Previously Unstudied Protein May Help Uncover What Triggers Some Cells to Become Cancerous

Fox Chase researchers have discovered new clues about how some genes are turned on and off inside a cell by looking closely at one previously unstudied gene, PRR14. *Cell Reports* published their findings online in October 2013.

The Fox Chase team investigated how a single protein can physically silence gene clusters, rendering them inactive. “This gene silencing process is a fundamental aspect of gene regulation,” says Richard Katz, PhD, lead author of the study. When the process goes awry, it can lead to cancer — for instance, when certain tumor suppressor genes are inadvertently silenced. Katz and his colleagues screened thousands of genes and found more than 100 silencers, many of them previously unknown. With PRR14, they found that the protein it encodes plays an important role in the movement of DNA within the cell nucleus.

DNA segments containing genes destined for the silent state are packaged into heterochromatin, and organized in a specific compartment at the inner periphery of the cell’s nucleus. This peripheral heterochromatin is attached to the nuclear lamina, part of the barrier separating the nucleus from the rest of the cell. Each time the cell divides, the associations between the lamina and heterochromatin dissolve and must be reestablished; any perturbations to this process can lead to changes in gene activity, which might trigger cancer.

**THE TOPLINE**

- Identified more than 100 gene silencers, many previously unknown
- One such silencer, PRR14, plays an important role in the movement of DNA within the cell nucleus
- Disabling PRR14 causes changes in the cell nucleus that could trigger cancer

*continued on page 4*
A New Chapter

Last July, I had the privilege of taking up the mantle as President and CEO of Fox Chase, the first freestanding NCI-designated cancer center to merge with a major health care system. Our transition to becoming a member of the Temple University Health System has ushered in a new era of growth and opportunity.

This inaugural issue of Fox Chase NOW shares highlights of this growth, including new hires, publications, collaborations, and more.

One of the most exciting of these ventures features Jean-Pierre Issa, MD, director of the Fels Institute for Cancer Research and Molecular Biology at Temple, who is co-directing an epigenetic research program with Vasily M. Studitsky, PhD, who joined Fox Chase in July 2013. Together, they are studying drugs that can reverse the epigenetic silencing of tumor suppressor genes. Their collaboration is the latest step in the evolution of Fox Chase’s NCI Cancer Center Support Grant, which Fox Chase has held continuously since 1974, the first year such grants were awarded.

Another area of significant expansion at Fox Chase is in my own specialty, hematologic oncology. This January, Henry C. Fung, MD, joined Fox Chase to oversee bone marrow transplant and hematologic oncology services, coming to us from Rush University Medical Center in Chicago, where he developed a very successful program. Dr. Fung’s arrival is an early step in building a major hematologic malignancy program at Fox Chase.

Some recent accolades provide further evidence of our upward momentum: Fox Chase was recently awarded its fourth consecutive Magnet designation for excellence in nursing and recognized by Consumer Reports for having the best surgical outcomes of any hospital in Philadelphia. Fox Chase jumped 20 notches in the U.S. News & World Report “Best Hospitals” issue this summer, and The Scientist ranked Fox Chase seventh in its annual “Best Places to Work in Academia” survey.

From bench to bedside, Fox Chase is building a vigorous future as a national leader in cancer science and medicine as part of Temple Health. We appreciate your interest in Fox Chase NOW and welcome your ideas for exchange and collaboration beyond our walls.

Richard I. Fisher, MD
President and CEO
Henry C. Fung, MD, a nationally recognized leader in hematologic oncology, has joined the Fox Chase faculty to oversee an expansion of the hematologic malignancy program. Fung, who came to Fox Chase from Rush University Medical Center in Chicago, serves as clinical leader of the blood cancers program and the hematologic oncology service line and a professor of medical oncology, as well as director of the Temple University Hospital Bone Marrow Transplant Program. (See a full bio on page 10.)

Fox Chase NOW chatted with Dr. Fung about what he hopes to achieve at Fox Chase and the future he sees for the field of hematologic oncology.

Q: How did you decide on a career in hematology?
A: This is one specialty that’s rapidly translating bench work into patient care. It’s not just basic science, it’s not just patient care, and it’s fascinating. I love the hematologic morphology. It’s the cell structure. You look at the cells and can see what’s normal and abnormal. It’s a field that’s been moving rapidly over the past few decades. In particular, it’s a leader for oncology. Chemotherapy and stem cell transplant all started with hematology.

