CINJ Welcomes Princeton University as a Scientific Collaborator

Expanding its research horizons in the fight against cancer, The Cancer Institute of New Jersey (CINJ) has formally welcomed Princeton University as a scientific collaborator, which will allow for the sharing of resources and the strengthening of outstanding research programs at both institutions.

CINJ, which is New Jersey’s only National Cancer Institute (NCI)-designated Comprehensive Cancer Center, operates under a “consortium cancer center” matrix, allowing for formal scientific and academic collaboration between CINJ and other entities. Rutgers, The State University of New Jersey, has historically been a part of this relationship since CINJ first opened in 1993, allowing for Rutgers scientists to work alongside CINJ’s physician-scientists in the laboratory and provide an outlet to bring discoveries directly to patients. The latest partnership with Princeton University allows for the same.

Many Princeton researchers from wide-ranging disciplines, including physics, genomics, chemical engineering and computer science, are engaged in cutting-edge projects to expand the fundamental understanding of cancer and develop new therapeutic models and treatment methods. These efforts are housed within numerous departments, institutes and centers, including the Lewis-Sigler Institute for Integrative Genomics and the Princeton Physical Sciences-Oncology Center, which was recently established with a $15.2 million grant from the NCI to explore how cancer—Continued on page 6

Research Team Targets Self-Cannibalizing Cancer Cells

From left: Princeton scientists Drs. Hilary Coller and Joshua Rabinowitz with CINJ’s Dr. Eileen White.

to survive periods of stress. The work may help produce new cancer therapies to stem changes that render cancer cells dangerous and resistant to treatment.

“We want to know: What role is this self-cannibalization playing in the middle of a tumor?” said team member Hilary Coller, PhD, an assistant professor of molecular biology at Princeton. “To treat cancer, it may be that you want to get rid of this ability in tumor cells, so we’re searching for inducers and inhibitors of this process.”

CINJ Associate Director for Basic Science, Eileen White, PhD, adjunct professor of surgery at UMDNJ-Robert Wood Johnson Medical School, and professor of molecular biology and biochemistry at Rutgers, The State University of New Jersey; Dr. Coller; and Princeton—Continued on page 6
**Director’s Corner**

Much of the progress made in this country against cancer has been the result of research and care done at National Cancer Institute-designated Comprehensive Cancer Centers, of which, 40 are scattered throughout the United States. These centers, including The Cancer Institute of New Jersey, are the centerpiece of the nation’s effort to reduce disability and death from cancer. They are places of outstanding research and are sought by cancer patients for the latest advances in treatment and by young scientists and physician-scientists dedicated to solving the mysteries of cancer.

I recently had the honor of being asked to testify before Congress during a meeting of the House Committee on Energy and Commerce Subcommittee on Health to provide expertise on the importance of cancer research funding (http://energycommerce.house.gov/Press_111/20100323/DiPola.Testimony.pdf). I described how as a major force in discovering the cure for cancer, and developing effective approaches to prevention, diagnosis, and therapy, NCI-designated Comprehensive Cancer Centers deliver medical advances to patients, educate healthcare professionals and the public, reach out to underserved populations, and collaborate with colleagues in academia and industry to bring the latest medicines directly to patients.

We are at the beginning of a revolution in cancer diagnosis and care thanks to advances in cancer research. Treatments are becoming personalized for the individual patient with therapies that target the specific molecular changes that cause cells to become cancerous as part of the therapeutic arsenal. Translational and clinical research play an important role in moving medical science and improving the public’s health.

For example, at CINJ we recently opened a clinical trial to look at harnessing the body’s own immune system to tackle pancreatic cancer. As you’ll read in this edition of Oncolyte, researchers are testing the effectiveness of a new vaccine combination injected directly into the tumor (see page 7). If the results prove successful, this will improve patient outcomes for one of the deadliest types of cancer.

As you’ll learn in our cover story, work done in the laboratory of CINJ Associate Director for Basic Science, Dr. Eileen White, has been translated into a clinical trial that explores the use of an arthritis and malaria drug in the treatment of colorectal cancer. Many times, as a result of our discoveries, collaborations are fostered between CINJ and the pharmaceutical and biotechnology industries. CINJ’s coveted NCI designation brings value to our state through opportunities, prestige, resources, and funding not otherwise available.

We are at a promising time in cancer research. But much more remains to be done. We have the potential to welcome a new era of cancer treatment and prevention, but we can’t do it alone. Every research breakthrough is a victory. But it will take continued support to win the war. We hope you’ll join us in meeting this goal.

Sincerely,

Robert S. DiPola, MD
Associate Dean for Oncology Programs and Professor of Medicine
UMDNJ-Robert Wood Johnson Medical School
Treatment for Localized Prostate Cancer Associated with Type of Specialist Seen

The type of specialist that men with localized prostate cancer see can influence the form of therapy they ultimately receive. For instance, patients aged 65 to 69 years old who consult a urologist are more likely to undergo surgery to remove the prostate, while those who consult a radiation oncologist and a urologist, regardless of age, usually receive radiation therapy. That is according to research published in the March 8, 2010, edition of the Archives of Internal Medicine by an investigator at The Cancer Institute of New Jersey and colleagues at Memorial Sloan-Kettering Cancer Center.

Previous research published in the Journal of the American Medical Association in 2000 found that when U.S. urologists and radiation oncologists were surveyed on how they would treat patients with localized prostate cancer, specialists overwhelmingly would recommend the treatment modality that they themselves delivered. However, no evidence to date has determined whether the type of specialist men see after a prostate cancer diagnosis influences the eventual treatment chosen. This latest study examined 85,088 men aged 65 and older who were diagnosed with localized prostate cancer between 1994 and 2002 using information from the Surveillance, Epidemiology and End Results (SEER)-Medicare linked database to determine the type of specialist they saw and the therapy they received.

It was found that half of these men were seen exclusively by a urologist; 44 percent by both a radiation oncologist and a urologist; three percent by both a medical oncologist and a urologist; and three percent by all three specialists. A high correlation was observed between the type of specialist patients saw and the treatment they received. This was especially true in younger men aged 65 to 69, where 70 percent of men who saw only a urologist had a radical prostatectomy. However, if men in this group saw a radiation oncologist and a urologist, 78 percent had radiation therapy. If men aged 65 to 69 years old saw a medical oncologist and a urologist, 53 percent had a prostatectomy and nearly equivalent numbers had either radiation therapy (17 percent), expectant management (16 percent), or hormone therapy (14 percent).

“These practice patterns are no surprise but are notable, because specialists who treat prostate cancer tend to favor the treatment they themselves deliver, despite the fact that no one has shown one treatment for early stage prostate cancer to be better than another,” said Thomas L. Jang, MD, MPH, urologic oncologist at CINJ, assistant professor of surgery at UMDNJ-Robert Wood Johnson Medical School, and the lead author of the study. “It is very important for patients to receive an unbiased, balanced perspective on the full range of treatment options, as the treatments for localized prostate cancer have different side effects and different recovery profiles, and involve a different time commitment.”

The research was funded by a National Institutes of Health Ruth Kirchstein National Research Service Award and grants from the National Cancer Institute.
Complications Following Liver Cancer Surgery are More Frequent at Low-Volume Hospitals

The frequency of post-operative complications following surgery for liver cancer is associated with a hospital having a low volume of liver surgery. Investigators at the Cancer Institute of New Jersey presented that finding at the 63rd Annual Society of Surgical Oncology Symposium earlier this spring.

Previous analyses have documented institutional-volume-related death rates at low-volume hospitals for this type of surgery; however, a causal relationship has not been determined. In this current study, 9,289 cases between 1998 and 2007 from the Nationwide Inpatient Sample database were analyzed. Patients were more than 18 years old and underwent elective surgical removal of a portion of their liver due to malignancy. A threshold of 20 annual liver surgeries was used in each hospital to separate low-volume facilities from high-volume facilities. Postoperative complications such as sepsis and hemorrhaging, as well as problems with the liver, lungs, heart, and bladder were reviewed. Also taken into account were socio-demographic factors such as age, gender and race among other variables.

Investigators found that patients at low-volume hospitals experienced at least one of the analyzed postoperative complications more often than at high-volume facilities. Specifically, hemorrhagic, septic and lung complications were more likely to occur at low-volume institutions. However, overall, the rate of liver complications was lower at these facilities. When mortality was analyzed, it was found that patients who underwent liver cancer surgery at low-volume hospitals were 1.4 times as likely to die as patients who had the procedure at a high-volume institution.

Christopher J. Gannon, MD, surgical oncologist at CINJ and assistant professor of surgery at UMDNJ-Robert Wood Johnson Medical School, is the lead investigator. “This new data is significant in that it could be utilized in low-volume facilities to investigate systems problems once complications occur. This information also has benefit for high-volume hospitals, as it could also be used in centralizing liver cancer care,” he noted.

Developing the Next Generation of Cancer Drugs: How Does the Process Begin?

When people think of cancer treatment, chemotherapy infusions, injections and pills often come to mind. These treatments result from extensive research and testing in drug development. But how does the process begin? One avenue is through discussion and sharing of ideas in a forum provided by the National Cancer Institute’s (NCI) Cancer Therapy Evaluation Program (CTEP). CTEP hosted one of two major meetings earlier this year in which distinguished basic science leaders, clinical investigators and others gathered to discuss the latest in early drug development. Leading one of the sessions was both the director of The Cancer Institute of New Jersey and CINJ’s associate director for basic science.

