientific and community programming presentations, meeting the goal of academic-community engagement.

- Listening tours were conducted for The Cleveland African American Prostate Cancer Project (CAAPP), funded by the Bristol Myers Squibb Foundation. Under the guidance of Trapl, PI, CAAPP is a novel community-based participatory research project that develops and evaluates a comprehensive, culturally and linguistically appropriate approach to early (baseline) prostate cancer screening for African American men. It provides community and clinical navigation to address social determinants of health, access to care, and decision-making. During the Listening Tours, the CAAPP team learned that community members feel they need more education about cancer and about screenings and are not sure of where to go for that information. Barbers like Waverly Willis (pictured above), who also serves as the President of The Urban Barber Association and as a member

of the Case CCC Community Advisory Board, recognize that barbershops are a trusted source of information in the community. Partnering with barbershops to establish and build trust between minority men and the healthcare system is an integral part of the CAAPP initiative.

- Funded by the Merck Foundation as part of its Alliance for Equity in Cancer Care, PARTNERS (Promoting Access, Resources and Treatment through Novel and Equitable Solutions for Cancer Care) connects patient navigators with underserved individuals at high risk of breast, prostate, colorectal, or lung/bronchus cancers to improve the timeliness of screenings, diagnoses, and treatments. The navigators facilitate communication with primary care and cancer care providers to reduce fragmentation of care. Partners include Cleveland Clinic, University Hospitals, Care Alliance Health Center, El Centro, and The Gathering Place.

- Black Family Cancer Awareness Week 2022 encouraged Black women and men to attend virtual physician panels focusing on health needs particular to them. Over 100 individuals attended. The week culminated with a health fair and screening opportunities for prostate and colorectal cancer. Partnerships included the health committees of Black fraternities and sororities and Friendly Inn Settlement, a social and behavioral health facility located in a predominantly Black community with high rates of cancer diagnosis and health care disparities.

- Get Back to Basics, Ohio! is a collaboration of NCI's Designated Cancer Centers in Ohio and the Ohio Partners for Cancer Control (OPCC) to address specific early detection and primary prevention objectives and strategies in the 2021-2030 Ohio Comprehensive Cancer Control Plan. The goal is to conduct a media and public awareness campaign to encourage residents to get back to scheduling and completing appointments for cancer screenings, HPV vaccinations, and tobacco cessation postponed during the COVID-19 pandemic. In 2022, OPCC established its Facebook presence and launched monthly social media campaigns.

- In collaboration with the OPCC Prostate Cancer Working Group, Trapl developed a prostate cancer screening survey for Ohio primary care providers to understand where providers get information on prostate cancer screening and their current prostate cancer screening practices. The survey launched in January 2023 in partnership with the Ohio Association of Family Physicians.

Studying and practicing ways to build trust, facilitate access, and increase understanding to improve health outcomes across communities served by Case CCC consortium members are our objectives. The COE's job of engaging community members, physicians, and physician-scientists across disease teams is a critical component of satisfying these objectives—particularly for patients with the worst health outlooks due to structural racism, poverty, inequality in education, and lack of access to healthcare.

GIFTS THAT KEEP ON GIVING

"My late husband first learned of Case CCC in 2010 when he attended Dr. Stan Gerson's presentation in Naples (FL). Victor was impressed with Case CCC's work and decided to support its research..."

As a physician, Victor Cheloliber was no stranger to the Hippocratic Oath—treating his patients as individuals while upholding the art of medicine. In establishing the Linda and Victor Cheloliber Research Award, which honors Cheloliber's service as Chair of CWRU's Naples Cancer Council, Linda Leatherbury Cheloliber powerfully preserves the values her husband invested in his career.

"My late husband first learned of Case CCC in 2010 when he attended Dr. Stan Gerson's presentation in Naples (FL). Victor was impressed with Case CCC's work and decided to support its research," explains Leatherbury Cheloliber. "Since both my grandfather and best friend died of cancer, I, too, have a special interest in new and innovative research that can help eradicate this terrible disease."

The Cheloliber's newest addition to the fund, The Linda and Victor Cheloliber Fellowship Endowment, carries on the quest—and the couple's hope—to eliminate cancer by financially supporting a researcher at Case CCC.

"Cancer research is underfunded at both government and nonprofit organizational levels. This means fewer clinical trials. Private philanthropy opens new avenues for research and innovative trials in the fight against cancer," Leatherbury Cheloliber adds. "The wonderful purpose and mission of Case CCC, supported by the dedication of pioneering researchers, honor my husband's memory and leave a long-lasting legacy of which he would be proud."

THE YEAR IN REVIEW

446 total members

200 full members

$109M total **cancer funding**

1,661 interventional **clinical trial** accruals

13 **shared** resources

796 **treatment clinical trial accruals**

$47M total annual **NCI funding**

6 research programs

Over **550** **trainees** mentored

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