Q: What has been the highlight of your career to date?
A: At Rush University Medical Center in Chicago, I built a world-class bone marrow transplant program that has the best survival for patients in the state of Illinois and high quality of care. I also developed a radioimmunotherapy protocol incorporated into stem cell transplantation a few years ago that has been moved to multiple phase III studies worldwide.

Another highlight is my expertise in Hodgkin’s lymphoma, again with transplant. I developed a double transplant program protocol at City of Hope in Los Angeles, in collaboration with Loyola Medical Center in Chicago. It was published and then became a cooperative group study. From that work, a national study has just been completed.

Most importantly, I am proud to have trained many new generations of transplanters. Fellows become attending physicians who become directors of programs. I think this has the biggest impact on the future, training the new generation of transplant doctors.

Q: How did you decide to come to Fox Chase?
A: Under the leadership of Dr. Richard Fisher, Fox Chase is going to build one of the best hematologic oncology and bone marrow transplant programs in the country. It will be a world-class program. Fox Chase is one of the very few cancer research hospitals in the country and in the world that focus only on cancer patients. Its history of amazing clinical research and basic science research provides the infrastructure to help me develop a very successful program.

Q: What do you hope to accomplish at Fox Chase and on what will your research focus?
A: My goal is to build the best quality blood cancer and bone marrow transplant programs with the best possible outcomes for our patients. Nowadays, there are different stem cell sources for transplant — peripheral blood, bone marrow, cord blood — as well as multiple potential donors — matched sibling, unrelated, mismatched related (Haplo-identical) donors. The future of transplant is to identify the best donor and the best stem cell source for each patient in order to predict the best outcome.

Q: What can we hope to achieve in blood cancers in the next five years?
A: In the next five years, I hope that we can evolve personalized medicine for patients with blood cancer. If we have a better understanding of the genetics of the different types of blood cancer, we can select optimal treatments for patients. It is as important to eliminate the last cancer cells in the patient’s body as it is to not overtreat them in order to avoid acute and long-term complications.
Previously Unstudied Protein May Help Uncover What Triggers Some Cells to Become Cancerous

Katz and his team found that PRR14 works as a silencer by attaching specific gene clusters, as heterochromatin, to the place in the cell nucleus set aside for silent genes. After cell division, PRR14 migrates toward the periphery of the nucleus, where it attaches the heterochromatin to the lamina. When the researchers disabled the PRR14 protein, heterochromatin began to dissociate from the lamina. Moreover, the nucleus became distorted, similar to the shape seen in cancer — suggesting that the protein also plays a key role in maintaining the structure of the nucleus.

Although PRR14 would be difficult to target as part of cancer therapy, it’s possible that treatments could disable other proteins that interact with PRR14, thereby acting on it indirectly, says Katz. “We have made significant progress in understanding how heterochromatin attaches to the nuclear lamina and how such organization is inherited as cells divide,” he adds. “An understanding of the normal function of the nuclear lamina will be critical for understanding how defects in this structure may contribute to cancer.”

Katz’s co-authors include Andrey Poleshko, PhD, Katelyn M. Mansfield, BS, Caroline C. Burlingame, BS, Mark D. Andrake, PhD, and Neil R. Shah, BS.

As part of its Cancer Center Support Grant from the National Cancer Institute, Fox Chase has launched a new cancer epigenetics research program in collaboration with scientists at Temple University Health System. The program is co-led by epigenetic research pioneer Jean-Pierre Issa, MD, director of the health system’s Fels Institute for Cancer Research and Molecular Biology, and Vasily M. Studitsky, PhD, a two-decade veteran of basic epigenetic research. Studitsky recently came to Fox Chase from Robert Wood Johnson Medical School at Rutgers, The State University of New Jersey, in New Brunswick.

Protein Expression May Predict Response to Radiation Therapy for Head and Neck Patients

Platinum chemotherapy using agents such as cisplatin is an important treatment for squamous cell carcinoma of the head and neck (SCCHN), while chemoradiation is often used for SCCHN patients with high-risk clinical features. Considering the significant morbidity of these treatments, it is important that they are administered only to those patients who are likely to benefit.

The excision repair cross-complementing group 1 (ERCC1) enzyme has an essential role in the pathways used by cancer cells to control damage from cisplatin-based chemotherapy and chemoradiation, and therefore ERCC1+ tumors are more resistant to cisplatin and radiation than ERCC1− cell lines. These roles suggest ERCC1 expression in the nucleus of tumor cells is a potentially valuable predictor of response to chemotherapy and chemoradiation.