The semi-annual Early Drug Development meetings are designed to enhance communication between the NCI and early-phase clinical trial investigators who are supported by CTEP. Members of government, academia and the pharmaceutical industry attend, along with oncology healthcare professionals involved in early-stage drug development.

A key topic that was highlighted was autophagy, which is described as a means of survival for a cancer cell through self-digestion. CINJ Director Robert DiPaola, MD, and CINJ Associate Director for Basic Science Eileen White, PhD, are recognized experts in this area and led the educational session.

Recent breakthroughs in this area of study have been discovered in the laboratory of Dr. White and her colleagues. Last June, White and her team published findings in the journal Cell, which detailed the inner workings of the autophagy regulator, the p62 protein. The p62 protein is responsible for packaging damaged materials within a cell for delivery to the autophagy pathway and disposal, and the buildup of p62 in tumor cells is a marker for autophagy inhibition. Since autophagy is a survival pathway for tumor cells, inhibiting autophagy monitored by p62 accumulation in cancer therapy as a measure of effectiveness is now being exploited for cancer therapy.

These latest laboratory findings have been translated into Phase I clinical trials at CINJ, which determine safe dosing levels for drugs. These trials are testing certain drugs that show properties that support or further enhance the autophagy process. “Further understanding the mechanism behind autophagy will help scientists better determine which drug compounds will work in tandem with that process. By having the forum that CTEP provides to discuss such discoveries, we will continue to share ideas and further integrate such knowledge into collaborative study in this area,” said Dr. DiPaola.
Having grown up in New Jersey, Dr. Gannon always considered returning for his career in surgical oncology. When given the opportunity to join the faculty at The Cancer Institute of New Jersey several years ago, he recognized the potential to realize his professional goals at an NCI-designated Comprehensive Cancer Center and still be close to family.

Since his arrival, Dr. Gannon has divided his time between the clinical care of patients and advancing cancer research. He specializes in the surgical care of upper gastrointestinal malignancies such as liver, bile duct, pancreas, and stomach cancers. The largest percentage of his patients is being treated for hepatobiliary malignancies, which includes metastatic cancer to the liver and primary liver cancers.

Patients with cancers of the liver and bile ducts require specialized care. Primary liver cancer is uncommon in the United States with fewer than 20,000 cases per year. Gallbladder cancer and bile duct cancer are rare with approximately 6,000 and 3,000 cases per year respectively. Colorectal cancer frequently metastasizes to the liver only. A growing percentage of these patients with Stage IV colorectal cancer can be successfully treated utilizing a combination of chemotherapy and surgical resection.

Because of the complexity of treating these cancers, Dr. Gannon initiated a liver tumor study group (LTSG) at CINJ. This team meets regularly to discuss the multimodal care of individual patients. Myriad specialties are represented to offer each patient the optimal treatment option for their case. These specialists are led by CINJ members Dr. John Nosher (radiology), Dr. Darren Carpio (surgical oncology), Dr. Salma Jabbour (radiation oncology), and Dr. Rebecca Moss (medical oncology). The liver tumor study group utilizes the most advanced treatment options available in the state. These include selective internal radiation therapy, radiofrequency ablation, chemoembolization, hepatic arterial pumps, minimally invasive microwave ablation, and minimally invasive hepatic surgery.

Dr. Gannon’s research focuses on the treatment of hepatobiliary malignancies. This is manifest in the other goals of the liver tumor study group; to advance the science of hepatobiliary malignancies and rapidly translate this information to clinical care. Due to the high volume of patients seen with these uncommon and rare cancers at CINJ, the necessary differences in treatment regimens can be extrapolated quickly to shift clinical practices in order to optimize care. The LTSG, under Dr. Gannon’s direction, emphasizes the acquisition of basic scientific data as well as promoting CINJ Oncology Group and national clinical research protocols. Some of the work from the LTSG developed in combination with the Surgical Outcomes Research Group led by Dr. Todd Vogel, assistant professor of surgery at UMDNJ-Robert Wood Johnson Medical School, was recently presented by Dr. Gannon at the 63rd Annual Cancer Symposium of the Society of Surgical Oncology (see story on page 4).

Dr. Gannon also maintains an interest in the delivery of energy to liver tumors. He was integrally involved in the development of pre-clinical models of a novel, external radiofrequency field generator while at The University of Texas, M.D. Anderson Cancer Center in Houston. This generator and its inventor, John Kanzius, were featured on the news program 60 Minutes in July 2008. Using engineered nanomolecules with a novel external radiofrequency field has yielded promising destruction of cancer cells and tumors in pre-clinical models. Dr. Gannon hopes to further develop at CINJ this non-invasive technology in conjunction with the delivery of engineered nanoparticles to assist in the destruction of solid tumors. In addition to radiofrequency energy, Dr. Gannon has adopted the use of microwave energy for the treatment of liver cancer. Microwave energy allows for a more directed placement of energy as well as the ability to destroy larger tumors.

In addition to his role as a surgeon and researcher, Dr. Gannon directs the surgical oncology clinical clerkship and elective for students at UMDNJ-Robert Wood Johnson Medical School. In this role, he has been fortunate to provide career mentoring to medical students. Teaching and mentoring are also part of his daily work with the general surgery residents at Robert Wood Johnson University Hospital.
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evolves under stress.
CINJ Deputy Director Edmund Lattime, PhD, who is also the associate director for Education and Training at CINJ and a professor of surgery at UMDNJ-Robert Wood Johnson Medical School, says formally recognizing Princeton University in this way is a natural next step in enhancing the relationship between the two institutions. “For years our world-class scientists at both facilities have been collaborating on individual cancer research projects. By entering into a formal partnership, we are strengthening our team science approach so that we can collectively advance cancer research in New Jersey and beyond,” he said.

“Marrying Princeton’s basic research with the clinical expertise at The Cancer Institute of New Jersey is a win-win scenario for scientists and patients,” says James Broach, PhD, a Princeton professor of molecular biology and associate director of Princeton’s Lewis-Sigler Institute for Integrative Genomics, who directs the partnership with Dr. Lattime. “By uniting Princeton’s expertise in systems biology, genomics, and metabolism with CINJ’s top-rate cancer molecular biology and clinical expertise, these collaborations provide opportunities for interaction that promise what the National Cancer Institute has been encouraging – translational research that harnesses basic discoveries for the prevention and treatment of cancer.”

Lattime says the formal partnership will allow for both institutions to take advantage of shared resources such as equipment, databases and personnel, and would create joint training opportunities for post-doctoral students since there will be a broader base of laboratories in which to place them. He also notes the addition of Princeton research members to the consortium will further strengthen the entity as a research leader in the region, thus helping the consortium to attract additional state and federal funding.

Currently, investigators from CINJ, Princeton and Rutgers universities are beginning work on a two-year study on the role of cell metabolism in the development and progression of cancer (see Research Team Targets Self-Cannibalizing Cancer Cells on Page 1), thanks to a $1 million grant awarded by the National Institutes of Health. Among 21,000 applications for grants under the American Recovery and Reinvestment Act Challenge Grant Program, this project is one of fewer than two percent that have received funding to date.

Research Team Targets Self-Cannibalizing Cancer Cells

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chemist Joshua Rabinowitz, MD, PhD, associate professor of chemistry and genomics, recently received a $1 million National Institutes of Health Challenge Grant through the American Reinvestment and Recovery Act to support the research effort, which is made possible by the longstanding partnership between Princeton and CINJ.

For more than 50 years, scientists have known that significant differences exist between the metabolic processes of normal and cancerous cells. These processes encompass the complex set of chemical reactions that control everything from converting food into usable energy to manufacturing cellular components for growth and reproduction. But the causes and consequences of these metabolic differences remain largely unknown – and the possibilities for exploiting these differences as potential targets for new therapies have been largely untapped. The NIH project is designed to fund inquiry into these important questions.

The altered metabolism of cancer cells allows them to grow rapidly and proliferate, leading to the development of aggressive tumors often able to spread, or metastasize, to other areas of the body. But when subjected to stressful conditions, such as oxygen- and nutrient-deprivation in the center of a tumor or an onslaught of chemotherapeutic agents, these cells are able to stop proliferating and cannibalize portions of themselves, a process known as autophagy.

“This ingenious property allows these cancer cells to tolerate enormous amounts of stress,” Dr. White said. “If they’re starving or stressed, they eat themselves and hunker down until the stress is removed. Then, as soon as the stress is gone, they grow back, often killing the patient. If we can understand this process and exploit it for cancer therapy, we may develop new ways to kill the cancer cells without killing the normal cells.”

Autophagy is believed to confer stress resistance to cells by providing energy and disposing of old or damaged cell parts that might otherwise prove harmful to the cell over time, and it is not unique to cancer cells: Coller studies a metabolic state known as cellular quiescence in fibroblast cells. Fibroblasts are found in connective tissue, which includes cartilage and the cellular matrix known as stroma that provides support to body structures, such as organs, glands and also tumors. Akin to dormant cancer cells, quiescent fibroblasts take a break from the normal cell growth cycle, but maintain the ability to re-enter the cycle in the future. Like dormant cancer cells, quiescent fibroblasts often engage in autophagy.

Cancer researchers now recognize that a full understanding of how a tumor behaves in response to stress requires know-
Harnessing the Body’s Own Immune System to Tackle Pancreatic Cancer

Researchers at The Cancer Institute of New Jersey are investigating the development of a series of vaccine injections to see if they will produce an immune response against pancreatic cancer, which has a poor five-year survival rate.

