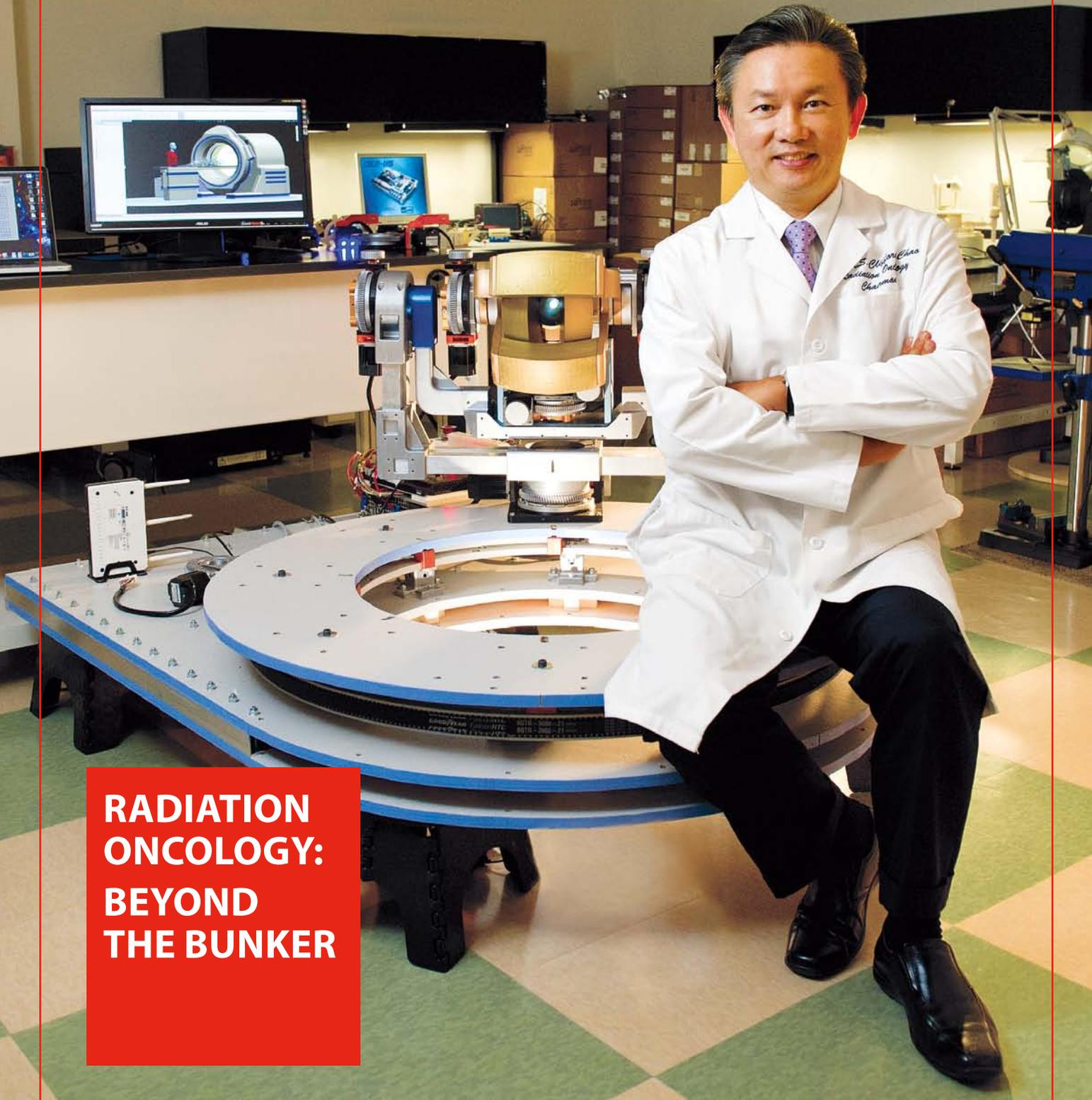


NewYork-Presbyterian

FORUM

News and Information for the Alumni of NewYork-Presbyterian Hospital Spring 2013



RADIATION ONCOLOGY: BEYOND THE BUNKER

ON SITE WITH DR. CLIFFORD CHAO

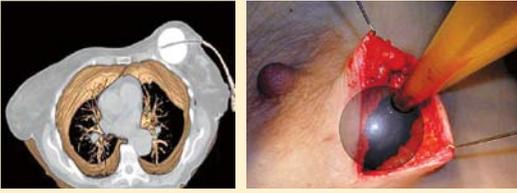
In this new era of personalized medicine, the paradigm for cancer treatment is undergoing a tremendous shift in focus from the disease to the individual. Under the direction of K.S. Clifford Chao, MD, Radiation Oncologist-in-Chief, the Department of Radiation Oncology at NewYork-Presbyterian Hospital is leading its own transformation – one that will not only influence delivery of care here at home, but also make a global impact on cancer management.

NewYork-Presbyterian Hospital's radiation oncology facilities across three sites – NewYork-Presbyterian/Weill Cornell Medical Center, NewYork-Presbyterian/Columbia University Medical Center, and New York Hospital Queens – include 11 linear accelerators, one gamma knife, and five brachytherapy suites.

➔ Jenghwa Chang, PhD, Director of Centralized Treatment Planning, and A. Gabriella Wernicke, MD, MSc, Department of Radiation Oncology, confer with neurosurgeon Susan C. Pannullo, MD, in one of the linear accelerator treatment rooms in the Stich Radiation Center at NewYork-Presbyterian/Weill Cornell. Collaboration across campuses, among clinicians and scientists, and with surgical and medical oncologists is key to developing and optimizing new radiation therapy approaches.



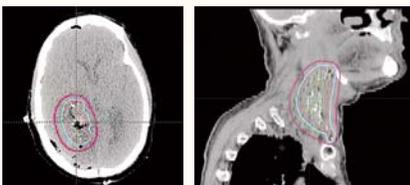
➔ Senior radiation therapists Bessie M. Monden (seated) and Kathleen Dempsey review a patient's treatment plan with Dr. Chao at the control panel of a new linear accelerator at Weill Cornell. "The latest generation of these devices is better able to effectively target tumors in any area of the body, automatically adjusting to the tumor's position based on real-time image guidance," says Dr. Chao. "Research studies will help us develop the very best approaches for harnessing this incredible technology in treating a wide variety of cancers."



