

PREVAIL

FOX CHASE CANCER CENTER ANNUAL REPORT 2019

Richard I. Fisher, MD

“This place transcends any walls or boundaries or rules to test what is known about cancer and to reach for the next discoveries and the latest breakthroughs. It is the people here who make these achievements possible.”

Our People Mackenzie L. Abate, Philip Abbosh, Andrea Abbott, Nejat H. Abdella, Lisa Abruzzo, Tyler I. Achuff, Jennifer Lynn Adar

Forging Ahead

It is a transformative time for Fox Chase Cancer Center as we begin to pave our future together with new partners. As we move forward, we celebrate the successes of the last year. We continue to reimagine, reinvent, renew as we build on the century-plus legacy of our nationally recognized institution.

This year's Annual Report features a distinctive design element: A ribbon running at the bottom of each page that bears the names of every employee within our institution. It represents some 2,400 people who contribute to our mission in a multitude of different ways. Each one has an important role, all unified by a common thread: Our shared stewardship of Fox Chase Cancer Center.

This place transcends any walls or boundaries or rules to test what is known about cancer and to reach for the next discoveries and the latest breakthroughs. It is the people here who make these achievements possible. And we do so in a manner not always seen at other institutions—with a level of collegiality and a spirit of collaboration and caring that honors our patients and pays respect to each other. It is our privilege to do this work.

In these pages, you will read about the recruitment and leadership performance of key figures at our Center and how their vision is driving Fox Chase forward. Our distinctive status—renewed this last year—as a prime contractor of the National Cancer Institute's PREVENT Cancer Preclinical Drug Development Program is highlighted as well. We are one of only seven institutions in the country to hold this designation, which provides access to millions of dollars in federal grants for preclinical testing of

preventive therapeutics and advancement of promising drugs to clinical trials.

Also among our clinical advances, Fox Chase became the first cancer center in the Philadelphia region, and only the third nationwide, to use an innovative technology called the Monarch Platform for earlier and more accurate diagnosis of lung cancer. We purchased it with funds raised through our annual signature event, the *In Vino Vita* Benefit and Wine Auction. With an increasing number of both guests and dollars raised each year since our inaugural event in 2014, IVV has grown to become an overwhelming success.

Finally, we saw achievement throughout our research enterprise. From training opportunities for the next generation of scientists taking part in our Immersion Science Program, to competitive grants and accolades awarded to postdoctoral researchers and principal investigators alike, we know that our progress can be boundless when we remain open to possibility and determined to succeed.

To all those who support us by investing their time, their energy, and even their funds, we appreciate the great responsibility that comes along with your trust in us. Together, we forge ahead to prevail over cancer.



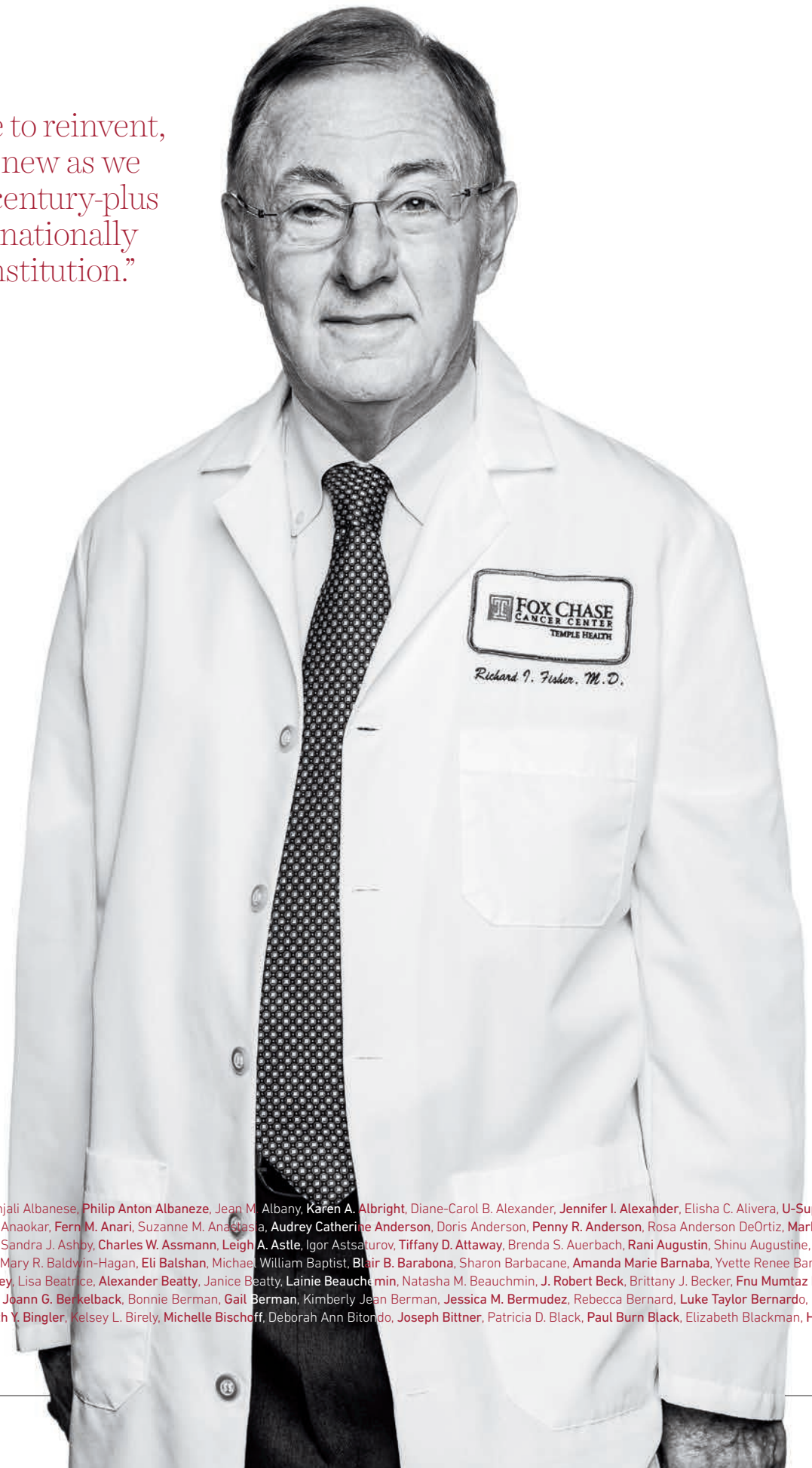
Richard I. Fisher, MD

President and CEO at Fox Chase

ckenzie L. Abate, Philip Abbosh, Andrea Abbott, Nejat H. Abdella, Lisa Abruzzo, Tyler I. Achuff, Jennifer Lynn Adams, Dana Rose Adamson, Fotashade J. Adekunle, Nahamah Afshar, Allison Aggon, Tarannum Ahmed, C Allen, Jeong Allen, Kathleen Allen, Yolanda Allen, Yoldine Allen, R. Katherine Alpaugh, Defne Alpdogan, Tahseen I. Al-Saleem, Albert Altenburger, Sheida Lynn Alvarado, Chigozie Amaefuna, Tacy Feinman Ammons, Ch Andrea, Natalia Andreeva, Andrew Andrews, Markeyta Andrews, Grigorii V. Andrianov, Catherine Marie Andriszak, Jillian Anirina, Katherine Ansel, Nicollette Marie Anzideo, Abhishek Aphale, Shannon Arkowitz, Michele Ayers, Rochelle Aymer, Amy R. Babler, Michael R. Bachman, Tetyana V. Bagnyukova, Morris W. Bailey III, Kelly Bailey, Lisa Bailey, Susan Baker-Wildsmith, Siddharth Balachandran, Jenna Balaicuis, Deborah Baldas ya Barnes, Lorie Kristen Barnes, Laurie Barow, Brooke Bennington Barstar, Michal J. Bartel, Lynn M. Bartley, Johnvesty Basappa, Saeeda Amirah Baskerville, Patricia Bateman, Colleen M. Bates, Tammy Bauerle, Jess d, Daniel James Beisel, Andrew P. Belfiglio, Martin G. Belinsky, Alfonso Bellacosa, Sheala J. Belte, Sukhvir Kaur Benipal, Temia Benjamin, Kelly A. Benner, Lillyn M. Bennett, Andrew P. Beothy, Mariama S. Berety, Sus ry Jane Bernier, Adrien Nicole Bernstein, Audrey Berry, Kendall Elizabeth Berry, George Beschen, Jennifer A. Bessinger, Steven A. Betge, Daneen Marie Bettner, Vincent Bianchimoto, Jonathan Bidey, Deborah A. Biele

Richard I. Fisher, MD

“We continue to reinvent, reimagine, renew as we build on the century-plus legacy of our nationally recognized institution.”



Christopher Aichele, Rana Mundher Al Sammarraie, Anjali Albanese, Philip Anton Albanese, Jean M. Albany, Karen A. Albright, Diane-Carol B. Alexander, Jennifer I. Alexander, Elisha C. Alivera, U-Supreme Allah, Elizabeth L. Amoroso, Sheila Gallagher Amrhein, Jordan Anaokar, Fern M. Anari, Suzanne M. Anastasia, Audrey Catherine Anderson, Doris Anderson, Penny R. Anderson, Rosa Anderson DeOrtiz, Mark D. Andrade, Christopher Armstrong, Sanjeevani Arora, Christopher P. Artwell, Sandra J. Ashby, Charles W. Assmann, Leigh A. Astle, Igor Astsaturov, Tiffany D. Attaway, Brenda S. Auerbach, Rani Augustin, Shinu Augustine, Yu T. Aung, Lovely A. Barre, Margaret May Baldini, Donald Adelphi Baldwin, Mary R. Baldwin-Hagan, Eli Balshan, Michael William Baptist, Blair B. Barabona, Sharon Barbacane, Amanda Marie Barnaba, Yvette Renee Barnard, Karen L. Barron, Lisa R. Bauman, Lisa C. Bealin, Ramonah Sophia Beasley, Lisa Beatrice, Alexander Beatty, Janice Beatty, Lainie Beauchemin, Natasha M. Beauchmin, J. Robert Beck, Brittany J. Becker, Fnu Mumtaz Begum, Susan W. Berg, Cynthia A. Bergman, Jason Matthew Berke, Joann G. Berkelback, Bonnie Berman, Gail Berman, Kimberly Jean Berman, Jessica M. Bermudez, Rebecca Bernard, Luke Taylor Bernardo, Margaret M. Bernes, Lanette Biggs, Alison Bilbee, MaryAnn Bilbee, Ruth Y. Bingler, Kelsey L. Birely, Michelle Bischoff, Deborah Ann Bitondo, Joseph Bittner, Patricia D. Black, Paul Burr Black, Elizabeth Blackman, Heather Bladek, Ash

Margie Clapper, PhD

For 20 years, Clapper has been the principal investigator at Fox Chase for the National Cancer Institute's PREVENT Cancer Preclinical Drug Development Program.



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Clapper Heads Preclinical Preventive Drug Development Partnership

Fox Chase has the distinction of being one of only seven centers designated as a prime contractor of the National Cancer Institute's PREVENT Cancer Preclinical Drug Development Program.

As Principal Investigator of the program at Fox Chase, Margie Clapper, PhD, the Samuel M.V. Hamilton Chair in Cancer Prevention, was recently approved to continue her 20-year legacy in this partnership. Under this mechanism, approved drug development concepts are tested in preclinical models, with the most promising agents moving into clinical trials.

"This mechanism, while not traditional, allows greater flexibility to test candidate preventive agents for which there is strong rationale but limited preliminary data," said Clapper, who is Deputy Scientific Director and co-leader of the Cancer Prevention and Control Program. PREVENT, she added, supports the preclinical analysis of promising agents in mouse models and the establishment of biomarkers of drug activity for use in future clinical trials.