To assess ERCC1 protein expression, a team led by Fox Chase medical oncologist Ranee Mehr, MD, used immunofluorescence staining and automatic quantitative analysis on tumors from Fox Chase’s biosample repository. They also analyzed three different antibodies — 8F1, FL297, and HPA029773 — for their ability to detect ERCC1. The results of their research were published in December in Clinical Cancer Research.

For SCCHN associated with traditional risk factors such as tobacco use, the researchers found that low ERCC1 expression was associated with a survival benefit among patients who received adjuvant radiotherapy after surgery. These tumors are known to be less sensitive to chemoradiation, and the association with ERCC1 expression provides a potential explanation for this well-established clinical finding. While it therefore appears useful as a biomarker for response to radiotherapy, ERCC1 expression did not appear to predict survival among patients treated with surgery alone. The latter are usually those with a better prognosis, a factor independent of treatment.

Unexpectedly, the researchers also found that cells taken from recurrent tumors showed lower levels of ERCC1 expression than cells from primary tumors. “The finding that recurrent disease shows lower ERCC1 expression levels...potentially reflects altered DNA repair capacity in response to prior therapy,” they note, adding that “this warrants study in a larger series.” Both antibodies 8F1 and HPA029773 appeared to be useful for detecting ERCC1 in the cell’s nucleus.

Mehra’s co-authors include Fang Zhu, PhD, Dong-Hua Yang, MD, PhD, Kathy Q. Cai, MD, PhD, JoEllen Weaver, BS, MT, Mahendra K. Singh, PhD, Anna S. Nikonova, PhD, Eric A. Golemis, PhD, Douglas B. Flieder, MD, Harry S. Cooper, MD, Miriam Lango, MD, John A. Ridge, MD, PhD, FACS, and Barbara Burtness, MD.

Richard Katz, PhD

Mehra’s co-authors include Fang Zhu, PhD, Dong-Hua Yang, MD, PhD, Kathy Q. Cai, MD, PhD, JoEllen Weaver, BS, MT, Mahendra K. Singh, PhD, Anna S. Nikonova, PhD, Eric A. Golemis, PhD, Douglas B. Flieder, MD, Harry S. Cooper, MD, Miriam Lango, MD, John A. Ridge, MD, PhD, FACS, and Barbara Burtness, MD.

Ranee Mehr, MD
Early Stem Cell Transplants Studied for High-Risk Non-Hodgkin’s Lymphoma

Autologous bone marrow transplantation (ABMT) and autologous stem cell transplantation (ASCT) have had an important role in the treatment of aggressive lymphoma for several decades. Most non-Hodgkin’s lymphoma (NHL) patients who relapse receive ABMT or ASCT after their second round of chemotherapy, which has proven effective at prolonging survival and delaying further relapse. Could bone-marrow or stem-cell transplantation immediately after initial chemotherapy — rather than after the first relapse — further improve the survival of patients with advanced-stage, aggressive lymphomas?

Research conducted by a team including Fox Chase President and CEO Richard I. Fisher, MD, and published in the New England Journal of Medicine in October 2013, suggests the picture is mixed. The study, developed by the SWOG cancer clinical trials cooperative group and funded by the National Cancer Institute, examined 253 high-risk NHL patients who had responded to an initial round of chemotherapy and assigned them to a control group (receiving further chemotherapy) or a transplant group (receiving ASCT).

A larger percentage of patients in the transplant group survived with no lymphoma relapse up to the two-year endpoint (69 percent compared with 55 percent in the control group), but the overall survival rates (including patients who had relapsed but survived to the two-year mark) were not significantly different between the groups — probably because many patients in the control group who relapsed were given a transplant following their second round of chemotherapy. Pre-emptive transplantation, then, appeared to be no more effective than post-relapse transplantation at prolonging survival for most patients.

However, secondary analysis suggested a major benefit for a subset of patients: those with the highest risk. These patients in the transplant group experienced 82 percent overall survival after two years, compared with an overall survival of 64 percent for the highest-risk patients in the control group. “For younger, otherwise healthy patients with high-risk lymphoma, initial treatment with R-CHOP [standard-of-care chemotherapy] followed immediately by ASCT seems a reasonable alternative” to the usual regimen, suggests Fisher.

He notes, though, that the world of lymphoma treatment is poised to change dramatically: “Our understanding of the biology of aggressive lymphomas has been altered in the last few years as a result of molecular profiling. Thus, we will likely see the development of novel targeted treatments that will also be studied in these patients.”