↑ At Weill Cornell, radiation oncologists Mary K. Hayes, MD, and Michael J. Smith, MD, in collaboration with breast surgeon Alexander J. Swistel, MD, have furthered the application of the MammoSite® – an intraoperative high-dose-rate brachytherapy technique involving the insertion of a balloon catheter into the breast tissue immediately following removal of a tumor. (Photo left) The catheter is inflated and used to deliver radiation to the tissue that surrounds the space that formerly contained the tumor. With this method, therapeutic doses of radiation can be delivered to breast tissue in a relatively short time – typically over several days – and with minimal discomfort, providing the patient with a full dose of radiation that would otherwise take six weeks. When treatment is complete, the catheter is then removed in an outpatient procedure.

(Photo right) Using INTRABEAM® radiotherapy, select patients with breast and colorectal cancers are able to have their tumors treated directly with a single radiation treatment delivered directly to the tumor bed in the operating room. This treatment prevents the need for repeat visits for radiation therapy for select patients.

↓ Innovations in brachytherapy using radioactive seed implants to treat brain cancers and head and neck cancers are being advanced by radiation oncologists Bhupesh Parashar, MB, BS, and A. Gabriella Wernicke, MD, MSc, at NewYork-Presbyterian/Weill Cornell, and Israel Deutsch, MD, at NewYork-Presbyterian/Columbia. The Hospital's radiation oncologists performed the first placement of Cesium-131 to treat a patient with recurrent colon cancer.