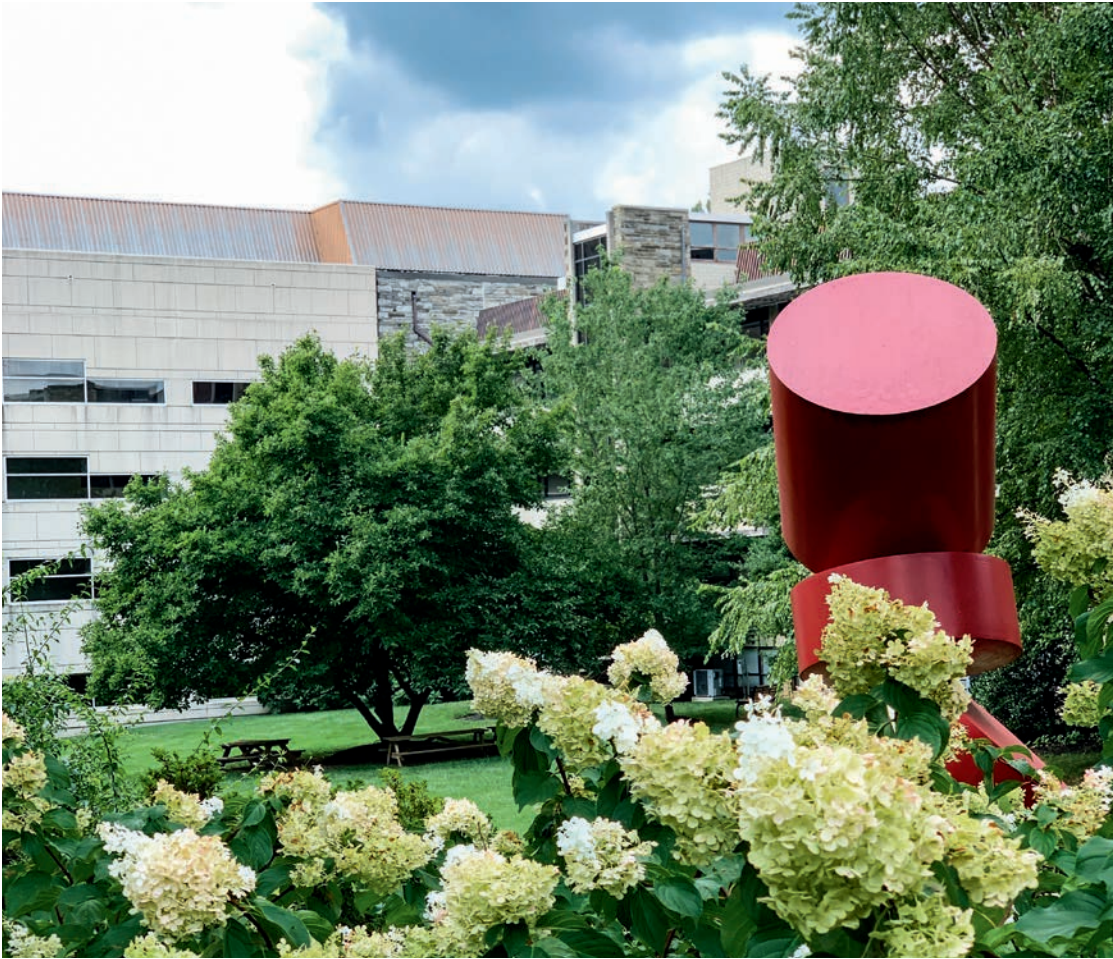
Clapper said that over the next five years, \$49 million will be available through the PREVENT program to support studies conducted by prime contractors.

"It continues to be a great privilege to work closely with the National Cancer Institute to identify promising agents for the prevention of cancer," Clapper said. She added that the contracts provide Fox Chase with an opportunity to work with compounds they normally wouldn't have the ability to evaluate.

Clapper is currently testing a novel agent developed at the Mitchell Cancer Center in Mobile, Alabama, for its ability to inhibit colorectal cancer. Another project, headed by Joseph Testa, PhD, the Carol and Kenneth E. Weg Chair of Human Genetics at Fox Chase, is assessing the activity of an agent against asbestos-induced malignant mesothelioma.



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Center Wins HAP Award for Optimizing Patient Discharge, Transitions

Fox Chase received a 2019 HAP Achievement Award from The Hospital and Healthsystem Association of Pennsylvania (HAP) for its outstanding efforts to enhance its processes for managing patient discharge planning and care transitions.

The Center was one of 14 recipients selected from 127 total submissions across five categories for the awards. Winners were chosen for innovation in community health projects, quality improvement efforts, and operational efficiencies.

Mary Pat Winterhalter, MS, BSN, RN, NE-BC,

director of nurse navigation, and Tricia Heinrichs, BS, RRT, PMP, manager of performance improvement, submitted the Center's entry. They accepted the award in the Optimal Operations category at HAP's 2019 Leadership Summit in Harrisburg in May.

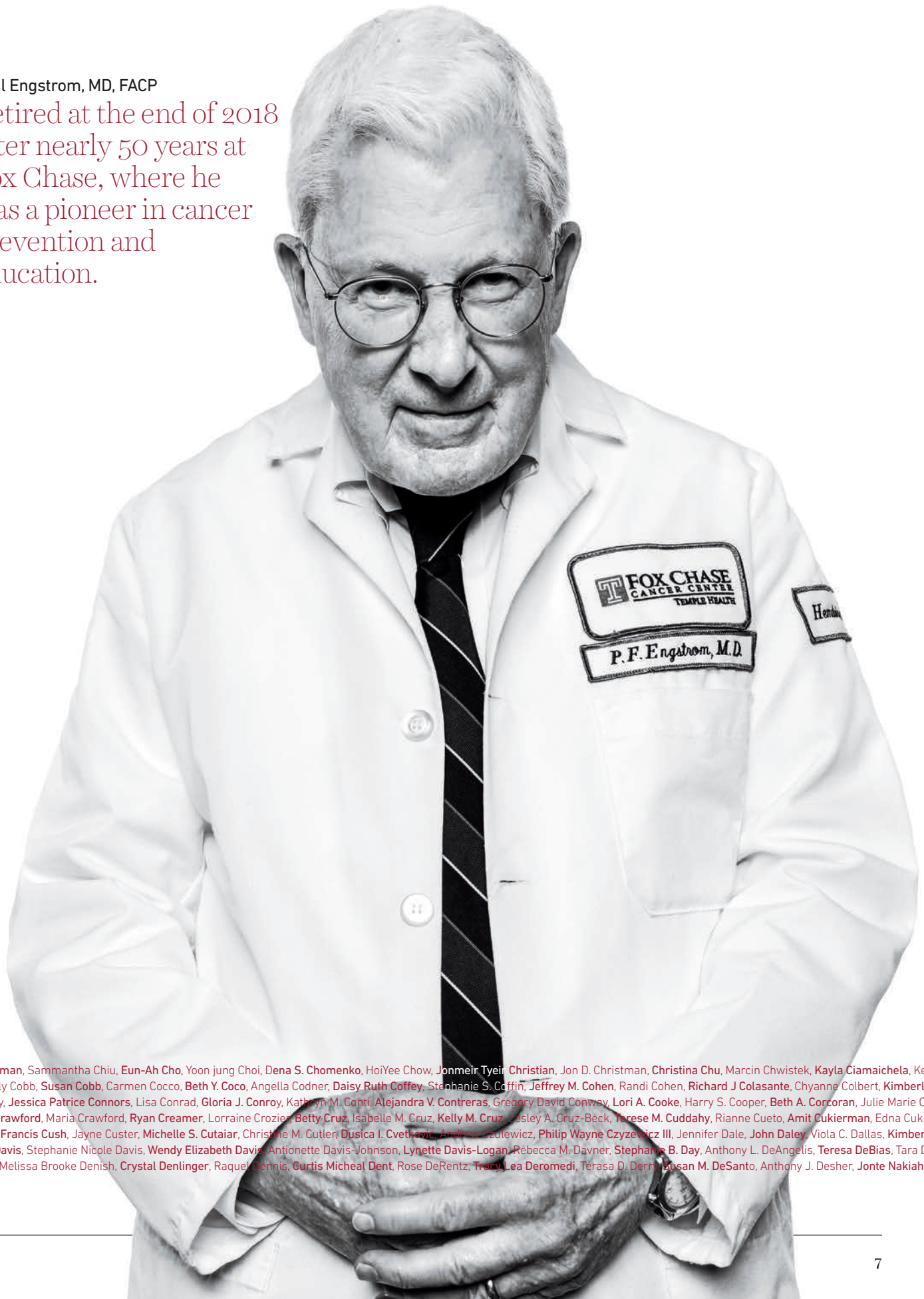
Paul Engstrom Retires After Nearly 50 Years

When Paul Engstrom, MD, FACP, his wife Janet, and their three young children moved to Philadelphia in 1970, Fox Chase Cancer Center did not exist. It wasn't until a few years after his arrival that the American Oncologic Hospital and the Institute for Cancer Research merged to form Fox Chase.

eryle D. Cherimond, Marc D. Cherimond, Jonathan Chernoff, Camille Linda Cherry, Ruth A. Cherry, Erica A. Cherry-Thompson, Yana Chertock, Ann K. Chess, Mitchell Cheung, Sarin Chhab, Jing Lin Chien, Stephanie Chilli, Maria Ciotti-Damis, Brittney Cirone, Bernadette D. Ciukurescu, Joseph D. Clarici, Mollie Clark Omilak, Deborah V. Clark, Denise Clark, Kerry L. Clay, Melissa Cleary, Sandee M. Clibanoff, Margaret R. Cline, Andrea Clinch, Joan M. Coleman, William G. Coleman, Linda G. Colli, Aesha Collins, Michelle Collins, Molly E. Collins, Jill C. Colyar, Luz M. Conde, Alison Conn, Sharon D. Connelly, Deborah A. Connelly-Sheppard, Denise C. Conroy, E. Cornwall, Iliana Niyae Correa, Melissa Corsey, Kristen Cosgrove, Irene Costello, Kimberly Costello, MaryAnn Costello, Karen D. Coston, Joy Cote, Bruce S. Cotter, Amanda Covaleski, Patricia Coyne, Doretha Crati, son J. Cullen, Jacqueline Culver, Karen M. Cummins, Candace Cunningham, Devon R. Cunningham, Patrick T. Cunningham, Paul Curcillo, Frances Curran, Julie Curran, Ann Currens, Jabbar K. Curry, Paula M. Curry, Na, ry B. Daly, Sarah Daly, Julie Lee Dameus, Nhi My Dang, Robin Daniels, Christine Dardaris, Ann-Marie Darling, Asit Datta, Michelle Davies, Chris J. Davis, Erika Davis, Heather Michelle Davis, Helen Davis, Karen S. Davis, te, Patricia R. Degatis, Nija Del Buono, Michael J. Delany, Dana M. DeLellis, Maite Delgado Hernandez, Tara DelGrippe, Jo-Anne Dell, Judith A. DellaPorta, Keri M. DeLong, Dorothy T. DeMario, Elena Demidova, Oleksan

Paul Engstrom, MD, FACP

Retired at the end of 2018 after nearly 50 years at Fox Chase, where he was a pioneer in cancer prevention and education.



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Engstrom became a pioneer, building a legacy in cancer prevention and education that has impacted thousands of lives. During his time at Fox Chase, he focused on cancer screening, creating one of the nation's first cancer prevention and control programs. He retired at the end of 2018.

“Most doctors and oncologists in the 1970s were training to treat cancer, not necessarily to prevent it,” said Carolyn Fang, PhD, co-leader of the Cancer Prevention and Control Program at Fox Chase. “He was one of the first to recognize that prevention was important. While this concept may seem obvious today, it was considered groundbreaking 40 years ago.”

Over the years, Engstrom's reputation and influence grew. As a member of several leading cancer organizations, he helped write the clinical care and treatment guidelines followed by physicians around the world.

He was a founding member of the National Comprehensive Cancer Network (NCCN) Clinical Practice Guidelines Committee and has served the NCCN as chair and member of several committees through the years. He's also served on the cancer prevention and screening boards of the National Cancer Institute, the American Society of Clinical Oncology, the American Association of Cancer Institutes, and the American Cancer Society.