THE TOPLINE

- Examined whether bone-marrow or stem-cell transplant after initial chemotherapy rather than after first relapse would improve survival for high-risk lymphoma patients
- Found that pre-emptive transplant delays relapse but does not extend survival time, except for highest-risk patients
Nestin-Expressing Granule Neuron Precursor Cells May Be More Likely to Generate Tumors

Cerebellar granule neurons, the most abundant neurons in the central nervous system, are usually generated from granule neuron precursors (GNPs) in the external germinal layer (EGL) of a developing cerebellum. However, a team co-led by Fox Chase researcher Zeng-jie Yang, MD, PhD, and Robert Wechsler-Reya, PhD, of Sanford-Burnham Medical Research Institute, recently identified a rare population of cerebellar precursor cells that express Nestin — a protein commonly expressed in multipotent neural stem cells. Although distinct from conventional GNPs — they do not express a signature GNP protein and are usually inactive while GNPs proliferate extensively — these Nestin-expressing progenitors (NEPs) are also dedicated to producing cerebellar granule neurons. As the researchers described in their October 2013 article in Nature Neuroscience, compared with GNPs, NEPs express much lower levels of genes associated with DNA repair, which protect cells from becoming cancerous. Consistent with this, NEPs exhibit more severe genomic instability and give rise to tumors more efficiently when a cancer-causing mutation occurs.

“Our studies suggest that some properties of tumor cells may not necessarily be the result of somatic mutations, but instead may represent intrinsic characteristics of normal cells at certain stages of development,” the researchers note, highlighting the importance of such characteristics in determining whether and when tumor development will take place. “Identification of ‘tumor-prone’ cell populations may yield new approaches to targeting cancer.”

Yang’s co-authors include Peng Li, PhD, Fang Du, MD, Larra W. Yuelling, PhD, Tiffany Lin, Renata E. Muradimova, MS, Rossella Tricario, PhD, Jun Wang, PhD, Grigori Enikolopov, PhD, Alfonso Bellacosa, MD, PhD, and Robert J. Wechsler-Reya, PhD.

Despite expressing Nestin, cultured NEPs (red cells) are committed to generating neurons, which extend characteristic neuronal processes (green fibers).

A neonatal mouse cerebellum was stained with fluorescent antibodies to detect neurons and progenitors. Red cells on the surface of the cerebellum are GNPs, and Nestin (green) is found on many progenitors in the cerebellum, including NEPs, rare cells that are prone to give rise to tumors.
Since mutations in the BRCA1 and BRCA2 genes can be passed down from one generation to the next, many women who undergo testing for these genetic alterations — linked to breast and ovarian cancer risk — share the results with their relatives. But a study led by Mary B. Daly, MD, PhD, chair of the department of clinical genetics at Fox Chase, reveals that many relatives may misunderstand their family members’ test results, and less than half of those for whom testing would be considered appropriate plan to get tested themselves. Daly presented the study results in December at the 2013 SABCS.

Daly and her team surveyed relatives of people who had undergone genetic testing and who said they had shared their results with their family. More than one quarter of those surveyed reported the test results incorrectly. Relatives were most likely to understand positive and true negative results, while only 60 percent understood “indeterminate” or uncertain results.

Only about half (52 percent) of those whose relative tested positive for the BRCA1/2 genes said they planned to get tested themselves. Among those whose relative tested negative but who knew the gene was present in their families, only 36 percent said they were going to find out their own genetic risk.

As part of the study, half of the people getting tested were asked to participate in coaching sessions to help them communicate their results to relatives, but the sessions proved no more effective than educational sessions about overall health. Daly now plans to explore the effect of reaching out directly to the relatives of someone who has undergone genetic testing (with that person’s permission), to see if hearing the results from an expert helps family members understand what they mean.

Daly’s co-authors include Susan Montgomery, RN, BSN, OCN, Ruth Bingler, BS, and Karen Ruth, MS.
Drug Developed at Fox Chase Holds Promise for Gastroesophageal Cancer

A first-of-its-kind drug that emerged from research at Fox Chase Cancer Center is now moving into an important new area: gastroesophageal cancer. “This is a drug that could provide new therapeutic options in a disease that doesn’t have many,” says medical oncologist Crystal Denlinger, MD, who is leading a worldwide study to test the compound’s effectiveness in cancers of the stomach and esophagus (see opposite page).