It has been known for a number of years based on studies by scientists at CINJ and elsewhere, that the presence of a tumor in the body can actively inhibit the immune system from recognizing and destroying these same tumors. Studies on mouse models at CINJ have shown this blockade of immunity also prevents traditional cancer vaccines from producing a good response.

As part of these CINJ studies, led by CINJ Deputy Director Edmund Lattime, PhD, a co-investigator on the trial, researchers have shown that injecting a vaccine and other immunity-producing drugs into the tumor itself — rather than the traditional site of the skin — can result in a reversal of the immune blockade and the development of specific immunity to the tumor. This body-wide tumor-specific immunity has the potential of inhibiting the growth of the original tumor as well as eliminating small deposits of tumor that can form metastases.

These findings have led to the development of a vaccine strategy targeting patients with pancreatic cancer, where the vaccine is injected directly into the tumor. It is believed that this trial is the first such study to evaluate direct injection into a pancreas tumor to enhance the body’s immune response to help fight the cancer.

Elizabeth Poplin, MD, medical oncologist at CINJ and professor of medicine at UMDNJ-Robert Wood Johnson Medical School, is the lead researcher on this clinical trial sponsored by the National Cancer Institute, which will look at the investigational vaccine known as PANVAC. PANVAC has special genes added to it that might stimulate a person’s immune system to recognize and develop an immune response to the disease.

“When you talk about a disease that on average carries only a five-percent survival rate, the possibility of identifying better treatment and management options, especially by potentially utilizing the body’s own defenses, has become a challenge that my colleagues and I are committed to tackling,” said Dr. Poplin.

Two types of PANVAC will be utilized in the study, which will test patients whose pancreatic cancer cannot be removed through surgery. PANVAC-V, which uses the same virus as the smallpox vaccine, is a live but weakened vaccinia vaccine (meaning the virus can still multiply) that is given in the arm. PANVAC-F (a live Fowlpox virus that cannot multiply) is injected into the arm and into the tumor itself. Direct tumor injection takes place through a procedure known as endoscopic ultrasound, in which a scope is inserted through the mouth and into the stomach. From inside the stomach, the pancreas can be seen clearly, allowing injection of the vaccine into the tumor.

The study also received research funding from the CINJ Foundation with the generous support of Malcolm Wernik and friends.
At The Cancer Institute of New Jersey clinical research is key to providing comprehensive cancer care to patients throughout the state. With more than 130 active clinical trials, CINJ is leading the way toward uncovering new methods of treatment and prevention of cancer. Most cancer clinical trials are medical studies that test new treatments and new or better ways of using existing treatments for cancer. Researchers use these clinical trials to answer questions about a treatment and to make sure it is safe and effective. CINJ researchers are currently studying a number of new ways to prevent and treat various cancers. For more information on how to take part, individuals should call CINJ’s Office of Human Research Services at 732-235-8675.

Malaria Drug Being Test for Advanced Colorectal Cancer

While new cases of colorectal cancer continue to decline in the United States, it remains the third leading cause of cancer death in the nation. That is why researchers at The Cancer Institute of New Jersey are looking to add a drug known for fighting malaria to traditional chemotherapy for colorectal cancer to see if treatment can be made more effective for patients.

According to the American Cancer Society, nearly 147,000 new cases of colorectal cancer were diagnosed in the U.S. last year. It has a five-year survival rate of 68 percent for disease that has spread (metastasized) to nearby organs and has only an 11 percent, five-year survival rate for disease that has spread beyond nearby organs. It is the advanced stage of disease that investigators at CINJ are targeting in this study.

The standard treatment for colorectal cancer that has spread beyond where surgery can cure it is chemotherapy. The current standard of chemotherapy (oxaliplatin), which is given by vein, includes a drug (bevacizumab) that prevents the growth of cancer blood vessels. It also includes a pill (capecitabine) or an injection medication similar to capecitabine. This therapy shrinks the cancer in fewer than half of the patients treated, and usually this shrinkage is only temporary.

The study will look at adding a drug known as hydroxychloroquine, commonly used to treat malaria and certain types of arthritis, to this standard treatment. Research in the laboratories of CINJ Associate Director for Basic Science Eileen White, PhD; and CINJ medical oncologist, Vassiliki Karantz, MD, PhD, assistant professor of medicine at UMDNJ-Robert Wood Johnson Medical School, indicates that drugs such as hydroxychloroquine may prevent cancer cells from becoming resistant to chemotherapy or drugs that prevent the growth of cancer blood vessels.

Prior to being accepted into the study, participants would undergo a number of tests including blood work, a physical and x-rays. If accepted for participation in the trial, individuals would go through multiple 21-day cycles of treatment consisting of chemotherapy given through a vein once per cycle. Patients also would take pills by mouth each day and would need to keep both a pill diary and blood pressure diary. Participants would continue to undergo routine blood work and have regular imaging scans such as a CT to determine disease status.

Adults with metastatic colon cancer who have not previously received treatment for metastatic disease are eligible to take part in the study, although other criteria must be met. All patients will receive treatment medications, not placebos. The study is part of the CINJ Oncology Group (CINJOG), which is comprised of physicians throughout New Jersey from the CINJ Network of hospitals.

For additional information on how to participate, individuals should call 732-235-7251.
Robotic Surgery for Prostate Cancer: Is it Better?

Since its inception in 1999, robotic prostatectomy has become the most commonly performed surgical procedure for prostate cancer in the United States. According to industry analysts, 75 percent of prostate cancer surgeries in the U.S. were performed with the surgical robot in 2008. That rate was 96 percent in New Jersey.

Although robotic prostatectomy has gained wide acceptance, there are questions concerning the benefits of this new technology. This controversy is due in part to the wide range of results that have been reported in scientific journals.

Clear advantages of robotic prostatectomy that have been accepted by most urologists are the lower complication rate and significantly faster recovery time. Following open prostatectomy, the average hospital stay is usually two to three days, blood transfusion rate is approximately 10 percent, and use of a foley catheter for bladder drainage is usually required for at least two weeks. In contrast, after robotic prostatectomy, an overwhelming majority of patients stay in the hospital for only one day, the blood transfusion rate is well below one percent, and a foley catheter is utilized for one week. At The Cancer Institute of New Jersey following the procedure, 95 percent of patients are discharged home after one night in the hospital and no patients have received blood transfusion to date.

Urinary incontinence is a major source of concern following prostate cancer surgery. The exact incidence of incontinence following radical prostatectomy has been difficult to assess because the definition of continence has been variable. Some surgeons use pad-free rate while others define continence as the use of one or less protective pads. Robotic surgeons in general have adopted the strictest definition for continence, which is the pad-free rate. At most medical centers with a high volume of robotic prostatectomy, this rate is in the range of 95 to 97 percent. More impressively, the pad-free rate at three months following robotic surgery has been 80 to 90 percent. Thus, the return of continence following prostatectomy appears to be significantly faster for robotic surgery. At CINJ, the pad-free rate at three months is 88.75 percent, 93.2 percent at six months, and 97 percent at one year.

The chance of recovery of full erection following radical prostatectomy depends largely on the patient’s age and sexual function status prior to surgery. Nerves that are important for erection envelop the prostate. Through its removal, these nerves are invariably injured because they have to be physically peeled off the prostate. To maximize the likelihood of preserving the erection, the prostate must be removed with the least possible trauma to the nerves.

Following the open radical prostatectomy in patients with normal erection prior to surgery, the rate of return of sexual function varies between each surgeon and each institution. At Johns Hopkins University surgeons have reported a one-year potency rate of 73 percent in men with normal sexual function prior to surgery (Walsh et al., 2000).

Following robotic prostatectomy, the overall potency rate has a wide range. But at two high-volume centers, one-year potency rate in the 90 percent range has been reported (Finley et al., 2009; Menon et al., 2005). At CINJ, the one-year potency rate is 93.3 percent in patients with normal sexual function prior to the surgery.

As medical professionals continue to discuss the option of robotic prostatectomy with their patients, one should keep in mind the critical voices that remain. However, as more data continue to emerge, it is clear that robotic prostatectomy has largely addressed the complications traditionally associated with the open radical prostatectomy, thus making for a substantive conversation with the patient.

Isaac Yi Kim, MD, PhD, is the Chief of the Section of Urologic Oncology and Executive Director of the Dean and Betty Gallo Prostate Cancer Center at The Cancer Institute of New Jersey, and is also an associate professor of surgery at UMDNJ-Robert Wood Johnson Medical School. He has performed more than 600 robotic prostatectomies over the last four years at Robert Wood Johnson University Hospital, which is the Flagship Hospital of CINJ.
Exploring the Role of Lactate in Breast Cancer Development

Does lactate play a role in the metabolic fate of cancer cells? Researchers from The Cancer Institute of New Jersey were in Washington, D.C., earlier this spring for the 101st Annual Meeting of the American Association for Cancer Research to share their findings on what role this common energy byproduct for the body plays in the development of breast cancer cells and surrounding connective tissue.

A known energy source for cancer cells is blood sugar (glucose), which helps convert food into a useable resource for the cell. Cancer cells also can convert glucose into lactic acid (or lactate), which can result in excess accumulation of this chemical in the cell. In order for tumor cells to thrive, the lactate needs to be sent out of the cell. This function is carried out by a family of proteins that transport this lactic acid across cell membranes.