“He doesn't just know the answer. He's created them and he's created the standard of care that we all use,” said Crystal Denlinger, MD, FACP, Chief of the Division of Gastrointestinal Medical Oncology at Fox Chase. “He's just a different breed of physician. You go to him when you're stuck because he's seen it all before.”

Reddy Takes Over Clinical Reins at Greenberg Institute

Since its inception in 2017, the Marvin and Concetta Greenberg Pancreatic Cancer Institute has evolved in its efforts to improve the treatment of pancreatic cancer through the work of basic and clinical scientists. That evolution will continue as Sanjay S. Reddy, MD, FACS, a co-director of the institute, takes over the clinical reins from John P. Hoffman,



ison Marie DiGiorgio, David DiGiovanni, Amanda Dilchus, Deborah Lynn Dilks, Diane Marie Dilonardo, Maria Elena DiMaggio, Nora Mary DiMaggio, Daniela DiMarcantonio, Mei Ding, Fabiola DiNiglio, GERALYNN Dionisio, L. Donahue, Michael Donapel, Michelle Donapel, Debra M. Donato, Ivettelis Dones, Zheng Dong, David Donlon, Meagan Donnelly, Michael T. Donnelly, Stephen Donnelly, Kathleen Moira Donocoff, David John Donohue, Jo Anne Dougherty, Janet Begley Dougherty, Maureen Anne Dougherty, Rita Dougherty, Demetrius C. Dove, Roxanne A. Dowie, Maria Teresa Dowling, Jamie L. Doyle, Lianne Doyle, Vance Doyle, Jenea Dozier, Ashley R. Draile Dunn Townsend, Loraine L. Dunn, Vanessa B. Dupoux, Joan C. Durney, Reuben Duttweiler, Robin D. Duvall, Donna Dwyer, Ebony Renee Dyson, Barbara Ebersole, Melissa Ebersole, Martin J. Edelman, Donna M. Edmondson, Dawn M. Elder, Ahmed Eldib, Dawn L. Elliott, Ray Elliott, Megan A. Ellis, W. Chris Elsasser, Mary C. Elsesser, Jeanette M. Elwork, Nicole Emers, Jasmine Encarnacion, Jessica P. Epstein, Christina Erickson, Lisa G. Erickson, Monica C. Faherty-Maletz, Diane L. Faison, Michael Falls, Qianhai Fan, Carolyn Y. Fang, Judy Fang, Caitlin A. Fanning, Melissa M. Faragalli, Anthony Farano, Zohra Farighi, Janet A. Farley, Barbara A. Farley-McDonnell, Mary Feggans, Mary Feleccia, Norma J. Fenerty, Sandra V. Fernandez, Maureen K. Ferri, Christopher Ferro, Marie Festa, Janay D. Fields, Kelly Filchner, Paula Horvath Finestone, Kellyann Finsel, Amy B. Firestone, Patricia F...

John P. Hoffman, MD, FACS
Is the Marvin S.
Greenberg, MD,
Endowed Chair
in Pancreatic
Cancer Surgery.

Edna "Eti" Cukierman, PhD
Her lab has
demonstrated
that pulsed
low dose rate
radiation has a
beneficial effect
on pancreatic
tumors.



di, Kevin M. Fitzgerald, Deborah Fitzpatrick, Denise M. Flach, Marguerite M. Flaherty, Patricia Flanagan, Patricia Flannery, Ludmila Flax, Lauren Elizabeth Fleisher, Linda Gail Fleisher, Terrance Fleming, Lashanna B. Forte, Cara Patricia Forte, Maya Janae Foster, Mariana Fragoso, Michael P. Frain, Ralph Francescone, Jhazelle Alecia Francis, Evelyn Francis-Edwards, Jason Gabriel Franco, Janusz Franco-Barraza, Rachel Franz, Julia Bitova, Susan J. Gabriel, Sharon Gabriele, Aleksey Gabriyelov, MaryBeth Gaczhias, Regina M. Gaggiano, Kimberly A. Gaier, Rachael Galanti, Laura Ann Gale, Ilene Gallagher, Sheila M. Gallagher, Debora K. Galletti, Susan Casey Lee Gasper, Shannon Gassman, Marie-Quita N. Gates, Jean M. Gatewood, Dana S. Gatling, Anne Marie Gaul, Robert D. Gaul, Radha Gaur, Diane Gaw, Lu H. Ge, Dalit Geller, Nicole L. Gens, Christina George, Riad J. Ghyelle S. Gibson, Sylwia Gielarowiec, Maria Lyn Minko Gill, Shazia Gill, Kathleen Gillaspay, Katie E. Gillespie, Jennie Gilliland, Mary P. Gilroy, Megan Gleason, Megan B. Gleason, Robert Gleason, Kristine Gohl, Mila Goldberg, Percy A. Gorillo, Ann Gorman, Lisa Marie Gormley, Ruthanne Gough, Cheryl Graboyes, Estella Graeffe, Andrea Graham, Cerese B. Graham, Andrea Granata, LaKeyya Grasty, Gaylord B. Gray, Colin Greaves, Crystal N. Greaves, Geraldine Groves, John J. Grugan, Deborah D. Grutzmacher, Robert Grygo, Maura Grzyminski, Elizabeth V. Gudesblat, Kali M. Guess, Linda Gulli, Sapna Gupta, Joanne Gurney, Michael J. Gutierrez, Raymond J. Gwin

Sanjay S. Reddy, MD, FACS

Is taking over the clinical reins of the Marvin and Concetta Greenberg Pancreatic Cancer Institute.



Paul Campbell, PhD

An award-winning pancreatic cancer researcher, he is a member of the Marvin and Concetta Greenberg Pancreatic Cancer Institute.

etcher, Thomas E. Fleury, Douglas B. Flieder, Matilde R. Flores, Lisa Lyne Flynn, Rafael Fonseca, Reynaldo Fonseca, Joan Font-Burgada, Julia Forbes, Lauren Christine Forbes, Carol Beth Forman, Jennifer Forman, Alie M. Freedman, Loretta A. Freeman, Helga Frieman, Helen M. Friend, Christine Fronczek, Jian J. Fu, Isabela Fuentes, Shirley V. Fulton, Henry Chi Hang Fung, Rashid Gabbasov, Railia Gabbasova, Patricia E. Gabert, Lin M. Gallelli, Carol M. Gallen, Katherine Gallen, Thomas J. Galloway, Nina F. Galpern, Qadirah Gamble, Tong Gao, Shauna M. Gara, Terry Gara, Alexis Garban, Daisy Garcia, Carlene Gardener, Jaye Gardiner, Kristy Gasiorov Jonathan George, Roshan Alice George, Angel Gerena, Michele I. Gerstemeier, Daniel Geynisman, Sarah Ghantous, Pooja Ghatalia, Reem Ghinnagow, Elizabeth Giannantonio, Denise Gibbs, Sheldon Gibbs, Claude Gibbs, Lindsay Goldblatt, Bethanne Goldman, Lori J. Goldstein, Erica A. Golemis, Yulan Gong, Belinda Gonzales, Eliezer Gonzalez, Evelyn Gonzalez, Marissa Gonzalez, Mayra Enid Gonzalez, Helen Gordon, Angella Gordon-Whico, Alyssa Green, Andrew Green, Bernadette Green, Denise T. Green, Richard E. Greenberg, Jeffrey S. Greene, Kaitlyn Gregory, John J. Gricoski, Rebecca Griffin, Sara Griffin, Sergey Grivennikov, Mary Gross, Maryan, Dana M. Haagen, Christine Haas, Alan D. Haber, Kurt Haberle, Jessica Habermehl, Kimberly Ann Hager, Aubrey Haggerty, Meghann E. Hainsworth, Edward D. Hall Jr., Barbara A. Hall, Carole R. Hall, Jessicalee Anne H

MD, FACS, who is now the Marvin S. Greenberg, MD, Endowed Chair in Pancreatic Cancer Surgery. Igor Astsaturov, MD, PhD, will continue in his role as a co-director of the institute.

Surgery has always been an important tool for treating localized pancreatic cancer, and Reddy and Hoffman have safely performed multiple extensive procedures.

In addition to surgical approaches, there are now a series of clinical trials enrolling pancreatic cancer patients. Work is also continuing on new approaches to tumor banking specimens and implementing various gene profiling techniques.

Researchers will continue to improve the technique of incorporating stereotactic body radiotherapy into treatment protocols for localized pancreatic cancer, which allows for precise delivery of radiation to tumors.

The institute is also in the process of launching a Phase I clinical trial using pulsed low dose rate radiation (PLDR). The lab of Edna Cukierman, PhD, who is also a co-director of the institute, has demonstrated that PLDR has a beneficial effect on pancreatic tumors.

New Brachytherapy Approach for Treatment of Retroperitoneal Sarcoma

Krishna Howell, MD, and colleagues are participating in a registry trial of a unidirectional low-dose rate brachytherapy implant called CivaSheet that is being investigated to improve local control in the setting of recurrent retroperitoneal sarcomas.

“We are trying this approach to prevent the gastrointestinal toxicity found in previous trials of omnidirectional brachytherapy implants,” said Howell, an assistant professor in the Department of Radiation Oncology. She is working with Joshua E. Meyer, MD, associate professor and vice chair of translational research in the Department of Radiation Oncology, who is also running a separate Phase I/II registry study for CivaSheet.

She presented early data on the use of the device in a poster at the 2018 annual meeting of the American Society of Radiation Oncology.



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Joshua E. Meyer, MD

Krisha Howell, MD

Howell is participating in a trial for the use of a brachytherapy implant for recurrent retroperitoneal sarcomas; she is working with Meyer, associate professor in the Department of Radiation Oncology.

New Web Tool Rapidly Matches Patients to Clinical Trials

Finding an appropriate clinical trial that matches specific patient characteristics is frustrating. To solve this problem, a team at Fox Chase developed a user-friendly interface that searches the center's numerous clinical trials to find appropriate Phase I trials.

"Once we find a trial, we know it's a match. We see the protocol number, the investigational drugs and how they work, key inclusion/exclusion criteria, whether biopsies are needed, and the contact personnel," said Anthony J. Olszanski, MD, RPh, Vice Chair of the Department of Hematology/Oncology.

The web interface was built by Olga Tchuvatkina, manager of the Population Studies Facility, with colleagues from the Population Sciences Group. The data in the interface are updated in real time, so physicians can determine whether open slots are available in a trial at any given time.

Patient Richard Skelton has experienced the

Handorf, Susan Haney, Patricia Harbison, Allisa Cherae Hartley, Tara M. Harms, Jennifer Harren, Nicole Ruth Harrington, Michael J. Harris, Nicole Monique Harris, Glenn F. Harrison, Sharon Rosemarie Harrison, Terrance Kawa, Eileen Hayes, Jamilah Hayes, Janeen Hayes, Shelly B. Hayes, Nasir Calix Haynes, Carol Hays, Jo-Dina L. Hazel, Donna Hazlett, Jahlil Heckstall, Jeanette Heffner, Anna Heigh, Ann Marie Heileman, Tricia Heinrich, Kristine Henwood, Eun Sil Heo, Anita Ashley Herbert, Caitlyn E. Herbst, Judith A. Herman, Catherine Hermann, Valerie Heron, Carlos Herrera Montavez, Madeline R. Herring, Alice M. Herrmann, Brianna Herron, Kathleen C. Hittle, Donna Hnosko, Kathleen Hoff, John P. Hoffman, Timothy S. Hoinkis, Crystal Holder, Jacquelyn Holdsworth, Daniel K. Holleran, Rosemary Hollingsworth, Jason Holman, Gerard W. Holmes, Lakeya Holman, Maureen Houston, Beth Noel Howard, Krisha Howell, Ronald A. Howell, Mary Helen Hoy, Jian Hu, Xiang Hua, Christine Yan Huang, Min Huang, Kevin Robert Huber, Alexander Hud, Elayne V. Hudson, Monique Hudson, Khuong T. Huynh, Barbara Iarossi, Laurie Iavecchia, Michael J. Iavecchia, Julia Ignaczewski, Joanna Imle, Jason Incorvati, Kyra Ingram, Helene C. Innaurato, Nicole A. Irick, Lauren Irtlich, Dmitry Isaev, Quentin Isom, Kristina Jainarine, Pamela R. Jakubek, Rikki-Quinn, James-Renz, Carolyn Jangdharrie, Connie A. Jann, Kerry Veronica Januszka, Jeffrey Jean-Paul, Desa-Rhea K. Jefferson, Kevin J. Jenkins Jr., Dianne M. Jenkins, Sophia Man

benefits of the system firsthand. He was referred to the Center in 2017 after being diagnosed with melanoma, and Olszanski used the interface to find a Phase I trial for him in December 2017 and another in April 2019.