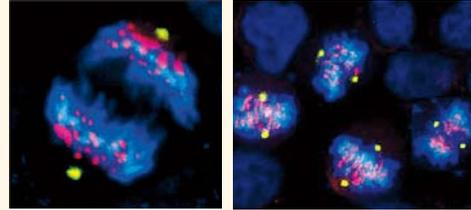


↑ Radiation oncologists Eileen P. Connolly, MD, PhD, and Daniela Gidea-Addeo, MD, and radiation therapists Bernard Eugene and Mark Levy, prepare a patient with breast cancer for treatment with the new linear accelerator – the Siemens ARTISTE™ – at NewYork-Presbyterian/Columbia. The new device, which targets tumors in the head and neck, lung, breast, abdomen, and prostate, is faster and more precise and offers greater customization than the previous generation of linear accelerators. It also allows for a dramatically reduced treatment course, from weeks to days.

↓ Established in 1998, the Gamma Knife Center at NewYork-Presbyterian/Columbia recently underwent a multi-million dollar upgrade that included installation of the Gamma Knife® Perfexion™ stereotactic radiosurgery system. The new system increases the speed, precision, and flexibility of neurosurgery and enables NewYork-Presbyterian's neurosurgeons to better target certain skull base tumors – including those in the upper cervical spine. The newer technology also provides the capability to treat multiple brain metastases in one therapy session with very rapid treatment times. (Clockwise from left) Steven R. Isaacson, MD, Co-Director of the Center, and Jeraldine Lesser, MS, RNC, ACRN, the Center's Program Director, have been with the Gamma Knife Center since its inception and to date have overseen the care of more than 3,500 patients; neurosurgeon Grace K. Mandigo, MD, specializes in the treatment of skull base tumors with the gamma knife.

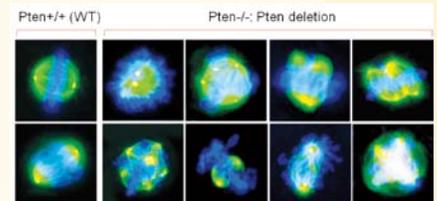


↻ At NewYork-Presbyterian/Weill Cornell, Wen Hong Shen, PhD, Assistant Professor of Cell Biology in Radiation Oncology, and (standing) Yuxin Yin, PhD, Associate Professor of Radiation Oncology, seek to understand the molecular processes underlying the life cycle of cancer cells and apply this information to enhance tumor destruction.



↻ Normal dividing cells (far left) compared to PTEN-deficient cells

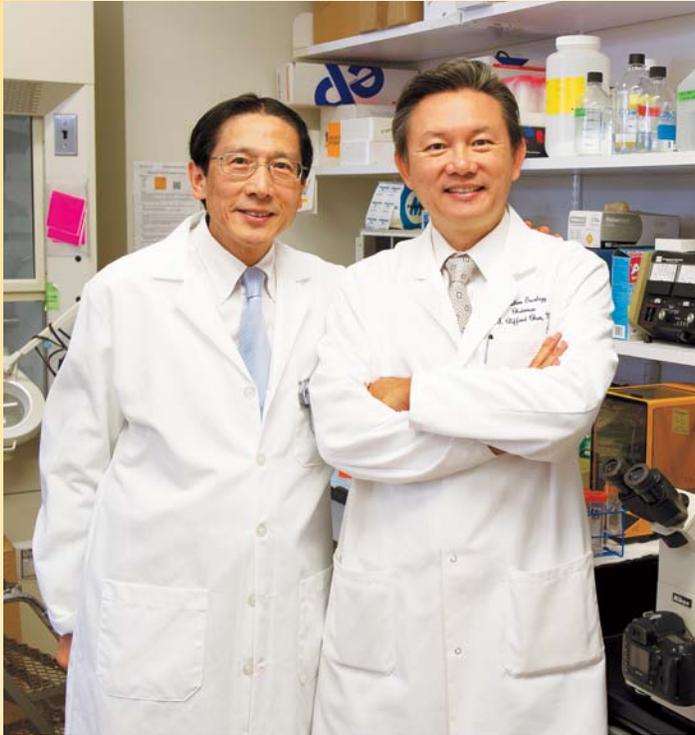
↻ PTEN-deficient cells fail to divide correctly, leading to genomic instability



