


Cancer Lines

The newsletter for UNC Lineberger Comprehensive Cancer Center and the N. C. Cancer Hospital

Winter 2009

the inside line up



UNC
LINEBERGER COMPREHENSIVE
CANCER CENTER
N.C. CANCER HOSPITAL

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"When we do the best we can, the first-choice treatment only works in about half of cancer patients," laments Howard McLeod, PharmD, professor of pharmacy and medicine, and director of UNC's Institute for Pharmacogenomics and Individualized Therapy (IPIT). "We need to know which half that's going to be, and develop treatments for the others. If you're making a major investment in care and treatment as cancer patients have to do, you need to know the odds of benefiting from it."

To help improve the effectiveness of treatments, and drive development of new therapies, UNC Lineberger is putting considerable resources into individualized medicine. By looking at each patient or tumor at the molecular level, doctors can target interventions more specifically, increasing the chances of reducing side effects and improving outcomes.

"Teams of scientists and physicians from diverse fields are achieving far more than any individual could accomplish," says Peggy Gulley, MD, UNC professor of pathology and laboratory medicine. "This synergy is facilitating multidisciplinary research that translates discoveries from the realm of basic science into the clinical arena where they benefit patients."

Pushing the Envelope

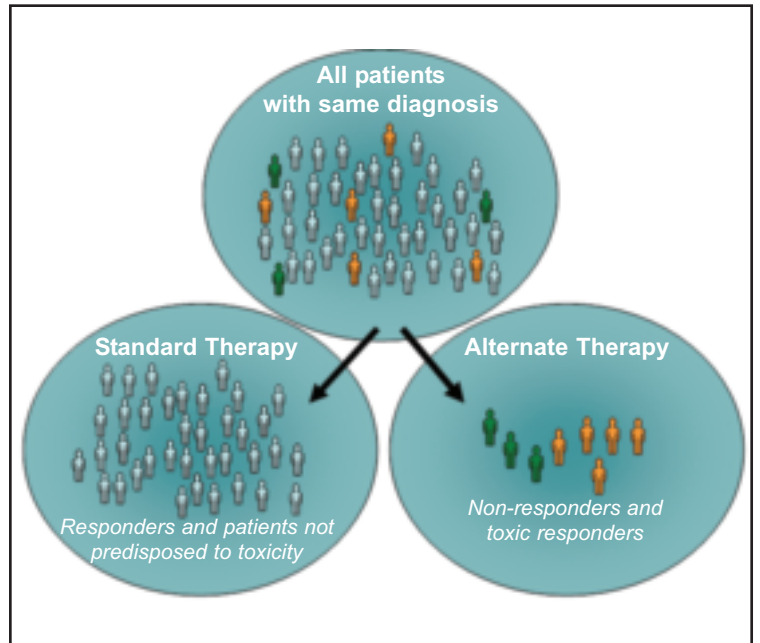
Developing diagnostic tools to help detect cancer and creating novel therapies to treat it requires an aggressive translational process that quickly moves concepts from the lab to the clinic. "Too often, we're content to discover, but not apply," McLeod says. "We need to do good science around genes or proteins or markers that might predict the patient's response and push it forward. That will help us use tests to select therapies in a more rational way."

The IPIT does this by grouping geneticists, oncologists, clinicians, decision science experts and health economists

together to discover and apply treatments. "These disciplines don't usually get together, but they're very important to each other's success," he notes.

Capitalizing on Discovery

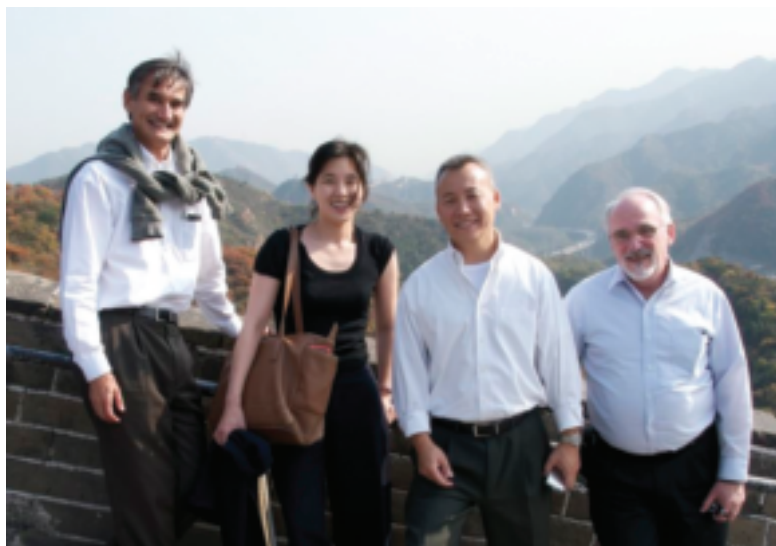
Supporting more targeted treatment is the work of the McLendon Clinical Labs, which takes discoveries by UNC researchers and adapts them to create novel lab tests that help physicians diagnose and manage cancer.