“Having dealt with the doctors at Fox Chase, I knew they weren’t going to play around. I knew they were going to take care of me,” Skelton said.

Initial Data on Innovative Technology for Lung Cancer Diagnosis

In August 2018, Fox Chase Cancer Center became the first in the Philadelphia area, and only the third institution nationwide, to begin using the Monarch Platform to view hard-to-reach nodules in the periphery of the lungs and obtain a tissue sample for biopsy, thus enabling earlier and more accurate diagnosis.

“Robotic control, direct visualization, and turn-by-turn direction allow us to reach the previously unreachable,” said Christopher J. Manley, MD, director of interventional pulmonology.

So far, Monarch has been used in 190 cases at Fox Chase and has had an “unparalleled” safety profile, Manley said. He added that the overall diagnostic yield at one year has been 71% with further increase based on inclusion of true negatives after radiological follow up of 39 negative lesions.

The platform, which is made by Auris Health, integrates the latest advancements in robotics, software, data science, and endoscopy. It was purchased with funds raised through the *In Vino Vita* Benefit and Wine Auction.

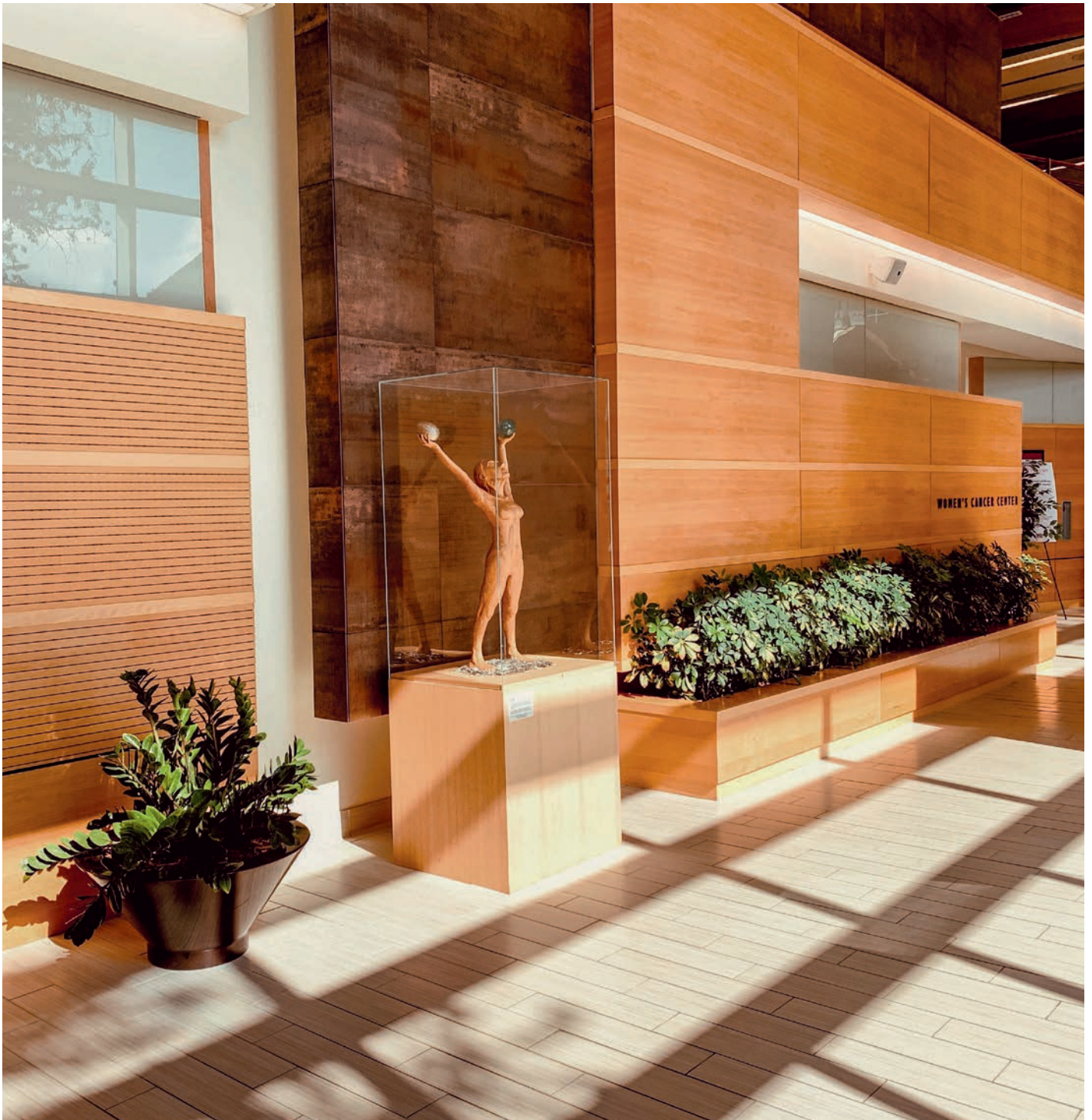
“We are excited about the promise of this technology to shorten the time from the discovery of a lung nodule to the treatment of a lung cancer,” Manley said.

Harnessing Power of the Latest Prostate Cancer Screening Technology

Fox Chase was first in the region to use the UroNav fusion targeted biopsy system, which uses MRI and ultrasound images to locate the ideal places to take tissue samples. This process may find tumor sites that wouldn’t be detected in a standard biopsy.



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Christoph Seeger, PhD

Received the Hepatitis B
Foundation's 2019
Baruch S. Blumberg Prize
for excellence in hepatitis
B research.



Lawrence, Cheryl Leabourne, **Stephanie Leach**, Yvette M. Leake, **Ava R. Leas**, Justin Leas, **Tricia L. Leddy**, Molly Elizabeth Ledger, **Abigail C. Lee**, Eric Hingleung Lee, **Hyung-Ok Lee**, Lakisha Antoinett Lee, **Pamela Lee**, Y. **Beth Leszkowicz**, Lisa Lettieri, **Donna Leva**, Rhiannon Levensgood, **Laura Levin**, Eileen R. Levin-Buchholz, **Beth A. Lewis**, Bianca Lewis, **Tricia A. Lewis**, Alyssa Leystra, **Chenghao Li**, Huafen Li, **Minzi Li**, Tingting Li, Yi Li, **David L. Locke Jr.**, **Nicole Lynn Logue**, Sheila Mary Longo, **Erin Longstreth**, Awilda Lopez, **Karen A. Lorek-Sabatini**, Laurel D. Lorenz, **Katie Lorino**, Anne Loser, **Mark Loughead**, Charan Kumar Loya, **Pin Lu**, Mary J. Luberda, **Gina Lynch**, Robert M. Lynch, **Shannon Lynch**, Jennifer Lynn, **Leanne Lyons**, Scott A. Lyons, **Chang Ming Ma**, Jeanne Macaluso, **Glenn W. MacClain**, Alexander W. MacFarlane IV, **Denny H. Madh**, Kerri L. Mack, **Laura Mack**, **Mikhail Makhov**, **Danny D. Malahov**, Ilona Malahov, **Vanessa Maldonado**, Shipra Malhotra, **Lois J. Malizzia**, Bonnie Ann Malveiro, **Patricia L. Mandolla**, Christopher J. Manley, **Kristen J. Manley**, Janelle Manna, **Kimberly Ann Mann**, **James M. Martin**, Michelle Martin, **Virginia R. Martin**, Alejandro David Martinez, **Esteban Martinez**, Olivia Martin-Prophet, **Gina Marie Mascino**, Selma Masic, **Camillah Mason**, Benjamin Hunter Mass, **Kristina Massari**, **Christine Maticcetta**, **Jewels Mauro**, **Tara I. Mauro**, Marianne C. Maxwell, **Jeanette Maxwell-Spaeth**, Jackeline Maysonet, **Susan Mazeikas**, Aleksandra Mazitova, **Susan Mazzacano**, Sarah E. Mbassa, **Frances W. McAdams**, Cecilia A.



That means Fox Chase is several years ahead of other centers in the area in terms of experience with the technology, said Alexander Kutikov, MD, FACS, chief of the Division of Urologic Oncology. “There’s a level of expertise that we now have that a lot of other programs don’t.”

Seeger Receives Hepatitis B Foundation’s Baruch S. Blumberg Prize

Christoph Seeger, PhD, professor and senior scientist at Fox Chase, received the Hepatitis B Foundation’s 2019 Baruch S. Blumberg Prize for excellence in hepatitis B research in April. The award’s namesake, a Nobel Prize winner, spent 25 years of his remarkable career at Fox Chase.

“Dr. Seeger’s outstanding contributions to hepatitis B molecular biology have had implications not only for hepatitis B, but for all viruses,” said

Timothy Block, PhD, president of the Hepatitis B Foundation. “We are proud to recognize the impact of his work in hepatitis B research.”

Junior Faculty Receive Over \$14 Million in Research Grants

Fox Chase has long been a powerhouse when it comes to research funding, but over the last year, junior faculty have been particularly successful. Eight of them were awarded just over \$14 million to study bladder, head and neck, lung, colorectal, prostate, and breast cancer.

Jennifer Barsky Reese, PhD, received a five-year grant for \$3 million from the National Cancer Institute to test an intervention that addresses sexual concerns in women who have been treated for breast cancer. Reese was an assistant professor in the Cancer Prevention and Control Program at the

ana A. Lee, Jasmine E. Lee-Shockley, Max D. Lefton, Sean Jeffrey Legg, Gina M. Lehotsky, Theresa Lennon, Christine Leonardis, Linda Leone, Alex Leonovich, Juliet A.F. Leshner, Ilir Leskaj, Lefteri Leskaj, Lucy Leszczynska, Rhonda Lichtenstein, Teh Lin, Ann Marie Lindinger, Elena Linnik, David J. Liounis, Salena M. Lipski, Sophia Natalia Lisowski, Samuel Litwin, Hailan Liu, Jie Liu, Ze Min Liu, Allyson Leigh Lloret, Allwin Leo Lobo, Judy L. Lu, Chrystal A. Lucas, Brittany M. Lucera, Magdalisa Luciano, Jennifer Ludgate, Jamie Ludlow, Lisa M. Ludwig, Kathleen Lugas, Yamelyn Lugo, Biao Luo, Tiffany Luong, Michael Lutz, Veasna Ly, Michelle Lyden, Ray Lynn, Nicholas Mackrides, Denise Madell, Amy Magagna, Joanne Helena Magen, Allison D. Maguire, Walt Maguire, Bernard Paul Maher, Kimberly Regan Maher, Liwen Mai, Charles M. Maier, Lisa Mak, Nancy M. Makem, P. Gina Marie Mantia-Smaldone, Vidal E. Mapp, Louise M. Marcewicz, Anastasiia Marchenko, Jaudon A. Marcus, Yovanna D. Mares, Maria Market, Susan Marnien, Joe Marquez, Indya Andrea Marshall, Elizabeth Ann Marso, Marco Jo Matejka, Mandy A. Matheney, Binsy Elisabeth Mathew, Tessa Mary Mathew, Sahar Matloob, Marisol Matos, Barbara A. Matthews, Lisa Matthews, Christine Matullo, Halyna Matviyishyn, Debra L. Maude, Jessi McAleer, Angel McAuliffe, Nakeyia McBride, Taylor Quinn McBride, Margaret M. McBryan-Boligitz, Margaret McCabe, Tanya McCabe, Paul McCaffrey, Erika McCaister, Jennifer McCaister, Mark McCaister, Richard J. M.

time the grant was awarded and was recently promoted to associate professor.