At the time of the drug’s initial conception, scientists were developing therapies for lung, breast, and bladder cancers that targeted cells making an excess of the HER2 protein, which is associated with both tumor growth and a poor prognosis. Therapies targeting HER2-positive cells alone, however, weren’t producing optimal results. Greg Adams, PhD, director of biological research and therapeutics at Fox Chase and Louis M. Weiner, MD, then chairman of medical oncology at Fox Chase, decided to pursue a therapy that would block both HER2 and another protein that promotes cancer growth, HER3. Weiner is now director of the Lombardi Comprehensive Cancer Center at Georgetown University.

To accomplish this, a novel bispecific antibody was engineered by Eva Horak in Adams’ lab in collaboration with James Marks, MD, PhD, of the University of California San Francisco. The antibody features two binding sites — one that attaches to HER3 and one to HER2. This prevents HER3 from binding with a growth factor, which would in turn trigger HER3 to pair with HER2, activating both; this single compound therefore shuts down two cancer-promoting activation pathways. Matthew Robinson, PhD, an assistant professor in Fox Chase’s Developmental Therapeutics Program, then guided the new antibody through a series of preclinical assays that validated its specificity and function.

To further test the approach, Fox Chase and UCSF partnered with Merrimack Pharmaceuticals, Inc., which licensed the lead antibody and modified it to improve its pharmacokinetics. The resulting drug is known as MM-111. Merrimack then turned to Fox Chase and South Texas Accelerated Research Therapeutics to assess the safety of MM-111 in patients with HER2-positive cancers. Those results, initially reported by Denlinger at the San Antonio Breast Cancer Symposium in December 2010, showed tolerable side effects, none of which were unexpected. Fox Chase also participated in another safety trial examining MM-111 when combined with multiple chemotherapy drugs.

When initial studies demonstrated that Herceptin (trastuzumab), an existing HER2-targeting drug, had some effect against HER2-positive gastroesophageal cancers when combined with chemotherapy, Denlinger wondered whether MM-111 might be an effective treatment for these cancers. Eventually, that thought led to a global clinical trial involving 60 centers. The current study, for patients with advanced esophageal, gastroesophageal junction, and gastric cancer, targets tumors that have moderate or high expression of the HER2 protein on the surface of the cancer cells. The trial combines MM-111 with standard chemotherapy treatment.

From the development of the drug through first-in-human trials to efficacy studies for gastric cancer and other diseases, Fox Chase scientists have had the unique experience of shepherding MM-111 through its entire development. “This came out of Fox Chase, went to a company, and came back to Fox Chase,” says Robinson, “which is the ideal situation.”
Fox Chase Offers Robust Selection of Phase I and First-in-Human Compound Trials

Fox Chase is home to a highly active Phase I clinical trial program, which enrolls 150 to 200 patients into Phase I oncology trials annually. The program is bolstered by Fox Chase’s Protocol Support Laboratory, one of the only laboratories in the country dedicated specifically to fulfilling the biospecimen-based research objectives of protocols for Institutional Review Board-approved clinical trials and investigational studies.

The Center’s robust portfolio of Phase I trials includes about 15 trials of first-in-human compounds in any given year. “We have a lot of physicians who have an interest in early clinical drug development with the intent of finding new and improved therapies for all patients with cancer,” says Phase I program director Anthony Olszanski, MD, RPh. “Our investigators and research staff undergo extensive training and work with sponsors and the FDA to test these compounds, while ensuring the safety of the patient. Consistent with the National Comprehensive Cancer Network guidelines, we feel that the best therapy a patient can get is often on a clinical trial. Our ultimate goal, for every patient, is to improve clinical outcomes.”

For more information and a complete list of open trials, visit foxchase.org/ClinicalTrialsProgram.

SELECTED OPEN CLINICAL TRIALS

BREAST CANCER
REPO210: A Single Arm, Preoperative, Pilot Study to Evaluate the Safety and Biological Effects of Orally Administered Reparixin in Early Breast Cancer Patients Who Are Candidates for Surgery
Lori Goldstein, MD
PDOMPE002/12-055

REPO111: Phase Ib Pilot Study to Evaluate Reparixin in Combination with Chemotherapy with Weekly Paclitaxel in Patients with HER2 Negative Metastatic Breast Cancer (MBC)
Lori Goldstein, MD
PDOMPE001/11-068