↻ Conducting a number of basic science projects focused on tumor radiosensitivity and the potential for development of biologically guided radiation therapy in the Department's laboratory at NewYork-Presbyterian/Columbia are (standing, from left) Youping Sun, PhD, Associate Research Scientist, Radiation Oncology; Tom K. Hei, PhD, Associate Director, Center for Radiological Research; Dr. Clifford Chao; David P. Horowitz, MD; Simon K. Cheng, MD, PhD, Assistant Professor of Clinical Radiation Oncology; and (seated) Mercy M. Davidson, PhD, and Winsome F. Walker, Senior Research Worker.



↻ At Weill Cornell, Kristy Lamb, PhD, here with Dr. Clifford Chao, pursues research in the genetic variation in DNA repair genes and the consequences of aberrant DNA repair on cancer risk and drug response.

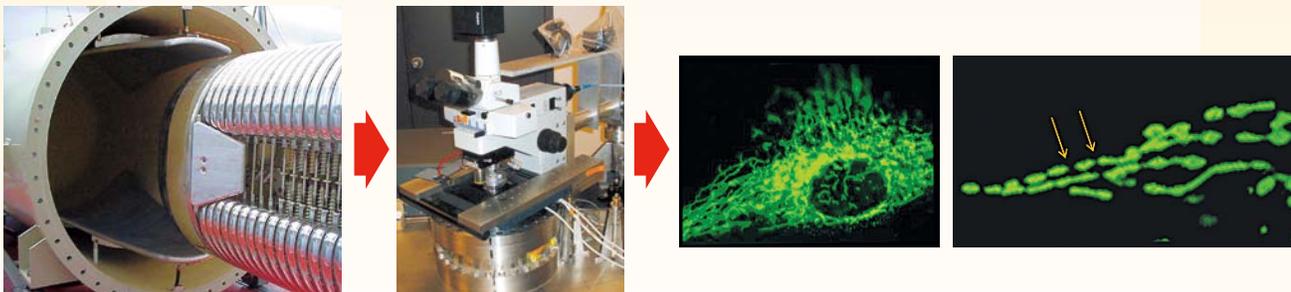


↑ Tom K. Hei, PhD, Vice Chairman, Department of Radiation Oncology, NewYork-Presbyterian/Columbia, with Dr. Chao, in the Center for Radiological Research, the nation's largest and most experienced university-based research center for radiation biology.

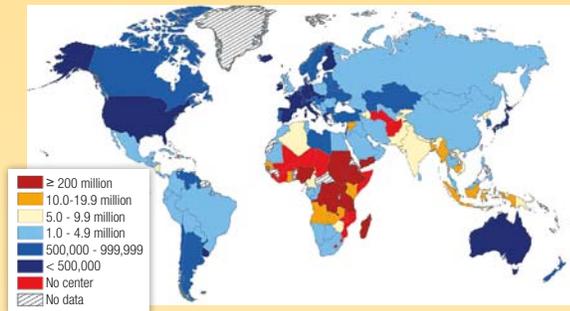
↓ In addition to research at the cellular level, the Department of Radiation Oncology is housing a small animal radiation research platform integrating imaging and treatment. The program is led by Cheng-Shie Wu, PhD, Professor of Clinical Radiation Oncology, Environmental Health Sciences, and Applied Physics, Microdosimetry, whose research focuses on biophysical modeling, dosimetry of brachytherapy, gel dosimetry, second cancers induced by radiotherapy, and medical physics.



↓ Under the leadership of David J. Brenner, PhD, DSc, Director, and Dr. Hei, Associate Director, a multidisciplinary approach is taking place in the Center for Radiological Research to further the understanding of the biological and human health consequences of ionizing radiation exposure. Using a state-of-the-art charged particle microbeam, which can deliver a precise number of particles at a cellular target less than one micron across (average size of a staphylococcus), the researchers show that non-hit cell/tissue can transmit damage signals to non-irradiated counterparts. (Photos far right) Using the precision microbeam, researchers show that direct damage to the mitochondria, the energy center of a cell, results in its fragmentation (fission) followed by loss of mitochondrial respiratory functions.