Previous studies show that breast cancer development and disease spread is highly dependent on specialized connective tissue (stroma), particularly carcinoma associated fibroblasts (CAFs), as tumors rarely develop in the absence of this tissue. To explore whether lactate produced by tumor cells is used as an energy source to support stromal cells, the team developed an experimental system to generate CAFs from bone marrow-derived mesenchymal stem cells (MSCs), which make up the outer connective tissue of a cancer tumor.

In using a cell line that represents the basal sub-type of human breast cancer, investigators found that CAFs can remove lactate from the tumor environment and utilize it as an energy source. In exchange, the CAFs support tumor growth by providing the tumor with the stimulation necessary to secrete proteins in order to regulate certain cellular functions.

Debabrata Banerjee, PhD, a scientist at CINJ and associate professor of medicine at UMDNJ-Robert Wood Johnson Medical School, is the senior investigator. “These studies will increase our understanding of metabolic cooperation between two of the principal players in the tumor environment and will yield information regarding important targets permitting future development of focused therapies for stroma reliant tumors,” he said.

The study was supported by funding from the New Jersey Commission on Science and Technology, the New Jersey Commission on Cancer Research, and a T32 training grant from the National Cancer Institute.

Joining Forces to Help Growing South Asian-American Community

Seeking better health outcomes for one of New Jersey’s fastest growing populations, The Cancer Institute of New Jersey is working closely with the South Asian Total Health Initiative (SATHI) to educate South Asian-Americans about their risks for cancer and to offer them various opportunities for cancer screenings.

SATHI is a community outreach education and research initiative at the UMDNJ-Robert Wood Johnson Medical School with the mission to address health disparities and to improve the delivery of culturally competent health care to South Asians, including the promotion of cancer awareness. Data from the last U.S. Census in 2000 showed that in New Jersey, the South Asian-American population grew by 101,000 in the 1990’s to 181,000. The census now being compiled is likely to show further growth in this population. The most common cancers to affect this group are breast, prostate, oral and cervical.

According to SATHI Co-Director Sunanda Gaur, MD, professor of pediatrics at UMDNJ-Robert Wood Johnson Medical School, says it is imperative that this education effort begins immediately. “By working with SATHI to further educate the South Asian-American population and break down these barriers by offering screenings in non-medical community settings, we can develop materials and intervention programs that would encourage individuals in the South Asian community to be more educated and proactive in maintaining their health,” she said.

Screenings for various cancers are scheduled throughout the year. For additional information, call SATHI at 732-235-8975.
Second Cancers More Likely for Survivors of Early-Stage Breast Cancer if They Smoke

Women who survive early-stage breast cancer and smoke have an increased chance of developing a new second cancer in their other breast or elsewhere. Investigators from The Cancer Institute of New Jersey released these findings during the 92nd Annual Meeting of the American Radium Society that took place earlier this spring.

It has been shown that women who survive breast cancer have two- to six-times increased risk of developing cancer in their other breast, compared with women who have never had breast cancer. In hopes of making second cancers less likely, researchers have studied risk factors that can be controlled, such as smoking, obesity and alcohol consumption. Conflicting results on this subject recently appeared in studies published in the Journal of Clinical Oncology and the American Journal of Epidemiology.

This latest study focused on female smokers with early-stage breast cancer who had breast conserving therapy to remove their disease. Breast conserving therapy is the standard treatment given to most patients with early-stage disease and consists of a lumpectomy followed by radiation therapy to the breast. Data were analyzed from 796 self-reported smokers who received breast conserving therapy between 1975 and 2007 at Yale University School of Medicine.

The team, led by CINJ Associate Director, Bruce G. Haffty, MD, professor and chair of the Department of Radiation Oncology at UMDNJ-Robert Wood Johnson Medical School, found that at 15 years post-treatment, the risk of developing a new second cancer was greater in smokers compared to non-smokers (25 percent versus 19 percent). The study also found that smokers had a greater risk of developing cancer in the other breast than those who did not smoke (13 percent versus eight percent) 15 years following treatment. While correlation was made to other prognostic factors, including age, family history, hormone receptor status and HER2/new status, smoking was found to be independent of these other indicators.

The investigators believe the new data are significant in that “they show women can exercise some control over a known risk factor for developing a new second cancer.”

Parents’ Health Behaviors May Dictate Whether Daughter Would Receive HPV Vaccine

Smokers just might be more health-oriented than one would think. It may seem contradictory, but a recent study co-authored by a researcher at The Cancer Institute of New Jersey suggests exactly that. Elliot Coups, PhD, behavioral scientist at CINJ and associate professor of medicine at UMDNJ-Robert Wood Johnson Medical School, and colleagues from Fox Chase Cancer Center, set out to study the relationship between a parent’s health behaviors and whether or not they would have their daughters receive the HPV vaccine. The vaccine, typically administered to females aged 13 to 26, helps prevent the types of genital human papillomavirus that can cause cervical cancer and genital warts.

The investigators utilized data from the 2007 Health Information National Trends Survey conducted by the National Cancer Institute. The data set consisted of more than 1,300 parents and guardians from across the United States, who had daughters under the age of 18. Results showed that 58 percent of parents would have their daughter get the vaccine, 18 percent stated they would not let their daughter receive the vaccine, and 25 percent were undecided. Parents were more supportive of the vaccine if they were current or former smokers, held the belief that cancer can be cured with early detection, or were more physically active.

The researchers note the greater acceptance rate among current and former smokers may be due to these individuals being more aware of cancer and its risk factors. The study is one of the first to take into account multiple behavioral factors and use a national population sample. It was published in the February 2010 issue of Cancer Epidemiology, Biomarkers & Prevention.
Barbecues with hamburgers and hot dogs, corn on the cob, crisp watermelon and juicy strawberries…hungry yet? You may know that summer is a time to enjoy the freshest produce and some of the most delicious meals, but do you know how to make those foods work for your health?

The American Institute for Cancer Research (AICR) estimates that more than 30 percent of adult cancers may be preventable by a combination of a healthy diet, regular physical activity and healthy body weight. But what does a “healthy diet” mean? Both the American Cancer Society and the AICR have similar recommendations.

While no single food or food component can protect you against cancer by itself, scientists believe that the combination of foods in a predominantly plant-based diet may help to prevent cancer. But what is a plant-based diet? Does that mean vegetarian? The answer is no. A plant-based diet utilizes animal protein as a condiment as opposed to the “star” of the meal. The focus of the meal is shifted to fruits, vegetables and whole grains. The AICR recommends that at least two-thirds of your plate should be filled with vegetables, fruit, whole grains and beans. These foods provide beneficial vitamins, minerals, and

**AICR Healthy Lifestyle Recommendations:**

- Be as lean as possible without becoming underweight.
- Be physically active for at least 30 minutes every day.
- Avoid sugary drinks. Limit consumption of energy-dense foods.
- Eat more of a variety of vegetables, fruits, whole grains and legumes such as beans.
- Limit consumption of red meats (such as beef, pork and lamb) and avoid processed meats.
- If consumed at all, limit alcoholic drinks to two for men and one for women a day.
- Limit consumption of salty foods and foods processed with salt (sodium).
- Don’t use supplements to protect against cancer.
Eating

Plant chemicals called phytochemicals. These foods are also low in calories so they help us in preventing weight gain, or losing weight if we need to.

Practical Tips on How to Eat Healthy This Summer

Summer provides the perfect opportunity to plan delicious, healthy meals. Local fruit and vegetables picked at peak growing season provide maximum amounts of vitamins, minerals and phytochemicals. By incorporating fruits and vegetables into traditional “summer dishes” such as burgers, potato salad, and dessert, you can lower your calorie intake and improve flavor. Try substituting mushrooms or beans for animal proteins. For example have a mushroom burger instead of a hamburger or try a bean-based chili.

Incorporate a variety of colors into your diet. The pigments of the fruit and vegetables in your diet often represent some of the beneficial phytochemicals in that plant. For example, red tomatoes provide lycopene, while green broccoli and Brussels sprouts provide glucosinolates, isothiocyanates, and indole-3 carbinol.

If you are going to grill your food, avoid burning or blackening your animal proteins. Whether you are using red meat, poultry or seafood, substances in the muscle proteins of these foods react under high heat to form carcinogenic compounds called heterocyclicamines (HCAs). HCA consumption is linked with increased risk of colon polyps and perhaps other cancers, such as breast cancer. You can decrease formation of carcinogenic HCAs by cooking your meat at lower temperatures, such as roasting it in the oven or stewing. If you still want to grill, turn the gas down or wait for charcoal to become low-burning embers. Two more ways to reduce HCAs when grilling are flipping meat frequently and marinating.

— Maureen B. Huhmann, DCN, RD, CSO, is a clinical dietitian at The Cancer Institute of New Jersey and an assistant professor in the Department of Nutrition Sciences in the UMDNJ-School of Health Related Professions.