Stephen M. Sykes, PhD, assistant professor in the Blood Cell Development and Function Program, received a four-year grant for \$792,000 from the American Cancer Society to support research on the elucidation and exploitation of molecular pathways that support leukemia. He also received an RO1 grant worth approximately \$2 million over five years.

Johnathan R. Whetstine Joins Cancer Epigenetics Program

Nationally renowned epigenetics researcher Johnathan R. Whetstine, PhD, was hired as program leader of the Fox Chase Cancer Epigenetics Program in November. Whetstine came to Fox Chase from Massachusetts General Hospital Cancer Center and

Harvard Medical School in Boston, where he served as a vice chair of their epigenetics program.

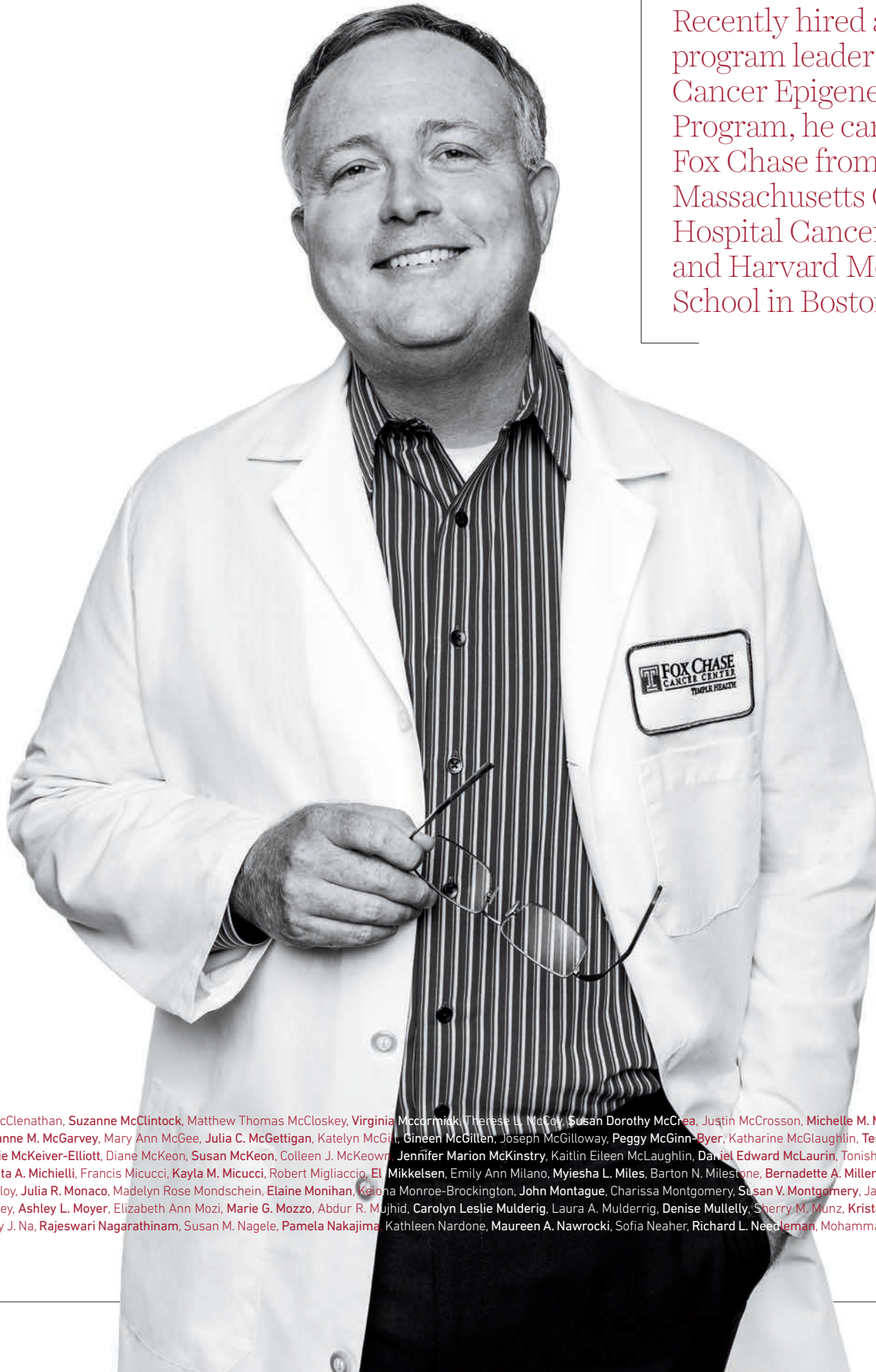
A rising star in the field of epigenetics, Whetstine has made groundbreaking discoveries that have expanded the field and provided significant understanding of tumor heterogeneity and drug response.

“We welcome Dr. Whetstine and are excited to strategically expand our research enterprise with this hire,” said Richard I. Fisher, MD, president and CEO of Fox Chase. “Epigenetics is evolving into a critical area in oncology research, and we are proud to have such a high-caliber scientist to lead our program.”

The new Cancer Epigenetics Program that Whetstine will lead has basic, translational, and clinical research components, all dedicated to better understanding epigenetic regulation in cancer. The program’s findings will help to improve diagnosis,



ister, Richard S. McCalister, Robin D. McCall, Cynthia McCandless, Nora B. McCann, Althea McCants, Sara K. McCarney, Liane McCarroll, Jordan McCarry, Colleen McCarthy, Kelly A. McCarthy, Kelly McCarthy, Donna M. Cusker, Maureen McDade, Amanda Elizabeth McDermott, Anne M. McDermott, Karen McDermott, Dana M. McDonald, Kathryn A. McDonald, Alyssa M. McEachern, Mary McElroy, Erik T. McEntyre, Eileen McFadden, K. James P. McGrath, Kimberly A. McGrorty, Michael J. McGuigan, Dolores A. McGuire, Kerri Ann McGuire, Jamie L. McHugh, Caroline McIntyre, Laura C. McIntyre, Nancy McIntyre, Stephen J. McIntyre, Valerie A. McIntyre, Debra McNeill, Amber Medlin, Lorraine Medoro, Caitlin R. Meeker, Gia Marie Megali, Nicole Melchior, Lisa Mellon, Olga Melnikov, Alim Memaj, Xhevo Memaj, Silvia Mercado, George William Merkel, Angela Metka, Megan Metzger, Suzanne M. Miller, Katelynn Milora, Krystal Minnicucci, Beatrice Mintz, Glendaliz Miranda, Ritika Kiran Mistry, Juhi Mittal, Merrill J. Mittathany, Takuya Mizukami, Vivek Modi, Neha Mohan, Jancy A. Molethu, Holly J. Oremy Moore, Kevin Moore, Fior Mora, Janet Y. Morales, Joelle Morales, Anthony Moran, Victoria M. Moran, Mary Ellen Morba, Christopher Morgan, Gary Morlock, Trissa Morrell, Contrell Morris, Jillian Morris, Karen Murphy, Kiera Murphy, Michelle Murphy, Tracey Murphy, Michael J. Murray, Joanne Murray-Spoltere, Andraya L. Muse-Elijah, Kimberly M. Musmanno, Connor G. Musser, Cynthia B. Myers, Karen Myers, Noele M. Myers, Tara



Johnathan R. Whetstine, PhD

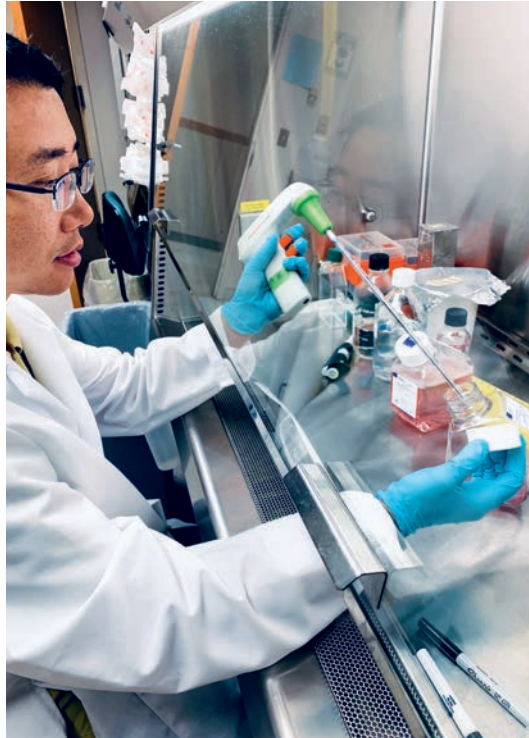
Recently hired as program leader for the Cancer Epigenetics Program, he came to Fox Chase from Massachusetts General Hospital Cancer Center and Harvard Medical School in Boston.

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prognosis, and outcomes for various malignancies.

Whetstine has made groundbreaking discoveries that have expanded the field and had significant implications for understanding tumor heterogeneity and drug response. In recognition of the promise of his research, he has been awarded the prestigious Scholar award from the Leukemia & Lymphoma Society, the Lung Cancer Discovery Award from the American Lung Association, and a National Institutes of Health RO1 grant, as well as funding from the Alex's Lemonade Stand Foundation and AstraZeneca.

Among many professional leadership activities, Whetstine led and organized multiple national and international conferences on epigenetics and disease. He has also received many invitations to speak at international conferences and world-class institutions, serves on top-tier journal editorial boards, and reviews for top-tier peer-reviewed journals. He also serves as a reviewer for the NIH and multiple foundations.

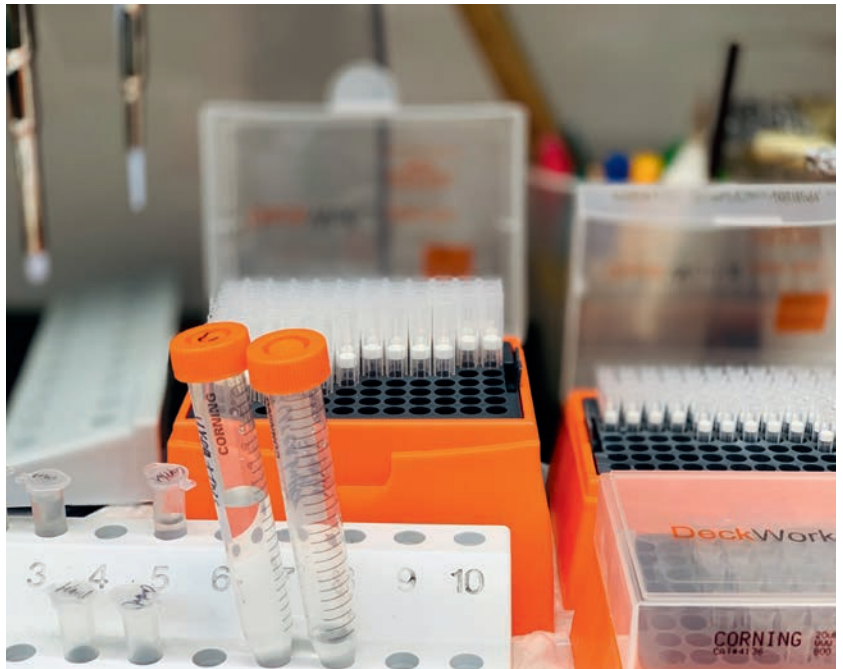


Gardiner Receives ACS Research Grant for Pancreatic Cancer

Jaye Gardiner, PhD, a postdoctoral researcher in the Edna Cukierman laboratory at Fox Chase, received a \$163,500 research grant to study ways to identify better treatment options for pancreatic cancer patients.

The grant is from the American Cancer Society's newly formed Pennsylvania/New Jersey Pay-If-Research Council. It will allow Gardiner to continue her efforts to understand the signaling that arises from cell-cell interactions in the pancreatic tumor microenvironment.

Gardiner has also won the Science Communication Prize from the Mindlin Foundation and was a semifinalist for the HHMI Hanna H. Gray Fellows Award.



Foreigner Benefit Concert

On May 4, 2019, Fox Chase partnered with Parx Casino in Bensalem to host a benefit concert with classic rock band Foreigner. A percentage of each ticket sold was donated to Fox Chase. With 10 multiplatinum albums and 16 top 30 chart hits, Foreigner is considered one of the most popular rock acts in the world.