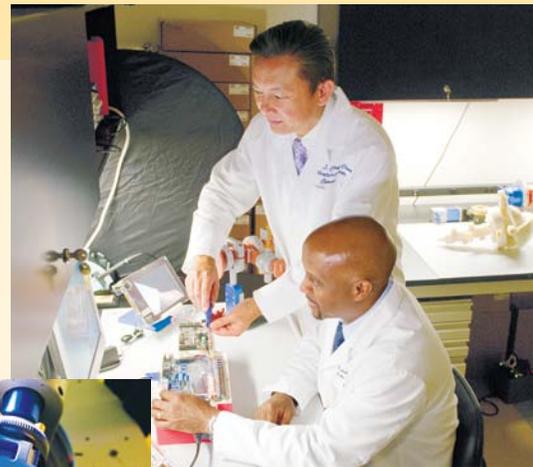


CREATING A WORLD MODEL OF CANCER CARE

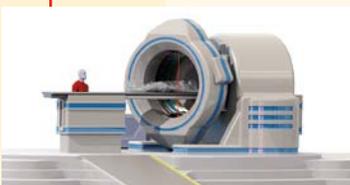


➔ About 65 percent of all cancer patients need radiation therapy, yet five out of the seven billion world population are underserved for cancer radiotherapy largely due to infrastructure limitation.

➔ Dr. Clifford Chao and John C. Cheeseborough, MS, Director, Radiation Oncology Center for Engineering and Applied Physics of Weill Cornell Medical College, are working tirelessly to develop radiation therapy technology that will make it possible to provide radiation treatment to a large proportion of the world population to whom such treatment is not yet available due to the barrier of cost. Their ultimate goal – to develop a one-room, image-guided, total solution for cancer radiotherapy. “With a comprehensive and growing clinical program and visionary researchers,” says Dr. Chao, “our institution can impact a global cancer fighting initiative, helping to overcome the barriers to care and deploy state-of-the-art radiation therapy services in locations throughout the world as quickly as possible.”



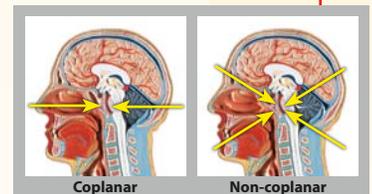
⬇️ “The Holy Grail for cancer radiotherapy is that you want to destroy the tumor, but you want to spare healthy tissue,” says Dr. Chao, “and you want to tailor radiotherapy based on the cancer biology of the individual patient.” Enter the ArcKnife – a technological solution that will help make radiation therapy accessible worldwide. Supported by a major grant from the Department of Defense, Dr. Chao and researchers from NewYork-Presbyterian Hospital, Weill Cornell Medical College, and Columbia University College of Physicians and Surgeons, have developed this high-precision robotic image-guided therapy system.



Led by Dr. Chao, the ArcKnife project has entered a new phase of its development having proved that the therapy system can map the exact location of a tumor and accurately direct radiation toward malignant cells without damaging surrounding healthy tissue.

In addition, ArcKnife has “beam stoppers” integrated into the equipment, which drastically reduce the radiation shielding needs by 75 percent. Decreasing the thickness of the concrete shield walls from eight feet in other devices to two feet significantly reduces building costs and space needs. “The equipment no longer needs to be placed in a bunker-like room, making the technology easily adoptable in most hospitals without having to remodel existing facilities,” says Dr. Chao. “This drives down the cost-to-own dramatically to one-half to one-tenth of traditional radiation therapy and proton therapy devices.”

Importantly, ArcKnife has in-line diagnostic quality imaging to depict tumor physiology and biology and can deliver hundreds of non-coplanar converging beams, providing better tumor treatment and normal organ sparing than conventional radiotherapy.