Grilled Fruit with Strawberry Dip

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Amount</th>
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<tbody>
<tr>
<td>8 oz. part-skim ricotta cheese</td>
<td></td>
</tr>
<tr>
<td>2 Tbsp. plain non-fat yogurt</td>
<td></td>
</tr>
<tr>
<td>1/4 tsp. dried, ground ginger</td>
<td></td>
</tr>
<tr>
<td>8 strawberries, halved</td>
<td></td>
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<tr>
<td>4 peaches, halved or quartered</td>
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<tr>
<td>8 chunks pineapple</td>
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</tr>
<tr>
<td>4 plums, nectarines, or papayas, halved</td>
<td></td>
</tr>
<tr>
<td>1/4 cup balsamic vinegar</td>
<td></td>
</tr>
<tr>
<td>2 tsp. granulated sugar</td>
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</tbody>
</table>

In a blender, purée cheese, strawberries, yogurt and ginger together until smooth. Refrigerate the dip for 2 hours before grilling fruit.

When ready to grill fruit, thread pieces of prepared fruit onto 8 skewers. Mix together vinegar and sugar. Grill fruit until lightly browned, turning frequently and brushing with vinegar mixture during grilling.

Serve grilled fruit with sauce on side.

For more healthy dessert recipes visit: www.aicr.org.

— Bon Appetit! —

Per serving: 102 calories, 2 g. total fat (1 g. saturated fat), 18 g. carbohydrate, 4 g. protein, 2 g. dietary fiber, 40 mg. sodium.

For 8 servings.
More than “Just a Test”

If you have a personal or hereditary risk for developing cancer, you may have wondered about getting tested. But as genetic counselors at The Cancer Institute of New Jersey can tell you, the decision can involve more than “just a test.”

When it comes to genetic testing for cancer, a number of factors to be considered include: with whom do you want to share the results? Sometimes other family members, such as siblings, don’t want to know if they too are perhaps at risk. Another factor: do you share the results with your employer or life insurer? If you were found to be at high risk for developing cancer, would you be fired or dropped for coverage? If your test result is negative, is that really good news? There are limitations to genetic testing, and sometimes a negative test is not informative for the patient and their family, as they may still be at increased risk to develop cancer.

It is these types of life-altering components that can be addressed through genet-

The HOPE Program

The HOPE Program is designed for anyone who is concerned about their risk to develop cancer based on his or her family history of cancer, or his or her own personal medical history.

It is especially helpful for families with:

• Individuals diagnosed with cancer at a younger age than the average in the general population, typically less than age 50
• Several individuals with the same type of cancer or related cancers (such as breast cancer and ovarian cancer or colon cancer and endometrial cancer)
• At least two generations affected with cancer and/or pre-cancerous lesions
• Several individuals with less common types of cancer (such as pancreatic cancer or ovarian cancer)
• An individual who has had several different types of cancer

If this describes you or your family member(s), please discuss genetic counseling with your health care provider. To arrange an appointment with the HOPE Program, please call 732-235-7110. More information is available at www.cinj.org/treatment/life_center.html.
ic counseling at CINJ’s LIFE (LPGA pros In the Fight to Eradicate breast cancer) Center. The LIFE Center focuses specifically on breast cancer, although genetic testing and counseling for other types of cancer is offered through the HOPE (Hereditary Oncology Prevention and Evaluation) Program.

The LIFE Center is dedicated to the needs of young women and provides them with information about breast cancer education, prevention and treatment. The creation of the LIFE Center in 2002 was spearheaded by veteran professional golfer Val Skinner, who lost a young friend to the disease. Ms. Skinner has been, and continues to be, a strong supporter of the LIFE Center, which includes her role in the annual LIFE Event charity golf outing, which has raised more than $3 million for LIFE Center programs since the Center’s inception.

The LIFE Center has recently expanded its reach to offer genetic counseling services at one of CINJ’s Network affiliate hospitals, Somerset Medical Center. The new agreement allows for a CINJ genetic counselor to provide counseling and assessment services at Somerset Medical Center through the HOPE Program. Results from genetic testing conducted at that site are reviewed by CINJ LIFE Center Director and Stacy Goldstein Breast Cancer Center Director, Deborah Toppmeyer, MD, who is an associate professor of medicine at UMDNJ-Robert Wood Johnson Medical School and an expert in hereditary cancers.

As a dedicated LIFE Center, an affiliate hospital must be able to provide for physician follow-up to genetic testing as well as psycho-social support for the person being tested. The facility also must serve as an educational resource to the community on the topic of genetic testing and counseling.

CINJ Genetic Counselor Kimberly Ranieri, MS, CGC, says with this latest expansion, more individuals will have the opportunity to have the opportunity to be better informed. “It is one thing to have the test and be sent the results via phone or mail with little interpretation as to what those results actually mean. It is an entirely different experience to have a genetic counselor walk you through the pros and cons of testing before blood is even drawn, explain in full detail what the results implicate, and have the care team provide information about follow-up care if needed,” she said.

Katrina Losa, RN, director of the Steeplechase Cancer Center at Somerset Medical Center, notes they’re pleased to be able to offer this enhanced level of service. “By establishing a LIFE Center at our facility, we are providing an opportunity for individuals to be referred by their community physician for genetic counseling right here in their own backyard. This convenience may factor into the decision-making process of whether they should even explore counseling,” she said. “Many individuals may not even consider this valuable aspect of the testing process if there is significant travel involved.”

Dr. Toppmeyer notes this relationship provides great value to the community. “Individuals who see one of our certified genetic counselors at the many LIFE Center locations throughout our Network of hospitals across the state have the tremendous advantage of gaining access to an array of services offered through the Stacy Goldstein Breast Cancer Center at CINJ should they need them,” she said. “That is one of the unique benefits of having both the testing and counseling done at a National Cancer Institute-designated Comprehensive Cancer Center or at one of its affiliates.”

The other LIFE Centers within the CINJ Network of hospitals are at the Carol G. Simon Cancer Center at Morristown Memorial Hospital, Carol G. Simon Cancer Center at Overlook Hospital, CentraState Healthcare System, and Robert Wood Johnson University Hospital at Hamilton (CINJ at Hamilton).

The Stacy Goldstein Breast Cancer Center

Along with the LIFE Center, CINJ’s Stacy Goldstein Breast Cancer Center provides other aspects of comprehensive care for people with breast cancer.

- Mammography using state-of-the-art digital equipment as well as breast ultrasound and MRI is provided at the Women’s Imaging Center at Robert Wood Johnson University Hospital, which is the flagship hospital of CINJ.
- CINJ’s compassionate breast cancer care team includes nurse practitioners, medical oncologists, surgical oncologists, radiation oncologists, breast radiologists, plastic and reconstructive surgeons, pathologists, social workers, oncology education specialists and clinical psychologists.
- When appropriate, patients are evaluated for participation in national cancer clinical research studies as well as for cancer clinical research studies available only at CINJ.
- Breast cancer survivors need specialized healthcare services that include proper monitoring and health maintenance activities to address their unique needs. The Bridge Program strives to assist in maintaining and promoting an individual’s best possible level of health and improve their overall quality of life. Oncology nurse practitioners and other healthcare team members provide care in this program.
We’re often told that race, ethnicity, and age can play a role in the development and survival of cancer, but did you know your socioeconomic status also plays a large role? According to the American Psychological Association (APA), research shows that individuals who develop cancer in socioeconomically disadvantaged populations have a lower five-year survival rate (more than ten percentage points) than that of individuals who develop cancer in more affluent communities (Singh, et al. 2003).

In 2008, the APA took the initial steps toward eliminating this disparity by entering into a five-year cooperative agreement with the Centers for Disease Control and Prevention, Division of Cancer Prevention and Control. The agreement led to the creation and implementation of the Socioeconomic Status-Related Cancer Disparities Program (SESRCD), a national service program with local impact through its support of community cancer serving organizations initiating and improving cancer prevention, early detection, and survivorship activities among socioeconomically disadvantaged populations.

Shawna Hudson, PhD, director of Community Outreach and director of Survey Research and Qualitative Methods Shared Resource at The Cancer Institute of New Jersey, has been asked to serve in the SESRCD’s network of behavioral and social science volunteers. Dr. Hudson, who is also an assistant professor of family medicine and community health at UMDNJ-Robert Wood Johnson Medical School, was one of 40 such volunteers from around the country who underwent training and certification before beginning her duties as a consultant for state cancer coalitions and other cancer serving groups.

Hudson notes that deploying these volunteers on a local level is the best step in addressing a national issue. “By creating this network of certified consultants, partnerships can be forged with community-based cancer serving organizations and cancer coalitions to ensure that the economic disparities within their community are being addressed. From there, we can help these organizations revamp their comprehensive cancer control programs and inspire community action by making use of their assets and implementing evidence and practice-based strategies,” she noted. “If every community cancer serving organization is given this opportunity, results will be seen on a national level and we will be significantly closer to reaching the goal of eliminating socioeconomic disparities entirely.”

In an effort to build the groundwork for future research on health promotion among individuals with colorectal and other cancers, a team of investigators at The Cancer Institute of New Jersey has launched a study with Fox Chase Cancer Center examining patterns in physical activity and eating habits of colorectal cancer patients who have recently finished treatment. The death rate from colorectal cancer has been on the decline for the past 15 years, which means more patients are surviving their disease. But are they surviving it in a way that enhances quality of life and minimizes the risk of cancer recurrence?