The goal of personalized medicine is to identify which patient will benefit or not from a specific drug before starting therapy.

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UNC Lineberger Scientists Begin International Collaborations



Drs. Calvo, Yeh, and Kim, with Dr. Don Goer (right), principal scientific officer for IntraOp Medical, at the Great Wall of China.

As UNC Lineberger scientists Adrienne Cox, PhD, and Channing Der, PhD, sat in a dining hall among robed students at Cambridge University, they wondered if they had mistakenly entered a scene from *Harry Potter*. Meanwhile, surgeons Benjamin Calvo, MD, Hong Jin Kim, MD, and Jen Jen Yeh, MD, dined while sharing large serving plates with their hosts in Beijing, 7,114 miles away from home.

The five faculty members traveled in October to help develop international research in professional exchanges with oncology scientists and physicians in the United Kingdom and China.

Cox, associate professor of radiation oncology, said the three main goals for her trip to the Cambridge Research Institute (CRI) were to conduct collaborative experiments with Dr. David Tuveson's laboratory, to

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director's *Message*



Dr. H. Shelton Earp, III

The *News and Observer* just honored cancer center member Dr. Joe DeSimone as the 2008 "Tar Heel of the Year." This was both well-deserved and prescient of the N&O to recognize that science will drive the Triangle's development over the next several decades. Joe is,

simply put, an international star.

What you might not know is that without support from the University Cancer Research Fund (UCRF), he might well have left North Carolina for a position in Massachusetts. A package that allows Joe to enhance his cancer research and to surround himself with new faculty that emphasize nanomedicine did the trick. What the UCRF provides UNC, and North Carolina, is leverage and the ability to recruit and retain the best scientists and physicians to work on cancer in North Carolina. Here's another example.

Dr. Don Rosenstein is a world expert in the assessment and remediation of suffering associated with the stress of a medical illness. He has left his role as clinical director of the National Institute of Mental Health in Bethesda to come to UNC as director of the new Comprehensive Cancer Support Program.

practices to assist patients and families, and outreach to North Carolina communities and community oncologists.

Two nationally ranked scientists, one working on new technology for cancer drug delivery and the other working to minimize the many challenges cancer patients face: the UCRF allows us to invest in these people and their important work.

Another exciting UCRF initiative was described in the last *Cancer Lines*. Our responsibility to study and eliminate disparities in cancer death rates led to the development of the Jeanne Hopkins Lucas study. This study is now launched in 44 NC counties and already 85 participants have enrolled in the study. They are the first of 2000 patients who will ultimately participate in the next few years. This groundbreaking study seeks to improve our understanding of breast cancer, including why so many African-American women die of this disease. The research, an extension of the Carolina Breast Cancer Study, includes one of the largest databases with breast cancer information in the country.

As part of our work across the state, our clinical partnership with East Carolina University (ECU) is developing in excellent ways. Already ECU scientists and physicians are collaborating with UNC colleagues, including the enrollment of ECU patients in the UCRF funded-study of tamoxifen. This is another example of individualized therapy made possible by a UCRF-supported Clinical Innovation grant. The tamoxifen trial was featured in a previous *Cancer Lines*.

We at UNC are enormously grateful for the trust and commitment of North Carolina and are working day and night to fulfill the mission of the UCRF: discovery, innovation and delivery. The

Support from the UCRF made his recruitment possible. This new program will include services for patients and families, training and research into best



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clinical work and scientific innovations supported by the UCRF hold promise for improved diagnostics and therapy. Our partnerships with other institutions and communities are helping us disseminate the best ideas and practices across North Carolina. We are making an impact and will strive to do more in this year. ●

2008 Oncology Excellence Awards

UNC Lineberger honored five staff members with the 2008 Oncology Nursing Excellence Awards and the Clinical Services Excellence Awards. Patricia Decator and Judith Swasey each received a 2008 Oncology Nursing Excellence Award. Ava Pettiford, Pamela Baker and Katharin Deschesne were recognized with a Clinical Services Excellence Award.

Decator, RN, BSN and OCN, has worked as a UNC outpatient infusion nurse for 11 years. Swasey, MSN, RN, ANP, is a nurse practitioner and clinical instructor in the division of Surgical Oncology. She has been with UNC for eight years and also directs the very successful Sole Sisters spring exercise program.