ENTERING A NEW ERA

➔ With construction nearly complete on the new Radiation Oncology treatment facility at NewYork-Presbyterian/Columbia, the Hospital enters a new era of cancer care for patients. Andria L. Castellanos, MBA, Senior Vice President and Chief Operating Officer of NewYork-Presbyterian Hospital/Milstein Building, worked closely with Dr. Chao to design a facility that will provide top-of-the-line radiation therapy in an environment suffused in natural light, promoting patient comfort and healing.



FACULTY APPOINTMENTS IN ONCOLOGY

Lewis C. Cantley, PhD



Renowned cancer researcher Lewis C. Cantley, PhD, who is credited with discovering a family of enzymes fundamental to understanding cancer, has been named Director of the newly established Cancer Center at Weill Cornell Medical College and NewYork-

Presbyterian Hospital. Dr. Cantley's appointment marks a critical step in the transformation and acceleration of personalized translational medicine, research, and clinical care for cancer patients. Dr. Cantley was previously the William Bosworth Castle Chair in Medicine and Professor of Systems Biology at Harvard and Director of the Cancer Center and Chief of the Division of Signal Transduction at Beth Israel Deaconess Medical Center.

Stephen G. Emerson, MD, PhD



Stephen G. Emerson, MD, PhD, a leading hematologist/oncologist, has joined NewYork-Presbyterian/Columbia as Director of the Herbert Irving Comprehensive Cancer Center. Prior to joining the Hospital, Dr. Emerson served as President of Haverford College, and before

that as Chief of the Division of Hematology/Oncology for the Hospital of the University of Pennsylvania and a University of Pennsylvania faculty member for nearly two decades. His research in bone marrow stem cell biology has led to new medical therapies used worldwide. Dr. Emerson has served on the leadership councils of the American Society of Hematology and the American Society for Blood and Marrow Transplantation.

Andrew L. Kung, MD, PhD



Andrew L. Kung, MD, PhD, has been named Chief of Pediatric Hematology, Oncology and Stem Cell Transplantation at NewYork-Presbyterian/Morgan Stanley Children's Hospital. A noted clinician-scientist, Dr. Kung is developing a research program aimed at harnessing the next generation of therapies for cancer and blood disorders in pediatric patients. Dr. Kung received his MD and PhD at Stanford University School of Medicine and completed a residency at Boston Children's Hospital. He served as a fellow in Pediatric Hematology/Oncology at the Dana-Farber Cancer Institute. Prior to joining the Hospital, Dr. Kung was on the faculty at Harvard Medical School and the Harvard Stem Cell Institute.

Markus Y. Mapara, MD, PhD



Markus Y. Mapara, MD, PhD, is the Director of the Blood and Marrow Transplantation Program at NewYork-Presbyterian/Columbia. A specialist in autologous and allogeneic blood or marrow transplantation, Dr. Mapara is studying the development of graft versus host disease (GVHD) in order to identify novel druggable targets to prevent and and/or treat GVHD. Dr. Mapara graduated from the University of Heidelberg Medical School in Germany and completed a research fellowship at the Transplantation Biology Research Center of the Massachusetts General Hospital at the Harvard Medical School. Prior to joining the Hospital, Dr. Mapara served as Director of Adult Hematopoietic Stem Cell Transplantation at the University of Pittsburgh Cancer Institute.

Mark A. Rubin, MD



Mark A. Rubin, MD, a pathologist and prostate cancer genomics and biomarker research expert, has been named the Director of the new Institute for Precision Medicine at Weill Cornell Medical College and NewYork-Presbyterian/Weill Cornell. Dr. Rubin currently serves as Vice Chair for Experimental Pathology and Director of Translational Research Laboratory Services at Weill Cornell Medical College. The Institute for Precision Medicine will accelerate understanding of the human genome, provide key insights into the causes of disease, and enable physician-scientists to translate this knowledge from the lab to the clinical setting.