...a M. Nelson, Lisa M. Nelson, Madison H. Nesbitt, Lorraine J. Nessel, Ryan A. Neumann Domer, Catherine Clare Neumann, Erin Neumann, Ashley R. Newhall, Jennifer Newton, Cam-Huyen Nguyen, Lee Nguyen, Minh...
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Jaye Gardiner, PhD

A postdoctoral researcher, she received a large research grant from the American Cancer Society to study ways to identify better treatment options for pancreatic cancer patients.



Nguyen T. Nguyen, Nga Nguyet Nguyen, Tai Nguyen, Theresa Nguyen, TraMi Nguyen, Vanhac T. Nguyen, James M. Nichols, Lori Nichols, Michael P. Nichols, Danielle Nicol, Emmanuelle Nicolas, Nancy Nicotera, Mary Beth Charles Nutt, Elias Obeid, Maureen P. Oblaczynski, Patricia M. O'Brien, Patrick J. O'Brien, Jennifer Lee Occhipinti, Taylor Ann Ochsenreither, Bridget Ann O'Connell, Deirdre P. O'Connell, Margaret M. O'Connell, Christine Madelyne Mally Om, Amy O'Mara, Tina O'Mara, Donna L. O'Neill, Kathryn M. O'Neill, Ryan O'Neill-Moon, Ikenna E. Oporum, Jessica Orehowsky, Nicole Orehowsky, Alana M. O'Reilly, Sharon L. Orfe, Colleen Marie Orth, Anabakaran Palani, Karen J. Palmer, Allegra F. Panaccio, Miranda Pando, Joseph Paretta, Jessie Rachel Parick, Thomas Panico, Meena S. Parab, Joyce M. Parisi, Joon Hyun Park, Rosaleen B. Parsons, Christina Passio, L. Peterson, Deborah Patterson, Susan M. Patterson, Vanessa Patterson, Amanda Paul, Sarah A. Payonk, Jianming Peng, Elizabeth Peiffer, Delinda Pendleton, Harry Pendleton, Margo L. Pendleton, Shanika L. Pennington, Eugene R. Peta, Thomas R. Peters, Colleen K. Peterson, Jeffrey R. Peterson, Jennifer Petronis, Linh Huu Khanh Pham, Phuong K. Pham, Jennifer Marie Phillips, Christine Picariello, Danielle Picciani, Alexander Piccione, Robert J. Pineda, Janda Jeannette Pineda, Marie Pinto, Eileen M. Pirolli, Andrea Pirritano, Adrienne Adele Pitts, Michele Pizzo, Barbara A. Place, Elizabeth R. Plimack, Patricia A. Plizak, Theresa A. Pody, Whitney Renee Pollard, Ashley Pop



Erica Golemis, PhD

Hossein Borghaei, DO, MS

Mariusz A. Wasik, MD

anne Popovich, Rusty Porter, Sarah D. Porzig, Magdalena Potoczek, Barbara H. Powell, George L. Powell, Katrice M. Powell, Elizabeth A. Powers, Leah Andrea Powers, Rahul M. Prasad, Gage Price, Kathleen Marie Pr
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Johnathan R. Whetstine, PhD

Margie L. Clapper, PhD

Five Faculty Appointed to Endowed Chairs

In May 2019, Fox Chase announced the appointment of five endowed chairs made possible through the private philanthropy that is so critical to the advancement of cancer research.

Hossein Borghaei, DO, MS, was appointed to The Gloria and Edmund M. Dunn Chair in Thoracic Oncology. The chair was established in 2002 to support an outstanding leader in the field of lung cancer research and thoracic surgical oncology.

Margie L. Clapper, PhD, was appointed to The Samuel M.V. Hamilton Chair in Cancer Prevention, which was established in 2011 by Mrs. Dorrance Hamilton to honor her husband and his more than 40 years of service to Fox Chase.

Erica Golemis, PhD, was appointed to The William Wikoff Smith Chair in Cancer Research, which was established in 1998 to support an outstanding leader in the field of cancer research who exemplifies the highest standards of excellence in academic research.

Mariusz A. Wasik, MD, was appointed to The Donald E. and Shirley C. Morel, Stanley and Stella Bayster Chair in Molecular Diagnostics. The chair was established to strengthen the efforts of Fox Chase in molecular diagnostics and genomic testing, as well as molecular hematopathology and translational research.

Johnathan R. Whetstine, PhD, was appointed to The Jack Schultz Chair in Basic Science. His endowed chair, which was established in 2002 by Fox Chase's Board of Associates, honors pioneering geneticist Jack Schultz, PhD, and supports an outstanding leader in the field of basic science.

Price, Robert A. Price, Jennifer Lynn Primus, Katherine Lynn Prince, Anne Prousi, Tatiana Prudnikova, Luba Prysizlak, Pawel Przybysz, Amanda Przywitowski, Andrzej Ptasznik, Danielle Puccio, William Charles Pullar, Ragsdale, Donna M. Rahill, Denyse M. Raighn, Patricia L. Raimondi, Kim L. Rainey-Nichols, Stephanie Raivitch, Beena K. Raju, Glenn Rall, Justin Rambert, Christina Ramos, Lucille Ramsey, Aisha Randall, Maurisa Rang, Reiff, Debra Reilly, Jennifer L. Reilly, Jessica M. Reinach, Colleen Marie Reinheimer, Sneha Reji, Laura M. Renda, Catherine F. Renner, Marguerite Rennie, Paul Reott, Debra Resnick, Diana Restifo, Mayra Resto, Bronisla, Colette M. Ridley, Donna Riehl, Emily Riehl, Marie K. Riehl, Devon J. Riggs, Holly Riggs, Charvonne Riley, Lori A. Rink, Debbie H. Riordan, Lisa A. Rios Buemi, Bianka Loreli Rios, Lisa Rippert, Tuere Risien, Brian Ritters, Robinson, Samuelle Nicole Robinson, Ivana Robles, Regina Rocchi, Johanna Rochat, Jamie L. Roche, Heinrich Roder, Kolon Rodgers, Michelle Rodoletz, Angel C. Rodriguez, Luis Rodriguez, Richard Rodriguez, Susana, Rosser, Cheyenne Rothermel, Sophyamma Roy, Stephen C. Rubin, Stuart J. Rubin, Ari Cole Rubinson, Daniel P. Rudolph, Tyler J. Rudy, JoAnne Rufo, Marcia F. Rufo, Susanne E. Russell, Jose Russo, Karen J. Ruth, Domini, R. Santi, Isaiah Santiago, Mary Ann Santiago, Militza Santiago, Sophia Diane Santiago, Anthony F. Santoro, Faye Marie Santos, Lucy Daly Santos, Abby Renee Sapp, Rajkumar Sarker, Lynne Satchell, Uttam Satyal, Cas



ers, Pamela Saunders, Michelle J. Savage, Stacey Savarese, Audrey Savchuck, Deric C. Savior, Kelly A. Sawyer, Austin Quintin Scafidi, Monica M. Scanlan, Carol Schaeffer, Lynda L. Schafer, Lori D. Schaffert, Justin P. Schrank, Jill L. Schreiber, Adam Schrenzel, Melissa B. Schrier, Alicia C. Schubert, Richard A. Schulgen, Diane E. Schulle, Jeanne Marie Schultz, Katherine Schuster, Sharon Schwartz, Nicholas Schwarzkopf, Candice Shaha, Eileen S. Seltzer, Lawrence J. Sembello, Eleonora Sementino, Ilya G. Serebriiskii, Debbie Seremelis-Scanlon, Robert Matthew Sertori, Mohammad Shuja Shafqat, Natalia Shalginskikh, Maxim V. Shapovalov, Pankaj A. Shepherd, Brian C. Sheridan, Fathima S. Sheriff, Moira Frances Shetzline, Patrick Vincent Shetzline, Christa L. Shine, Susan Shinton, Francis Shirley, Alexandra I. Shusman, Joann M. Sicilia, Mark Siemon, Elin R. Simons, Barbara J. Sims, Christine Ashley Sims, Maureen T. Sims, Jill Sinclair, Dinesh Singh, Tanu Singh, Susan M. Sippel, Kaleiah J. Sjogren, Carolyn M. Slater, Michael J. Sliker, Bailee H. Sliker, Anne M. Slivjak, Mark Slotwinski, Lisa M. Smith, Linda D. Smith, Mariellen E. Smith, Rashien Tyrone Smith, Roberta Smith, Ronald Jeffrey Smith, Shevon B. Smith, Tiffany A. Smith, Wallace E. Smith, Donna A. Smolij, Thomas Maurice Snow, Donna M. Snyder, Jennifer Sogui, Suzanne M. Spallone, Crystal Speaks, Jacob Joseph Spece, Kirsten M. Spickler, Jamie Spinelli, Thomas Sprankle, Abhishek Srivastava, Dawn C. Stack, Patricia Stanley, Ruth Stanshine, Kristen A. Starr, Amie J.



ISP Event Draws Over 1,000 High School Scientists

Philadelphia's Franklin Institute was the site of the 2019 Immersion Science Program (ISP) Classroom Research Symposium on May 29. The research program included over 1,000 citizen scientists from 14 high schools in the Philadelphia area, 725 more than last year.

The symposium, organized by scientific trainees and faculty from Fox Chase, featured cancer research presentations by attendees as well as career guidance and networking. Funding was supported in part by Fox Chase Cancer Center's Kicking Cancer Fund, a career development grant from the Genetics Society of America, and grant funding from the Society of Developmental Biology and the Howard Hughes Medical Institute.

Longtime Board Member Edward J. Roach Dies

Edward J. Roach, who was a member of the board of directors at Fox Chase since 1956, died on June 10, 2019, at age 94. In 1968, when Fox Chase was still the American Oncologic Hospital, Roach worked with board chairman G. Morris Dorrance Jr. to move the hospital from West Philadelphia to its present location.

"He had a kind heart, listened carefully to what others had to say, and lived his life with an optimistic approach," Richard I. Fisher, MD, president and CEO of Fox Chase, wrote in a letter announcing the death of Roach. "Fox Chase and his service to this institution represented a deep and meaningful part of his life."