GASTROINTESTINAL CANCER (GASTROESOPHAGEAL)
MM-111-13-02-04: Randomized, Open Label, Phase 2 Study of MM-111 and Paclitaxel With or Without Trastuzumab In Patients with ‘Traditional’ and ‘Non-Traditional’ HER2 Expressing Carcinomas of the Distal Esophagus, Gastroesophageal (GE) Junction and Stomach Who Have Failed Front Line Metastatic or Locally Advanced Therapy
Crystal Denlinger, MD
PMERRM005/13-001

GASTROINTESTINAL CANCER (HEPATOCELLULAR)
54F28-004: A Phase 1b Dose Escalation Study of OMP-54F28 in Combination with Sorafenib in Patients with Hepatocellular Cancer
Crystal Denlinger, MD
PONCMED003/13-053

GENITOURINARY CANCER (PROSTATE)
BNIT-PRV-301: A Randomized, Double-Blind, Phase 3 Efficacy Trial of PROSTVAC-V/F+GM-CSF in Men with Asymptomatic or Minimally Symptomatic Metastatic, Castrate-Resistant Prostate Cancer
Marijo Bilusic, MD, PhD
PBNIT001/13-010

GENITOURINARY CANCER (RENAL)
CA209025: A Randomized, Open-Label, Phase 3 Study of Nivolumab (BMS-936558) vs. Everolimus in Subjects with Advanced or Metastatic Clear-Cell Renal Cell Carcinoma Who Have Received Prior Anti-Angiogenic Therapy
Elizabeth Plimack, MD
PBMS028/12-042

HEAD AND NECK CANCERS
FER-HN-027: Phase II Trial of Carboplatin/Paclitaxel and Cetuximab, Followed by Carboplatin/Paclitaxel/Cetuximab and Erlotinib, with Correlative Studies in Patients with Metastatic or Recurrent Squamous Cell Carcinoma of the Head and Neck (NCT01316757)
Ranee Mehra, MD
FERHN027/10-026

1200.131: LUX-Head & Neck 2: A Randomized, Double-Blind, Placebo-Controlled, Phase III Study to Evaluate the Efficacy and Safety of Aftinib (BIBW 2992) as Adjuvant Therapy After Chemo-radiotherapy in Primary Unresected Patients with Stage III, IVa or IVb Loco-Regionally Advanced Head and Neck Squamous Cell Carcinoma
Ranee Mehra, MD
PBOEHR006/11-058

10311: Phase I Study of MLN8237 in Combination with Cetuximab and Definitive Radiation in Patients with Locoregionally Advanced Squamous Cell Carcinoma of the Head and Neck
Igor Astsaturov, MD
UPENN001/12-023

SARCOMA
OER-SAR-043: Phase II Study Evaluating the Role of Pazopanib in Angiosarcoma (IND 112423) (NCT01462630)
Margaret Von Mehren, MD
OERSAR043/11-042

THORACIC CANCER (NON-SMALL CELL LUNG)
CA209012: A Multi-arm Phase I Safety Study of Nivolumab in Combination with Gemcitabine/Cisplatin, Pemetrexed/Cisplatin, Carboplatin/Paclitaxel, Bevacizumab Maintenance, Erlotinib, Imitumumab or as Monotherapy in Subjects with Stage IIIb/IV Non-small Cell Lung Cancer (NSCLC)
Hossein Borghaei, MS, DO
PBMS024/11-067

FOR CLINICAL QUESTIONS, contact Margaret von Mehren, MD, at 215-728-2814.

FOR MORE INFORMATION about accessing individual trials, contact Jacqueelyn Thomas, MPH, CHES, at 215-214-3793.
Vasily M. Studitsky, PhD, has joined Fox Chase as a professor and co-leader of the Cancer Epigenetics Program. An internationally recognized expert in epigenetics, Studitsky most recently served as a professor at the Robert Wood Johnson Medical School of Rutgers in New Brunswick, New Jersey, as well as Wayne State University School of Medicine in Detroit. Studitsky received his MS in biochemistry from Moscow State University and his PhD from the W. Engelhardt Institute of Molecular Biology in Moscow, Russia. Studitsky completed his postdoctoral fellowship at the National Institutes of Health, where he conducted research on transcription through chromatin by model bacteriophage SP6 RNA polymerase and yeast RNA polymerase III.

Suzanne Ben-Kane, MD, MPH, joins Fox Chase as a hospitalist. She received her MD from the University of Debrecen Medical and Health Science Centre in Debrecen, Hungary, and her MPH from the University of Debrecen School of Public Health. Ben-Kane completed her internal medicine residency at Abington Memorial Hospital in Pennsylvania.