Manish A. Shah, MD



Manish A. Shah, MD, who joined NewYork-Presbyterian/Weill Cornell from Memorial Sloan-Kettering Cancer Center to head gastrointestinal oncology, is spearheading a growing program for many forms of GI cancers. Dr. Shah is also the Director of the Gastrointestinal Oncology Research Laboratory at Weill Cornell Medical College. His areas of translational research interests are in improving the understanding of cancers of the upper GI tract, as well as hereditary gastrointestinal malignancies. Dr. Shah graduated from Harvard Medical School/MIT Health Sciences and Technology and completed a medical oncology fellowship at Memorial Sloan-Kettering Cancer Center.

Ashutosh K. Tewari, MB, BS



A leading expert in prostate cancer and robotics, Ashutosh K. Tewari, MB, BS, is the founding Director of the new Center for Prostate Cancer recently established by NewYork-Presbyterian Hospital and Weill Cornell Medical College. The Center provides advanced screening and diagnostic methods, such as fusion biopsy, focal therapy for localized tumors, refined imaging techniques, open and robotic surgery, and treatments for advanced prostate cancer. In 2012, Dr. Tewari, who also serves as the Director of the LeFrak Center for Robotic Surgery at NewYork-Presbyterian/Weill Cornell, received the Gold Cytoscope Award from the American Urological Association for his outstanding contributions to the field of urology and urologic oncology.

Koen van Besien, MD, PhD



Prior to joining NewYork-Presbyterian/Weill Cornell to direct the Bone Marrow Transplant Program, Koen van Besien, MD, PhD, served as Director of the Transplant and Lymphoma programs at the University of Chicago and was on the faculty in the transplant program at MD Anderson Cancer Center in Houston, Texas. Dr. van Besien did his clinical training in medicine at the University of Leuven, Belgium; holds a PhD from the University of Maastricht in the Netherlands; and pursued hematology/oncology fellowships at Indiana University and in Bruges, Belgium. Dr. van Besien's research efforts focus on developing novel treatment strategies for patients with recurrent lymphoma, including newer drugs, salvage therapy, and transplant conditioning regimens.



The Herbert Irving Comprehensive Cancer Center at NewYork-Presbyterian/Columbia University has welcomed five new clinician-scientists specializing in leukemia. Recently joining the Hospital from Memorial Sloan-Kettering Cancer Center are (from left) **Mark L. Heaney, MD**; **Mark G. Frattini, MD, PhD**; **Todd Rosenblat, MD**; **Joseph G. Jurcic, MD**; and **Nicole Lamanna, MD**.

NEWS AND NOTES

1970s

Kenneth L. Edelson, MD 1978



Residency, Dermatology, New York Hospital-Cornell Medical Center In December 2012, Dr. Edelson received the Award for Excellence in Teaching, preceded by the Mentor of the Year and Teacher of the Year Awards. "I also appeared in Woody Allen's new film, *Blue Jasmine*, starring Cate Blanchett and Alec Baldwin, which will come out in the Fall. This is my 15th Woody Allen film!"

1980s

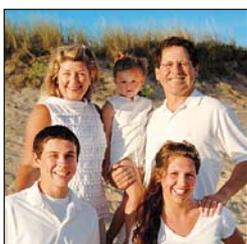
Howard J. Birenbaum, MD 1983



Residency ('81), Fellowship ('83) Neonatology, New York Hospital-Cornell Medical Center "I direct a NICU at Greater Baltimore Medical Center in Baltimore. My wife Debra and I have three children (Rob, Lauren, Daniel), all married, and

four wonderful grandchildren!"

A. Dean Jabs, MD, PhD, FACS 1989



Residency, Plastic Surgery, Columbia-Presbyterian Medical Center Dr. Jabs was recently appointed Chairman of the Department of Plastic Surgery at Suburban Hospital, a member of the Johns Hopkins Network, in Bethesda, MD, with 53 plastic surgeons on staff.

He is Past President of the National Capital Society of Plastic Surgeons and has been selected by *Northern Virginia* and *Bethesda Magazines* as a Top Doctor. He has been cited by the Children of Chernobyl Committee of Christ Church for his work on behalf of the Children of Belarus. He and his wife Becky have adopted a little girl who they are raising with their other two children. He is in a private practice, Cosmetic Surgery Associates, in Bethesda.