Elliot J. Coups, PhD, behavioral scientist at CINJ, is the lead investigator. Previous research by Dr. Coups shows that 80 percent of colorectal cancer survivors do not take part in regular physical activity, while 57 percent do not meet recommendations for consuming enough fruits and vegetables in their diet. Because physical inactivity and poor diet may be risk factors for
On occasion, we will share the inspirational story of a cancer survivor. For this edition, we are pleased to profile Lynn Thompson, an office manager at a family practice office in Flemington who is a breast cancer survivor. The Pennsylvania resident was diagnosed with estrogen positive and HER2 breast cancer in November 2006 and underwent surgery, chemotherapy, and radiation therapy until the spring of 2007. Lynn served on the curriculum advisory board for the CINJ Center for Cancer Survivorship “Buildings and Bridges Program,” which is designed to enhance the capacity of clinical support staff, nurses, social workers and other healthcare workers to meet the practical and emotional needs of cancer survivors through peer to peer training.

For information on how to participate, individuals should call 877-512-8928.

Survivor’s Corner:

Lynn Thompson is fighting cancer, is there one piece of advice you try to leave with them?

A: Cancer patients do not all respond in the same manner to their treatments. Some research every aspect and question every procedure, others simply submit to the care of their doctors, and, of course, there are many positions in between. I generally tried to ignore that I had cancer. I remember the two weeks following my first chemotherapy session, going about my regular routine and my job thinking that this wasn’t so bad. I could handle it and live my normal life. I didn’t need anyone to do anything special for me. Two weeks later as my hair was falling out and I wasn’t feeling nearly so well, I realized that things weren’t going to be as normal as I had thought. So this can make it hard to help a cancer patient, because the person’s needs can change over the course of treatment as well as the recovery thereafter. Friends and family who offer help need to realize that a patient may not want help at a certain time but will always be thankful that you offered it. And, as time goes by, the patient may become ready for your help.

Lynn credits her husband and sister, a family practice physician, as being an invaluable support system and inspiration in surviving cancer and seeking to help healthcare professionals better care for cancer survivors. She looks forward to enjoying the summer weather with her family and friends as well as tending to her garden.

Q: What was unique about your role in the development of curriculum for the “Buildings and Bridges” program?

A: I was “the person who had cancer” on the advisory committee. I also work in a family practice office, so I knew firsthand the working conditions of receptionists and nurses in the setting that the project targeted.

Q: Was there ever an “Ah ha!” moment in the development process for “Buildings and Bridges?”

A: During the meetings, the one amazing thing that stood out to me was that here were a group of researchers who were actually developing a program to help people like me. They had never had cancer, but cared enough to originate and follow through on a project to help people like me go through the diagnosis and treatment of cancer with more caring and empathy from healthcare professionals.

Q: Whether it’s a fellow healthcare professional or someone who is just trying to “be there” for a friend or loved one who colorectal cancer recurrence, Coups notes further exploration in this area is needed.

Study participants will fill out three surveys over a six-month period to document information such as beliefs about disease recurrence, current physical activity, and dietary intake. Coups notes data collected from this population could serve as an intervention template for other cancers.
Carrying on with an initiative started in 2003, with the goal of raising the visibility of cancer research in the Garden State, The Cancer Institute of New Jersey and The Simons Center for Systems Biology at the Institute for Advanced Study once again hosted The Governor’s Conference on Effective Partnering in Cancer Research.

In previous years, genomics, translational research and overall cancer prevention were prominent topics, and recommendations made in previous sessions were condensed and action plans devised for implementation. This year’s conference focused on systems biology and cancer, and featured prominent speakers from prestigious institutions in the United States and Oslo, Norway.

Systems biology applies computation to traditional science in order to build models of what a “system” looks like. An example of this would be to see how a cancer cell will respond to radiation therapy. Investigators measure targeted functions of the cancer cell, analyze the data, interpret the information, then build a model of how the cell “system” would operate when affected by this treatment. Such a mechanism allows scientists an opportunity to further examine their data and refine the initial computational theory.

Giving a presentation on the pattern of normal and tumor cell lines responses to toxicity was Alexei Vazquez, PhD, a CINJ researcher who also is an assistant professor of radiation oncology at UMDNJ-Robert Wood Johnson Medical School in the Division of Radiation Cancer Biology. Dr. Vazquez notes his work shows “there is not, and probably will not be, a single treatment targeting all cancers at a non-toxic dose. However, there are potentially effective treatments when used in a personalized manner or applied in combination.”

Imagining being a teacher and being able to engage your students in a lesson about breast cancer development and risks, genetics, and problem solving by simply having them engage in a computer activity, The BioCONECT (Biology of Cancer ON-line Education Connecting Teens) program is designed with that purpose as it guides high school students through a web journey with fictional 14-year-old fraternal twins who discover their mother has been diagnosed with breast cancer.

For the past two years, educators from the LIFE Center at The Cancer Institute of New Jersey and the Center for School and Community Health Education at the UMDNJ-School of Public Health have been training high school teachers from throughout New Jersey and South Carolina on how to implement the BioCONECT program in their classrooms to further teach about the biology of breast cancer. Now, thanks to a $20,000 donation to the CINJ Foundation from the non-profit organization Syrentha Savio Endowment (SSE), an additional one-day training session can be held in New Jersey this year allowing more local teachers to become involved. The initial pilot program was developed with support from the Val Skinner Foundation, the Central and South Jersey Affiliate of the Susan G. Komen Race for the Cure, the Renee Shatz Amdur Fund, and the North Brunswick Township High School Care to Walk Club.

Educators looking to find out additional information on the program can contact csche-sph@umdnj.edu.
The Cancer Institute of New Jersey recently named Isaac Yi Kim, MD, PhD, as executive director of its Dean and Betty Gallo Prostate Cancer Center (GPCC), which is the state’s only specialized prostate health resource offering outreach and education activities, as well as serving as a hub for prostate cancer research. He replaces Robert S. DiPaola, MD, who held the post before becoming CINJ director in 2008.

Dr. Kim, who also serves as chief of the Section of Urologic Oncology at CINJ, is an expert in the area of robotic prostatectomy and has performed nearly 600 of the procedures over the past four years. Kim is responsible for developing the Athermal Intrafascial Robotic – or AIR – prostatectomy.

Robotic prostatectomy boasts patient benefits such as shorter hospital stays, reduced blood loss, and faster recovery. The AIR procedure spares more nerves than the traditional method and leads to faster recovery of sexual function and bladder control.

Kim also has been instrumental in securing national grants to support unique prostate cancer research at CINJ. This includes a recent $351,000 grant awarded by the Department of Defense to study the role of neuroendocrine cells in prostate cancer that is resistant to the standard treatments of chemotherapy and hormone deprivation.

Both the GPCC and the Section of Urologic Oncology offer a wide breadth of clinical trials for patients with tumors of the genitourinary tract as well as several trials studying the prevention of prostate cancer.

Additional information on the GPCC can be found at: www.cinj.org/treatment/prostate_cancer.html.

Dr. Kim has just been named the 2010 Cancer Institute of New Jersey Foundation ‘Award of Hope’ Gala honoree for the ‘Leadership in Research and Patient Care’ award. For more information on the 2010 ‘Award of Hope’ Gala, visit www.cinjfoundation.org or see page 24.

Florence Nightingale once stated that nursing is an art that requires as much devotion and preparation as any painting or sculpture. This sentiment is echoed in the work of today’s nurses and their pursuit of both clinical knowledge and technical expertise through research and education. Such work by nurses at The Cancer Institute of New Jersey was recently presented at the Oncology Nursing Society’s 35th Annual Congress held in San Diego.

Highlighted was research by CINJ nurse Joyce Plaza, BSN, RN, OCN, on the use of multimedia education for reducing the amount of anxiety experienced by nurses when performing high-risk procedures that are infrequently performed. At focus is the creation of audiovisual materials concerning care for patients with a hepatic arterial infusion (HAI) pump.

An HAI pump is surgically inserted into the abdomen and periodically filled with chemotherapy to deliver treatment directly to the liver. At CINJ, this treatment is reserved for select patients meeting specific disease criteria. Because relatively few patients qualify for HAI chemotherapy, oncology nurses may be somewhat less familiar with it.

Although a written HAI policy/procedure is available for nurses to consult prior to seeing the patient, little decrease in anxiety level has been reported, according to the presentation. Other study has shown that more effective education techniques help to decrease anxiety, promote early recognition of adverse events, improve outcomes, increase patient satisfaction and empower patients to participate in their healthcare. That is why Plaza helped develop the program in which the video-taped procedure will be made available alongside the written material in an electronic file for oncology nurses to access at any time.

A pilot of the program is expected to launch at CINJ by summer.
Enhancing its collective strength in the area of oncology research in the state, The Cancer Institute of New Jersey has announced that Cooper University Hospital is the fourth affiliate hospital within its Network to receive the prestigious Major Clinical Research Affiliate (MCRA) designation.

Through this affiliation, Cooper University Hospital is able to provide its patients with access to clinical trials only available at National Cancer Institute-designated cancer centers and their Networks. As an MCRA, Cooper University Hospital also will receive professional education, community education and outreach, and other services from CINJ that complement its own cancer programs.

To achieve MCRA status, affiliates commit themselves to upholding stringent programmatic standards as outlined by the designation mandates. This includes the housing of at least one nationally-funded cancer-related program in the areas of basic science, clinical care or research, prevention, screening or outreach and education. Another mandate is for the MCRA facility to actively participate in clinical research through the Cancer Institute of New Jersey Oncology Group (CINJOG).

In addition to its robust Phase II cancer clinical trials program, Cooper is developing a Phase I Cancer Clinical Trial Program. Phase I clinical trials test metabolic and pharmacologic reaction of drugs in humans and help scientists determine safe dosing levels.