Yanis Boumber, MD, PhD, joins the department of medical oncology as an attending physician after completing clinical and research fellowships at the University of Texas MD Anderson Cancer Center in Houston. Boumber, who specializes in treating patients with thoracic cancers, including lung cancer, thymoma, and mesothelioma, earned his MD from Russia’s Rostov State Medical University and his doctorate from the University of Texas Graduate School of Biomedical Sciences. Boumber completed an internal medicine residency at Johns Hopkins University’s Good Samaritan Hospital in Baltimore.

Robert Carlson, MD, CEO of the National Comprehensive Cancer Network (NCCN) and a leading medical oncologist focusing on breast cancers, has joined Fox Chase’s department of medical oncology in a part-time capacity as an attending physician. Prior to assuming the top leadership role at the NCCN, Carlson was medical director of inpatient oncology and hematology at the Stanford Cancer Institute, and professor of medicine in the division of oncology at Stanford University Medical Center.

Tanveer K. Chaudhry, MD, joins Fox Chase and Jeanes Hospital as an attending physician in the anesthesiology medical team. After receiving her MD from the University of Akron, she did a year’s residency at Philadelphia’s Thomas Jefferson University Hospital and then completed residency training in anesthesiology at The Johns Hopkins Hospital in Baltimore. She was also a critical care fellow at the University of Pennsylvania.

Henry C. Fung, MD, an internationally recognized leader in the field of blood diseases and bone marrow transplantation, joins Fox Chase as clinical leader of the blood cancers program and the hematologic oncology service line, and a professor of medical oncology. He will also direct the Temple University Hospital Bone Marrow Transplant Program. Fung has held faculty and research positions at several distinguished cancer centers, including City of Hope Comprehensive Cancer Center and the Chao Family Comprehensive Cancer Center of the University of California, Irvine. He graduated from The Chinese University of Hong Kong’s school of medicine and interned at its Prince of Wales Hospital, did his residency and fellowship at Hong Kong University’s Queen Mary Hospital, and completed a Hematologic Oncology/Bone Marrow Transplant fellowship at the British Columbia Cancer Control Agency in Vancouver, Canada. Read a Q&A with Dr. Fung on page 3.

Tanveer K. Chaudhry, MD, joins Fox Chase and Jeanes Hospital as an attending physician in the anesthesiology medical team. After receiving her MD from the University of Akron, she did a year’s residency at Philadelphia’s Thomas Jefferson University Hospital and then completed residency training in anesthesiology at The Johns Hopkins Hospital in Baltimore. She was also a critical care fellow at the University of Pennsylvania.

SAVE THE DATE!
Join Richard I. Fisher, MD, President and CEO, and Fox Chase faculty at a special reception at the ASCO Annual Meeting.

Saturday, May 31, 2014 at 7:00 pm
Hilton Chicago

Formal invitations to follow.
To ensure you are on our list, please write to theresa.capella@fccc.edu
Susan Copley Cobb, RN, MSN, PhD, is the new director of professional development and practice innovation at Fox Chase and Jeanes Hospital. Previously at the Hospital of the University of Pennsylvania, she is also an adjunct professor of graduate nursing education at Excelsior College in Albany. She received her PhD from Pittsburgh’s Duquesne University, her MSN from the University of Pennsylvania, and her BSN from Binghamton University.

James Duncan, PhD, joins the Cancer Biology Program as an assistant professor after completing his postdoctoral fellowship in the department of pharmacology at the University of North Carolina. Duncan received his PhD from the University of Western Ontario, Canada. He has expertise in signal transduction, particularly the role of protein kinase networks in breast cancer.

Neil Johnson, PhD, whose research focuses on homologous recombination in breast and ovarian cancer, has joined the Developmental Therapeutics Program as an assistant professor. Before completing postdoctoral training at Dana-Farber Cancer Institute in Boston, Johnson received both his BS in Genetics and his PhD in Cancer Biology/Therapeutics from the University of Newcastle upon Tyne, United Kingdom.

Nadia Khan, MD, comes to Fox Chase following a medical oncology fellowship at Georgetown University in Washington, DC. She received her MD from Temple University School of Medicine in Philadelphia, where she also completed her residency. Khan, who will treat patients with and conduct clinical research on malignant lymphoma, has joined the department of medical oncology as an attending physician.