1990s

Anthony M. Szema, MD 1997



Fellowships, Pulmonary Diseases, Critical Care Medicine, and Clinical Adult and Pediatric Allergy and Immunology, NewYork-Presbyterian Hospital/Columbia University Medical Center Dr. Szema, Assistant Professor of Medicine and Surgery at the

Stony Brook University School of Medicine, received the prestigious Albion O. Bernstein, M.D. Award for 2012 from the Medical Society of the State of New York. Dr. Szema was the first to identify new-onset asthma in previously healthy soldiers from Long Island who had been deployed to Iraq and Afghanistan. He is the executive producer of the documentary *Forever* and author of *Rogue BEE*, on this subject. Dr. Szema is also the Chief of the Allergy Section at the Veterans Affairs Medical Center in Northport.

NewYork-Presbyterian/Columbia Society of the Alumni



On Wednesday, November 14, 2012, the Society of the Alumni honored two distinguished alumni: Lucien J. Côté, MD, Attending Neurologist and

Professor Emeritus of Neurology; and Kenneth M. Prager, MD, Director, Medical Ethics and Chairman, Medical Ethics Committee and Professor of Clinical Medicine, at its annual alumni dinner. Featured guest speaker Lori Mosca, MD, MPH, PhD, Director, Preventive Cardiology and Professor of Medicine at NewYork-Presbyterian/Columbia, spoke to an audience of more than 110 guests.

The Society of the Alumni provides many opportunities to stay connected to friends, mentors, and current and former colleagues. To learn more about its activities, please contact the Society at alumnisociety@nyp.org or (212) 342-0954.

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SIGN UP FOR CME

Continuing Medical Education (CME) activities are provided through **Columbia University College of Physicians and Surgeons:** (212) 305-3334 and **Weill Cornell Medical College:** (212) 746-2631. Both institutions are accredited by the Accreditation Council for Continuing Medical Education (ACCME) to authorize and issue CME credit. For all upcoming education events through NewYork-Presbyterian Hospital, visit www.nyp.org/pro.

The Second Annual Peter D. Stevens Course on Innovations in Digestive Care

Dates: April 25-26, 2013
Location: Weill Cornell Medical College
1300 York Avenue, New York, NY
For more information and registration, contact the Department of Surgery, Office of External Affairs, at (201) 346-7001 or info@columbiasurgery.org.

Brain Tumor Biotech Summit 2013

Date: June 7, 2013
Location: Weill Cornell Medical College
Uris Auditorium
1300 York Avenue, New York, NY 10065

For more information and registration, contact Jessica Grajales, CME Coordinator, at (212) 585-6800 or nypcme@nyp.org.

Advanced Endoscopic Skull Base and Pituitary Surgery, Hands-on Symposium

Dates: June 14-15, 2013
Location: Weill Cornell Medical College
Griffis Faculty Club and Weill Cornell Anatomy Lab
1300 York Avenue, New York, NY 10065

For more information and registration, contact Jessica Grajales, CME Coordinator, at (212) 585-6800 or nypcme@nyp.org.

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A Comprehensive Cancer Center Designated by the National Cancer Institute

The Herbert Irving Comprehensive Cancer Center (HICCC) of Columbia University is dedicated to understanding the biology of cancer and to applying that knowledge to the design of cancer therapies and prevention strategies that reduce its incidence and progression and improve the quality of the lives of those affected by cancer. The HICCC is one of only 41 NCI-designated comprehensive cancer centers in the United States.

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For a physician referral to any one of our 5,500 physicians across all specialties, call the **Referral Call Center** at **1-877-NYP-WELL**.

PROFESSIONAL RESOURCES

NewYork-Presbyterian Alumni Website – nyp.org/alumni

The Alumni Association website is a valuable resource for the more than 10,000 physicians who have trained at NewYork-Presbyterian.

Educational Programs – nyp.org/pro

- Webcasts
- Medical Presentations
- CME Activities
- Newsletters

For more information about campus-specific Alumni Associations, contact:

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