Generosa Grana, MD, director of Cooper Cancer Institute at Cooper University Hospital and associate professor of medicine at UMDNJ-Robert Wood Johnson Medical School, notes, “With our Phase I program we have a greater ability to recruit patients to clinical trials that are identified and developed by our own physician scientists. The contribution of these trials to the CINJOG group will help us become a collective statewide leader in cancer research.”

Robert Wood Johnson University Hospital Receives Accreditation for Breast Program

The Cancer Institute of New Jersey’s Flagship Hospital Robert Wood Johnson University Hospital (RWJUH) has been granted a full, three-year accreditation by the National Accreditation Program for Breast Centers (NAPBC) for its breast health program. RWJUH is only the third hospital in New Jersey to receive the accreditation, and one of 105 breast centers nationwide. The NAPBC, overseen by The American College of Surgeons, is a group of national, professional organizations dedicated to the improvement of the quality of care and the monitoring of outcomes for patients with diseases of the breast.

The NAPBC accreditation is granted only to hospitals with an unwavering commitment to providing the best quality care to patients with breast disease. Facilities earning the status have passed a strict evaluation that demonstrates they comply with the NAPBC’s program standards which include, a multidisciplinary, team approach to coordinate the best care and treatment options available; providing access to breast cancer-related information, education and support; providing information about clinical trials and new treatment options; collecting comprehensive
When it comes to successfully fighting breast cancer, the second leading cause of cancer death in women, early detection and prompt medical treatment is essential.

Now women have another reason to feel confident that they are receiving high-quality, state-of-the-art care when they visit University Medical Center at Princeton’s Breast Health Center.

It was recently designated a Breast Imaging Center of Excellence by the American College of Radiology, signifying that the Breast Health Center meets the highest standards of the radiology profession.

“This designation recognizes that we have achieved a high level of clinical excellence,” says Deborah A. Fein, MD, a board certified, fellowship-trained radiologist and Director of Medical Imaging at the UMCP Breast Health Center.

Only five percent of breast imaging facilities nationwide have been designated as Breast Imaging Centers of Excellence, according to the American College of Radiology. In New Jersey, that figure is closer to 13 percent.

To receive the designation, UMCP’s Breast Health Center had to earn full accreditation in all of the College’s breast imaging accreditation programs.

As part of the voluntary process, a team of medical experts examined various aspects of the Center’s radiology services, including image quality, personnel qualifications, facility equipment, quality control procedures and quality assurance.

“Accreditation is not just something in name,” says Rachel Dultz, MD, FACS, medical director of the UMCP Breast Health Center. “It means people are committed to the highest standards of patient care and patient safety and that women can be assured they will get that when they come here.”

UMCP’s Breast Health Center provides a comprehensive array of breast health services including, state-of-the-art digital screening and diagnostic mammography; ultrasound-guided and stereotactic biopsies to promptly evaluate masses and other abnormalities; coordination of care if MRI-guided biopsies (available at UMCP) are needed; access to certified breast health navigators (specially trained nurses) who provide one-on-one support and, for women who have been diagnosed with breast cancer, skilled guidance from diagnosis through treatment; genetic counseling; and breast health education and support services.

For more information about UMCP’s Breast Health Center, please call 888-PHC54YOU (888-742-7496).
Kudos for CINJ Associate Director at International Meeting

An associate director from The Cancer Institute of New Jersey had the honor of delivering a keynote presentation about genetic factors in diagnosing and managing breast cancer at the 95th Scientific Assembly and Annual Meeting of the Radiological Society of North America in Chicago this past winter.

Bruce G. Haffty, MD, chair of radiation oncology at CINJ, was one of only three lecturers to be honored with the opportunity to deliver a keynote address. The lecture “Genetic Factors in the Diagnostic Imaging and Therapeutic Management of Breast Cancer” reviewed the impact of the breast cancer susceptibility genes BRCA1 and BRCA2 and that of lower penetrant candidate genes on the diagnostic imaging and radiotherapeutic management of breast cancer.

Dr. Haffty also recently assumed the role of president of the American Board of Radiology (ABR), which is one of 27 boards of the American Board of Medical Specialties. The ABR oversees certification and maintenance of certification in diagnostic radiology, radiation oncology and radiologic physics.

He was elevated to the top post during the group’s recent board meeting following two years of service as president-elect. He has been a trustee of the ABR since 2005 and has served in a number of critical roles within the organization.

CINJ Director Tapped for Vice President Post

The associate director for Public Health Science at The Cancer Institute of New Jersey, Helmut Zarbl, PhD, ATS, who is a professor of toxicology at UMDNJ-Robert Wood Johnson Medical School, has been named vice president of the Carcinogenesis Specialty Section of the Society of Toxicology (SOT).

Dr. Zarbl, who also is the director of the NIEHS Center for Environmental Exposures and Disease at the Environmental & Occupational Health Sciences Institute (jointly administered by UMDNJ-Robert Wood Johnson Medical School and Rutgers University), will serve a one-year term followed by an additional one-year term as president of the organization.

Zarbl has done research focusing on toxicogenomics and functional genomics, carcinogenesis, chemoprevention and toxicology. He is the author or co-author of more than 70 scientific articles and publications. He also is the chair of the SOT Disease Prevention Task Force.

CINJ Director Named to Healthcare ‘Powerful 50’ List

The director of The Cancer Institute of New Jersey, Robert S. DiPaola, MD, was recently named to the “50 Most Powerful People in Health Care in New Jersey” list as compiled by NJBIZ, which describes itself as the state’s only weekly business journal dedicated to covering the Garden State.

Looking to identify the next generation of movers and shakers in New Jersey’s health care industry, NJBIZ editors targeted the medical, insurance, pharmaceutical, biotech and policy fields and spoke to insiders about who will influence and shape future health care policy. Dr. DiPaola, a clinician and researcher at CINJ since 1994, was selected in 2008 to lead the facility following a nationwide search.

In the article, NJBIZ touts DiPaola’s leadership of New Jersey’s only National Cancer Institute (NCI)-designated Comprehensive Cancer Center as well as that of his expertise as a prostate cancer researcher resulting in CINJ’s unique role of being part of a 13 member nationwide cancer consortium focused on the disease.

Along with being the author or co-author of more than 200 articles, abstracts and book chapters, DiPaola chairs an NCI committee with responsibility for the development of national and international clinical trials for treatments of prostate, kidney, bladder and testicular cancers.
‘Medal of Honor’ and Other Accolades Given for Role in Cancer Fight

Arnold J. Levine, PhD, a resident member of The Cancer Institute of New Jersey and professor of pediatrics and biochemistry at UMDNJ-Robert Wood Johnson Medical School, was recently presented with the Medal of Honor from the American Cancer Society. The award, which is the Society’s highest honor, is given to those who have made outstanding contributions to the fight against cancer.

Dr. Levine received the award for Basic Research. He is credited for the co-discovery of the p53 tumor suppressor protein, which plays a key role in regulating both normal cells and cancer cells, activity which has significant implications in the prevention of cancer.

“As a scientist, it is a privilege to be recognized by an organization, which is committed to furthering cancer research,” he said. “It is also an honor to receive this award in the company of some of the cancer community’s most dedicated individuals.

While each of us plays a unique role in our respective areas, it is truly as a collective that we will see our greatest accomplishments in the fight against cancer.”

Cancer survivor and philanthropist Lance Armstrong also received the 2009 Medal of Honor. Past honorees include the late U.S. Senator Edward M. Kennedy, from Massachusetts; and former U.S. President George H.W. Bush.

Also recently honored by the American Cancer Society were Deborah Toppmeyer, MD, director of both the Stacy Goldstein Breast Cancer Center and the LIFE Center at CINJ; and Thomas Kearney, MD, FACS, director of breast care services and chief of the breast surgery section at CINJ; and associate professor of surgery at UMDNJ-Robert Wood Johnson Medical School.

The doctors were recognized at the Society’s 24th annual “Night of Wine and Roses” Gala for the skills they have shown in both clinical and academic work, which have helped CINJ develop an efficient and comprehensive breast cancer treatment program.
Personalizing cancer medicine to the precise needs of each patient, based on his or her genetic profile, is a much-discussed focus of cancer medicine. CINJ has been at its forefront, and will remain so, thanks in part to gifts from the Jewels of Charity and Stephen & Mary Birch Foundation. The gifts of $300,000 each from these longtime benefactors have allowed CINJ to launch an expansion of its Tissue Analytic Services (TAS) core facility.

**TAS—A Key to Personalized Medicine**

Since the mapping of the human genome in 2003, the pace of developing personalized medicine has accelerated. A profile of a patient’s genetic makeup can guide the selection of cancer drugs and treatment protocols that minimize harmful side effects and ensure a more successful outcome.

It can also indicate susceptibility to certain diseases before they manifest, so that monitoring can begin at an earlier age than recommended, and prevention strategies can be followed.

Understanding more about genetic differences requires analysis and storage of tissue specimens, coordinating data collection and clinical information related to those specimens. TAS creates a core facility to advance the work of all CINJ researchers and clinicians that will ultimately benefit patients and healthy individuals.

Over the past decade Jewels of Charity and Stephen & Mary Birch Foundation have invested nearly $1.5 million and $600,000, respectively, in pioneering research and programs at CINJ. Their combined gifts have enabled CINJ to leverage other resources into even larger research efforts that were novel and had broad application.