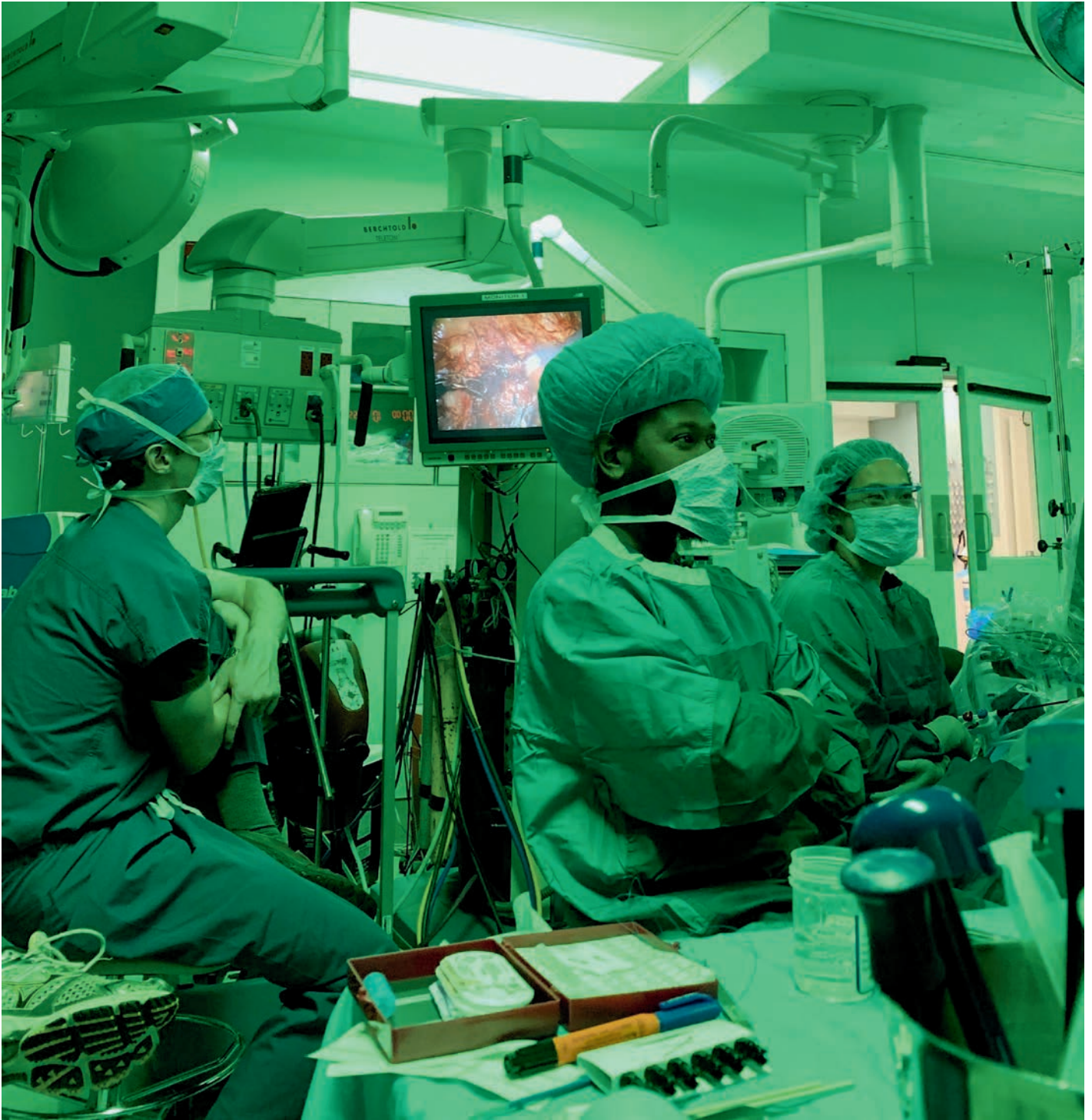
Volunteering Is a Family Affair

Volunteers have long played a vital role at Fox Chase, and this past year was no exception, with 531 volunteers contributing 88,319 hours of their time. Denise "Dee" Hansen is one of them. She volunteers in the Family Surgical Waiting Suite and as an Ambassador at the Clinical Support Desk.

Hansen's mother, Edith Snyder, started volunteering at Fox Chase 16 years ago, and her daughter followed in her footsteps. So did Hansen's sister, Donna Knitter, who is a certified pet visitor volunteer who brings her



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dog in to interact with patients and staff. Hansen's mother was eventually diagnosed with metastatic breast cancer and was treated at Fox Chase.

"Mom always knew she would volunteer after she stopped working," Hansen said. "Mom has a personal connection with the disease. Many family members had been given the diagnosis of cancer."

Hansen, who has been volunteering for two years now, spends six hours a week at the Center. "I have been looking for a way to serve people since retiring from teaching. Fox Chase has been a great fit," she said.

"The experience has proven to be tremendously satisfying," she added. "I meet patients, family members, and employees of Fox Chase who are all interested in reducing the burden of cancer."

In Vino Vita Raises \$1.2 Million

On April 6, 2019, the sixth annual *In Vino Vita* benefit and wine auction raised \$1.2 million. The event, which was held at Vie in Philadelphia, drew nearly 500 generous supporters of Fox Chase. Louis and Carol Della Penna served as wine chairs for the sixth year.

Response to the special pledge was overwhelming. Event chairs Margot and Robert Keith kicked it off with a gift of \$100,000 that was matched by Susan and Bill Federici, along with an anonymous donor. This year's project will support translational research, which bridges the gap between the laboratory and the clinic. Support from the event will help advance the speed at which research makes a positive impact on patient care."

Family Hikes to Raise Funds for Lung Cancer Research

Two family members of a patient who was treated for lung cancer at Fox Chase raised over \$4,500 for researcher Margie Clapper, PhD, by hiking a 130-mile section of the Appalachian Trail in eight days. The patient, Janet Plasha, was a never-smoker who died of lung cancer at 48.

Plasha's family held a basketball tournament last year to raise money. This year, however, Bern Leibensperger, Plasha's sister-in-law, and Kara Leibensperger, Bern's daughter, decided to do

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something different. Instead, they hiked the Appalachian Trail from Buena Vista, Virginia, to Blacksburg, Virginia, starting June 15, 2019, and ending June 23.

“We had some really hard climbs,” Bern said. “Sometimes I found myself complaining and then I would think about Janet and the tough times she endured. I quickly remembered that I had no reason to complain.”

Friends of Fox Chase Go Above and Beyond

The Board of Associates of Fox Chase Cancer Center, founded in 1965, has had a tremendous impact on cancer research and care through fundraising and volunteering. One of the first chapters to form was The Friends of Fox Chase Cancer Center in 1969, which means it is celebrating its 50th anniversary this year.

What makes this chapter so special is that it is

completely comprised of staff who volunteer in addition to their everyday responsibilities. These inspiring employees have invested their personal time and resources to ensure the chapter can provide extra-special patient comfort items, clinical care improvements, staff training, and more.

“When you open your eyes with purpose it opens your heart. There is no turning back. You see it, you feel it, and you know it is the right thing to do,” said Linda Hammell, the chapter’s president.

Fox Chase Team Helps Kick Cancer

On August 3, 2019, nearly two dozen Fox Chase employees took part in Philly Kicking Cancer, the 11th installment in the annual kickball tournament, which raises money for cancer research. Since 2009, Philly Kicking Cancer has raised over \$300,000.



elsey R. Walters, Rhonda Walters, Danielle Walton, Edward J. Wang JR, Liqun Wang, Lu Wang, Yifan Wang, Yue Lynn Wang, Deborah Wanner, Taryn Waraksa, Allison Ward, Houston Riley Ward, Sean A. Ward, Socorra Ward-Weeden, Shuanzeng Wei, Wei Wei, Sarah H. Weidenauer, David S. Weinberg, Kathleen Carr Weir, Danielle Nichole Weismann, Stephanie Weiss, Deborah Weitzner, Eileen Wells, Haley E. Welsh, Marie Welsh, Megan E. Welsh, Charles L. White, Dionnetta Alexis White, Janet D. White, Kathy A. White, Lydia Patricia White, Theresa M. White, Diane L. Whitehouse, Anna G. Whitesell, Henry B. Whittark, Hanifa S. Whittaker, Ray B. Whittaker, Linda Sheed Bateste Williams, Sheena Williams, Angela M. Williford, Syreeta Willis, Andrea Wilson, David Wilson, George Wilson, Jade E. Wilson, Jolanda Wilson, Donna Wilus, Tyrie Wimms, Kenyatta Quarte Wingfield, Jennifer Wifenden, Mary Woltemate, Victoria Wong, Taylor R. Wood, Heather Olsen Woods, Sabrina Sherron Woods, Shawn Anthony Woodson, Donald Wright, Martin L. Wright, Naomi E. Wright, Nidra Wright, Tracey M. Wright, Angela Winger, Daniel Pushparaju Yeggoni, Charles Yeiter, Cindy Yeiter, Timothy J. Yen, Chaoran Yin, Jiejing Yin, Tyanah Yisrael, Carol E. Yocum, Kathleen Yoskowitz, Colleen Browne Young, Cynthia R. Young, Denise Elizabeth Young, Yaman, Allison Zambon, Yanni Zang, Linda Zanon, Megan Zaporowski, Geraldine Zarnawski, Annie Zavitsanos, Margaret M. Zawacki, Carolyn Zawislak, Catherine M. Zearfaus, Diane Carol Zelesnick, Yougang Zhai, Jirong Zh

Linda Hammell

President of The Friends
of Fox Chase Cancer
Center, which celebrated
its 50th anniversary
in 2019.



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Susan Wieczorek, David L. Wiest, Lidia Wilczynska, Ashante D. Wilkins, Sheila Willamin, Crystal D. Williams, David J. Williams, Diana Marie Williams, Kathleen L. Williams, Lucille Williams, Mary E. Williams, Michael William
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Gail A. Young, James C. Young, Matthew Young, Mina-Kathleen Young, Tanisa A. Young, Jian Qin Yu, Mark Yulis, Michael J. Yurescko, Carol Zaccario, Stephanie Zajackowski, Debra Ann Zakrzewski, Josephine Zalman, Nore
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International Collaborations, Volunteer Efforts Continue to Grow

Over the last several years, Fox Chase Cancer Center has initiated various collaborations with hospitals, universities, and companies around the world. Many of these initiatives are run by Fox Chase International, a division of the Center that works to export skills and expertise in cancer prevention, detection, and treatment, and to establish advanced cancer treatment centers abroad in accordance with applicable laws and regulations. Other international outreach involves volunteer work by doctors and nurses. This map highlights a few of the projects that have taken place or are ongoing.

LOCATION: Bahamas

PARTNERS: University of the West Indies, Princess Margaret Hospital

FOCUS: The African-Caribbean Cancer Consortium (AC3), a group dedicated to increasing research capacity in the Caribbean to investigate cancer trends, recently took action to empower health providers to deal with the challenges of breast and prostate cancer. Camille Ragin, PhD, MPH, an associate professor in the Cancer Prevention and Control Program at Fox Chase, founded and leads AC3. Robin Roberts, director of the University of the West Indies, is co-leader of AC3's prostate cancer research working group.

LOCATION: Haiti

PARTNER: iTOT

FOCUS: Fox Chase nurses Nicole Seeley, RN, MSN, and Sandi Wetherbee, RN, MSN, OCN, traveled to Haiti with a multidisciplinary team, where they provided mobile medical clinics in and around Port-Au-Prince, Haiti's capital. During the trip, which was sponsored by the Christian nonprofit iTOT, they also helped treat a scabies outbreak, held a baby check clinic, and performed eye exams.

LOCATION: Dominican Republic

PARTNERS: Abington Health, Luke World Mission

FOCUS: Jeffrey Farma, MD, FACS, chief of the Division of General Surgery, was part of a medical mission that went to the Dominican Republic, where he performed surgeries and helped train residents. The trip was arranged by Abington Health and Luke World Mission, a Christian medical nonprofit. Farma went with surgical, primary care, and pediatric teams.

LOCATION: Qiqihar, China**PARTNER: 3rd Affiliation Hospital of Qiqihar Medical University**

FOCUS: The goal of the relationship is to give Chinese physicians access to Fox Chase oncologists who help with clinical and operational performance improvement plans. The success of the affiliation has led to the formation of additional affiliations in the Chinese cities of Benxi and Xi'an. It has also led other American cancer centers to participate in the program.

LOCATION: Beijing, China**PARTNER: Beijing Friendship Hospital**

FOCUS: Fox Chase will provide consultative services intended to enhance the hospital's existing clinical trial capabilities. In the future, the Friendship Hospital hopes to expand its own trials, while serving as a site for Fox Chase to conduct studies suitable for multiple, diverse populations.

LOCATION: Beijing, China**PARTNER: MORE Health**

FOCUS: Fox Chase has established a partnership that gives patients from across the world access to the nationally ranked physicians of Fox Chase through MORE Health's Physician Collaboration Platform. The service is delivered by a full-featured, intuitive, and compliant online platform that allows physicians to efficiently deliver a diagnosis and treatment plan to patients in collaboration with their treating physicians in their home countries.

LOCATIONS: Shanghai and Chengdu, China**PARTNER: Multinational China-Based Healthcare Group**

FOCUS: Under this partnership, Fox Chase will assist with the establishment of a biosample repository in China. While many biorepositories exist in China, none operate in full compliance with best international practice or contain enough samples of adequate quality to meet the large and growing demand of Chinese academic or government research facilities, domestic or international pharmaceutical companies, or the biotechnology industry.

LOCATION: Delhi, India**PARTNER: Rajiv Gandhi Cancer Center & Research Institute (RGCI)**

FOCUS: Under this relationship, Fox Chase will provide remote second reviews and treatment plans for RGCI patients requesting such services. The Fox Chase Remote Assessment Service is designed to allow patients to stay at home while our team of physicians conducts an in-depth study of medical records, diagnostic images, and pathology to tailor a plan for treatment.