Steven J. Mattleman, MD, FACC, has joined Fox Chase’s department of medicine as director of the division of cardiology. He will also continue his practice as a cardiologist with Pennsylvania Heart and Vascular – Temple Health. Mattleman received his MD from Hahnemann Medical College in Philadelphia, where he also served as chief resident and chief cardiology fellow.

Elias Obeid, MD, MPH, who specializes in breast and ovarian cancer risk assessment and in the treatment of patients with breast cancer, joins the department of clinical genetics as an attending physician. Previously an instructor at the University of Chicago, he received his MD from the American University of Beirut School of Medicine and his MPH from the University of Massachusetts, Amherst.

Jennifer Y. Shih, MD, MS, joins the department of medical oncology and the breast cancer treatment team as an attending physician after completing a fellowship in hematology/oncology at the University of Virginia Medical Center. She earned her MD at Taipei Medical University in Taiwan and did her internal medicine residency at Abington Memorial Hospital in Pennsylvania.

Ofri Speaks on Emotions in Medicine
How do physicians respond to the life-and-death dramas of everyday practice? What effects do their responses have on patients? These are among the questions examined in What Doctors Feel: How Emotions Affect the Practice of Medicine, a book by author and physician Danielle Ofri, MD, PhD. In September, Ofri came to Fox Chase to speak about the book as part of Cancer Conversations, Fox Chase’s series of public talks on cancer topics. Nearly one-third of the 300 guests were health care professionals representing many medical centers across the region. Ofri, a physician at Bellevue Hospital in New York, was also guest speaker at a standing-room-only conference of clinicians at Fox Chase’s grand rounds. The next Cancer Conversation will be held on April 3, 2014, when Fox Chase welcomes New York Times writer George Johnson, author of The Cancer Chronicles: Unlocking Medicine’s Deepest Mystery.

Nobel Laureate Hershko Returns
Nobelist Avram Hershko, MD, PhD, has returned to Fox Chase Cancer Center for a sabbatical in the lab of Timothy J. Yen, PhD. Hershko is focusing on how protein degradation is used to ensure that chromosomes are accurately segregated between two daughter cells during mitosis — a continuation of his work on the breakdown of proteins within cells, for which he won the 2004 Nobel Prize in chemistry with Aaron Ciechanover, PhD, a colleague from his home institution, Technion-Israel Institute of Technology in Haifa, Israel, as well as retired Fox Chase scientist Irwin A. “Ernie” Rose, PhD.
Fox Chase Earns Fourth Consecutive Magnet Nursing Designation

For the fourth time in a row, Fox Chase has received Magnet designation for excellence in nursing services through the American Nurses Credentialing Center’s Magnet Recognition Program® — making it the first health care provider in Pennsylvania (and one of only 13 in the nation) to have achieved three successful re-designations. The nation’s highest form of recognition for nursing excellence, Magnet designation denotes superior nursing management and practice standards, nursing leadership and support, and attention to cultural and ethnic diversity, and is one of the benchmarks used to measure the quality of patient care.

“Earning this re-designation is a substantial accomplishment,” says Richard I. Fisher, MD, President and CEO. “Our ability to sustain our Magnet designation since 2000 is a testament to the dedication and commitment of all the staff here at Fox Chase.”

Association of Community Cancer Centers Honors Engstrom

The Association of Community Cancer Centers has honored Paul F. Engstrom, MD, acting chairman of medical oncology and senior vice president of extramural research programs, with its Annual Clinical Care Achievement Award. An international advocate for cancer prevention and early detection, Engstrom established the first Cancer Prevention and Control Program in an NCI-designated cancer center at Fox Chase in 1979. He is also a founding member of the National Comprehensive Cancer Network Patient Guideline Committee and a worldwide spokesperson for the national guidelines to screen, diagnose, manage, and support cancer patients.

Sergei Grivennikov, PhD, an assistant professor in the Cancer Prevention and Control Program, was named a Pew Scholar in the Biomedical Sciences in June 2013. Grivennikov is using the award to explore the ways that the inflammatory response of a host’s immune cells may influence tumorigenesis and cancer progression in diseases such as colon cancer. Using a mouse model primed to develop colorectal cancer, Grivennikov will examine how alterations in various cytokine signaling pathways affect the process of tumor development and metastasis.

Fox Chase Receives Accreditation by the Commission on Cancer

The American College of Surgeons has granted Fox Chase full accreditation by the Commission on Cancer, recognizing cancer programs that have made a voluntary effort to provide high-quality, patient-centered care. Full accreditation is granted only to programs that have been independently verified by a CoC surveyor as meeting every one of its 36 standards.