“When offered the flexibility to aggregate resources we can be truly innovative in the research initiatives that we develop,” said CINJ Deputy Director Edmund Lattime, PhD. “This TAS core facility is a prime example. Both foundations have had the vision to enable truly creative, large scale scientific endeavors to get underway.”

**CINJ Foundation Expands Leadership Team**

The Cancer Institute of New Jersey Foundation has named Elia M. Desruisseaux as its Executive Director, succeeding John Goldner. With more than 25 years of experience in the areas of philanthropy and communications, Ms. Desruisseaux is credited with growing various giving programs at such well-known institutions as Lenox Hill Hospital, Columbia University Medical Center and New York University Medical Center.

Along with the appointment of Ms. Desruisseaux, the CINJ Foundation has named Susan Woford to its Board of Trustees. An investment banker for more than 25 years, Ms. Woford is the Managing Director and Sector Head of the BMO Capital Markets Business Services & Media Group and is a member of the Dean’s Advisory Council of Villanova School of Business and the Investment Committee of the Pennington School.

Subha V. Barry, chair of the CINJ Foundation Board of Trustees expressed confidence that both Ms. Desruisseaux and Ms. Woford will prove to be valuable additions to the team.
Winter snow storms could not dampen the spirits of nearly 300 revelers who joined host Ed McKenna and his family and friends for an evening of Irish music and merriment at the Two River Theater Company in Red Bank, New Jersey, earlier this year. More than $70,000 was raised to support The Cancer Institute of New Jersey at a festive party that honored the life of Christine J. McKenna, Mr. McKenna’s wife of 37 years.

Mrs. McKenna lost her battle with ovarian cancer in 2009, but Mr. McKenna told the crowd of well-wishers that he and his wife “had five precious years we would not otherwise have had because of the extraordinary skill and compassionate care she received at CINJ.” He singled out Lorna Rodriguez, MD, PhD, chief of gynecologic oncology at CINJ and professor of obstetrics, gynecology and reproductive sciences at UMDNJ-Robert Wood Johnson Medical School, for special praise. They, in turn, spoke movingly about Mrs. McKenna’s courage and determination, including her participation in clinical research studies.

The CINJ Foundation extends its sincere gratitude to Mr. McKenna and his family, to the local restaurants and others who donated generously to support the event, and to the entire community who came together to honor the life of Christine McKenna, and to support new discoveries for people with cancer.
Although they don’t work in a laboratory or conduct clinical trials, Fifth District members of the American Hellenic Education Progressive Association (AHEPA) and Daughters of Penelope have contributed greatly to advance cancer research at The Cancer Institute of New Jersey. The AHEPA Fifth District Cancer Research Foundation, through the fundraising efforts of their volunteer Board of Trustees, has awarded CINJ scientists $157,000 in cancer research grants since 1993.

Andrew Zachariades, chair of the foundation, said, “It is incumbent upon all of us to help those in need. None of us are untouched by cancer. We all know someone who has been touched by the disease, be it family, friend or acquaintance. We choose to support CINJ because the compassion and quality of care they offer their patients and families, combined with the integrity of their research, makes CINJ the premier Comprehensive Cancer Center in the state of New Jersey.”

In March, AHEPA presented John Glod, MD, PhD, pediatric hematologist/oncologist at CINJ, with his latest grant to continue studying the role of mesenchymal stromal cells (MSCs) in brain tumor growth. MSCs are cells that reside in the bone marrow, are present in circulation, and make up the outer connective tissue of a solid tumor. Specifically, the grant will support research to determine whether the interaction of MSCs with other cell types in the brain tumor environment changes the production of regulatory proteins known as cytokines, which are responsible for mediating an immune response between cells. Dr. Glod’s team will explore whether such interaction would ultimately affect cell communications with the immune system.

Glod, who is also an assistant professor of pediatrics and pharmacology at UMDNJ-Robert Wood Johnson Medical School, notes, “Brain tumors are the most common pediatric solid cancer. Over the past five years, AHEPA’s funding has provided our team the ability to identify factors contributing to brain tumor growth and demonstrate findings that move us closer to answers to this devastating illness for children and families.”

Through its first-ever Life Insurance Quote Donation Program, Allstate Insurance Company donated $5,000 to the Cancer Institute of New Jersey Foundation to support cancer research at CINJ. For every life insurance quote that was requested during the campaign, Allstate dedicated $10 to the cause. Allstate representatives took a tour of CINJ laboratories and presented a check to CINJ Deputy Director Dr. Edmund Lattime. From left: Dr. Lattime and Allstate representatives Shawn Burke, Dale Schueller and Randy Corradino.
**A ‘Marvelous’ Annual Tradition**

John Marvel and his wife, Mary Jane, were well versed in science and medicine, after all, he was a research fellow with a pharmaceutical company and she was a nurse. It was not surprising, therefore, that in 1998, when Mrs. Marvel was diagnosed with non-Hodgkin’s lymphoma and given a life expectancy of three to six months if not treated, the couple relied on their professional experience and their faith to determine her medical treatment. On the strong recommendation of Mrs. Marvel’s surgeon, they met with The Cancer Institute of New Jersey’s Director of Hematologic Malignancies Program, Roger Strair, MD, PhD, professor of medicine at UMDNJ-Robert Wood Johnson Medical School.

While at CINJ, Jane found the warm and positive atmosphere and highly competent physicians, nurses and support personnel created an ideal environment for her care. John agreed, but always the researcher, he contacted the National Institutes of Health to confer on the recommended course of treatment. Confident that the treatment was state-of-the-art, the Marvels chose to commit their trust, and Jane’s care, to the physician-scientists and nurses at CINJ. “Through the continuing treatment and research efforts of Dr. Strair, Jane’s life was extended almost ten years.” John Marvel continues, “We were extremely pleased and gratefully provided support so that others could benefit from the newest advances in cancer therapy.”

This year marks John’s 12th consecutive year of annual giving to CINJ. He notes, “I was hesitant at first to talk about my giving, but I know that Jane would want me to do so. I want others to understand that the combined impact of all our annual gifts, no matter what the size, provides immediate support for the innovative research and caring treatment that patients receive at CINJ.” John’s dedication and spirit is typical of that shared by so many patients and friends of CINJ. Their annual gifts provide a steady flow of support that helps sustain the Institute’s commitment to offer its patients the very best treatments. It is this integration of compassionate healing and cutting edge research that underscores CINJ’s stature as New Jersey’s only NCI-designated Comprehensive Cancer Center. And it is through individual gifts, like those of the Marvels, that thousands of patients each year will reap the benefits.

**Planning for a Brighter Future**

Among the many generous gifts received by CINJ since it first opened its doors have been a number of carefully “planned” gifts, those that a donor creates by naming CINJ Foundation as a beneficiary of a will or trust. A bequest, for example, specifying a gift in a provision of one’s will, can designate that it be applied to benefit CINJ, to further cancer research or patient care, to fund work on a particular type of cancer, or to create a memorial gift in one’s own name or that of a loved one.

If you wish to support CINJ in your will, speak with your attorney or advisor about including a provision that names the “Cancer Institute of New Jersey Foundation” as a beneficiary.

For more information, to discuss naming, memorial or special gifts, or for help drafting specific language, please contact Elia Desruisseaux, Executive Director, Cancer Institute of New Jersey Foundation 732-235-8614 or desruiel@cinjfoundation.org. You will create a lasting legacy that will help CINJ in the future…and will make you feel quite good today!

**Forget About Video Games!**

If someone handed you $100, what would you do with it? Would you spend it on yourself or would you put it towards helping others? Mary LeFever’s second grade students from the Upper Township Primary School in Marmora said they would donate the money to worthy causes like the Cancer Institute of New Jersey Foundation’s annual Quarters for the Cure campaign. The campaign, which raised $21,000, last year, asks students from local schools to fill five-gallon water jugs with quarters to support cancer research, patient care, education and community outreach at CINJ. Even though the school year will soon be over, there is always an opportunity to participate. Go to www.cinjfoundation.org for more details.
The Cancer Institute of New Jersey Network:

- Flagship Hospital: Robert Wood Johnson University Hospital

Major Clinical Research Affiliate Hospitals:
- Carol G. Simon Cancer Center at Morristown Memorial Hospital
- Carol G. Simon Cancer Center at Overlook Hospital
- Cooper University Hospital
- Jersey Shore University Medical Center

Affiliate Hospitals:
- Bayshore Community Hospital
- CentraState Healthcare System
- JFK Medical Center
- Mountainside Hospital
- Raritan Bay Medical Center
- Robert Wood Johnson University Hospital at Hamilton (CINJ at Hamilton)
- Saint Peter’s University Hospital
- Somerset Medical Center
- Southern Ocean County Hospital
- The University Hospital/UMDNJ-New Jersey Medical School
- University Medical Center at Princeton

The CINJ Foundation has new online tools to make your fundraising efforts fun and easy.

Go to www.cinjfoundation.org to see how simple it is to:

- Create a personal fundraising web page as an individual or team participant in events such as the Century for the Cure Bike Ride and High Speed Chase for the Cure 3K walk/5K run
- Create a personal campaign fundraising web page
- Your web page will help you enlist the support of family and friends in your efforts to fight cancer at CINJ. With the push of a button you can tell others about the event or personal campaign, your fundraising goal, and provide them a link to CINJ Foundation’s secure on-line gift site.
- You can even personalize your web page with pictures, stories, donor comments, etc.

Check out our sample web pages or register to participate in events at www.cinjfoundation.org.