LOCATIONS: Mozambique and Zambia**PARTNERS: Nurses for Africa & Hands at Work**

FOCUS: Fox Chase nurses Diana DiMarcantonio Kott, MSN, RN, OCN, and Sarah Payonk, BSN, RN, traveled to Zambia, where they saw 900 villagers during the clinic days that they held. The trip was run by Nurses for Africa, which worked with an African volunteer group called Hands at Work. In addition to providing hygiene and perinatal education, they also distributed food and clothing. On another trip with the same organizations, Dana Adamson, RN, assisted with two days of clinics in Mozambique in which over 700 people were seen. On the other days, she helped with health education sessions.

Donors

The Laurel Society

The Laurel Society is the signature donor society of Fox Chase Cancer Center, honoring our most generous supporters—individuals, corporations, foundations, community fundraisers, and Fox Chase faculty and staff. Individual members demonstrate their commitment by providing annual support of \$1,000 or more during Fox Chase's fiscal year (July 1 through June 30). Corporations, foundations, and community fundraisers become members at the \$5,000+ level.

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Financials

2019 By the Numbers

640
Scientific Publications

120,087
Outpatient Visits

8,637
New Patients

26
New Faculty Members

294
Actively Enrolling Clinical
Research Studies

98
Investigator Initiated Clinical
Research Studies

Numbers represent Fiscal Year 2019

Philanthropy Snapshot

\$14,832,857
Total Philanthropic Support

\$1,200,000
Raised at *In Vino Vita*

11,466
Total Donors

3,826
Total New Donors

451
Current Donors Who Have
Given 30+ Years

\$461,731
Board of Associates Total Gifts

Volunteer Snapshot

531
Volunteers

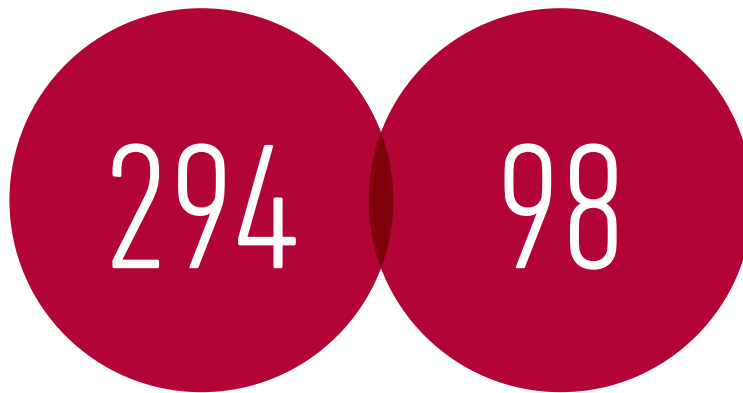
88,319
Total Volunteer Hours

\$280,094
Volunteer Department Budget

\$2,245,952
Value of Hours*

\$1,965,858
Net Value Added to Fox Chase

*Based upon the independent sector value of \$25.43/hr.



Actively Enrolling Clinical
Research Studies

Investigator Initiated Clinical
Research Studies

Clinical Snapshot (In Thousands)

FY19

REVENUES — CLINICAL ACTIVITY

Patient Care Revenue — Hospital	\$410,402
Patient Care Revenue — Physicians	\$34,629
Philanthropy, Outreach & Other	\$11,710
Clinical Revenue	\$456,741

OPERATING EXPENSES — CLINICAL ACTIVITY

Direct Patient Care	\$335,001
Support Services	\$19,008
Administrative & General	\$50,169
Capital Related Costs	\$8,265
Maintenance & Plant Operations	\$12,056
Clinical Expenses	\$424,499

KEY PATIENT CARE STATISTICS

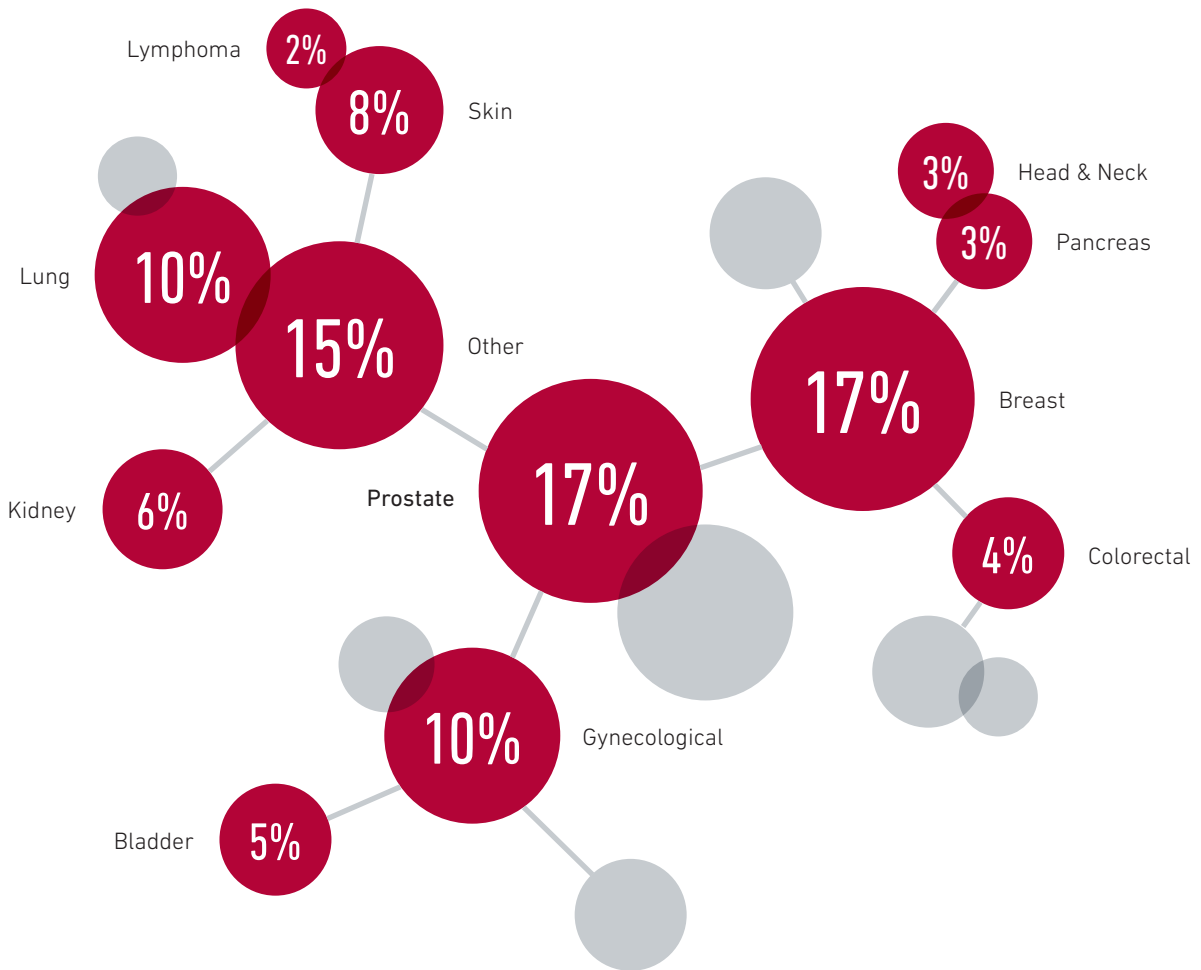
New Patients	8,637
Hospital Admissions	3,814
Chemotherapy Infusions & Related Procedures	64,692
Radiation Therapy Treatments	27,411
Surgical Procedures	5,054

Research Snapshot

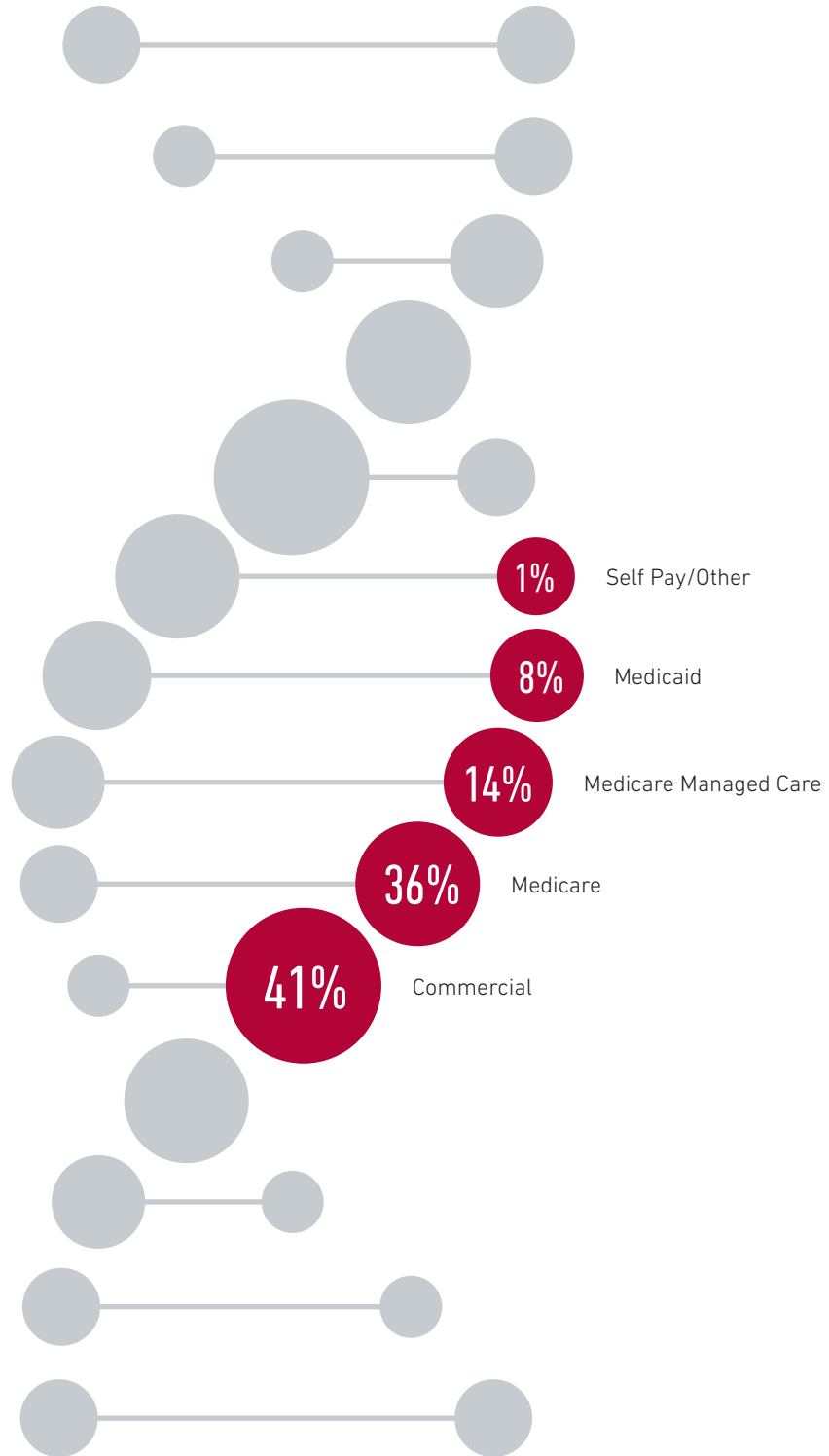
ACTIVE FUNDED PROJECTS

Funding Source	Number of Projects	Direct Costs	Total Costs
PEER-REVIEWED			
NCI	81	\$12,407,245	\$20,284,919
Other NIH	57	\$12,249,984	\$18,358,208
Other	34	\$4,991,888	\$6,884,943
Subtotal of peer-reviewed	172	\$29,649,117	\$45,528,070
NON PEER-REVIEWED			
Industry	80	\$5,690,731	\$7,319,709
Other non peer-reviewed	31	\$2,245,986	\$2,541,620
Subtotal of non peer-reviewed	111	\$7,936,717	\$9,861,329
GRAND TOTAL	283	\$37,585,834	\$55,389,399

Types of Cancer Treated



FY19 Payer Mix



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