Dr. Richard Goldberg, physician in chief of the North Carolina Cancer Hospital and associate director of UNC Lineberger Comprehensive Cancer Center, said, "It is a real pleasure to honor these professionals. Pat Decator and Judy Swasey have dedicated their professional efforts to take exemplary care of cancer patients during their years at UNC. Pam Baker, Kathy Deschesne and Ava Pettiford make our patients' experience at UNC as warm and professional as possible. All have led the way in

skillfully providing the kind of patient-centered, personalized care that makes us proud to be a part of the cancer program at UNC."

Pettiford, program coordinator for the UNC Lineberger Neuro-Oncology and Genitourinary Oncology Programs, has dedicated eight years of service to UNC Hospitals. Baker is a program coordinator in the Patient and Family Resource Center and has worked at UNC Lineberger for almost five years. Deschesne, MS, DABR, a clinical physicist in the Radiation Oncology Department, has served at UNC for 13 years.

Award winners receive a \$1,500 stipend for professional education activities. The Oncology Nursing Excellence Award, in its seventh year, is presented in memory of Charmayne S. Gray, an outstanding oncology nurse practitioner who died in an auto accident in 2002. The Clinical Services Excellence Awards have been awarded for the past five years. ●



Celebrating MC Spirit

This past spring 27-year-old Mary Claire (MC) Satterly was diagnosed with acute myelogenous leukemia. Just four days after her diagnosis, cancer ended MC's life. In celebration of MC's boundless spirit, family and friends established the Mary Claire Satterly Foundation and made their first goal to raise \$250,000 to name a space in the N. C. Cancer Hospital. On November 15, over 600 friends and family gathered at the Museum of the City of New York for the Inaugural MC-NY Fall Gala and Silent Auction. The Gala raised significant funds to benefit the Mary Claire Satterly Pediatric Playroom at the N.C. Cancer Hospital. Pictured left to right: Laura Satterly, Dr. Robert Alan Satterly, Stephen Satterly, Joan Satterly, Dr. Gregory Bensch, Karen Bensch, and Virginia and William Bensch.

Custom Therapies

continued from page 1

Pathologists have recently introduced several new laboratory tests that refine prognosis and predict outcome in response to therapy. For example, patients with acute myelogenous leukemia benefit from genetic testing of their tumor cells using molecular techniques such as karyotype, fluorescence in situ hybridization, and polymerase chain reaction. "This helps to identify genetic defects such as chromosomal translocation or FLT3 and NPM1 gene mutation that have implications for therapeutic decision-making," explains Gulley, the lab's director.

Targeting Colon Cancer

Richard Goldberg, MD, physician in chief of N. C. Cancer Hospital and UNC Lineberger associate director, is developing strategies for treating patients whose colorectal cancer has a mutation in a specific gene called KRAS.

"Forty percent of colon cancer patients with a mutation in the KRAS gene have zero percent chance of responding to one popular class of drugs used to treat the disease: epidermal growth factor receptor (EGFR) inhibitors," Goldberg explains. "These drugs are expensive and have side effects, so we want to give them to people who have a chance of responding and develop effective strategies for more patients who need alternative treatments."

Goldberg notes, "We're looking at drugs that target genes and receptors downstream of KRAS. When tumors have a KRAS mutation, that pathway, which signals cancer cells to act aggressively, is locked in an on position. To effectively turn that signal off we need to interrupt that pathway downstream from KRAS," he says. "We want to develop individualized therapies so we can understand which patients will benefit from a particular drug because their genetics are favorable,

and which tumors are most likely to be hurt by a drug because that tumor's genetics are more susceptible to particular agents."

Individualizing Breast Cancer Treatments

Though targeted therapies are beginning to be available for different molecular subtypes of breast cancer, focusing on the tumor is only part of the story. Understanding the patient's genetic makeup may be just as important in determining whether drugs will work or not. One example is the drug tamoxifen, which is used widely in breast cancer prevention and treatment.

Supported by the University Cancer Research Fund, a highly innovative trial is underway that uses an individual patient's genetic information to determine the most effective dose of tamoxifen by measuring the activity status of a gene responsible for converting tamoxifen to its active form. Scientists leading this trial are using this information to adjust the tamoxifen dosage to see if changing the dose of tamoxifen can overcome having a less active form of the gene.

Recruitment has been brisk, and patients have been incredibly supportive of the idea of individualizing therapy.

"Right now, I use the same drugs at the same doses for essentially all patients," explains Lisa Carey, MD, the study's co-principal investigator and medical director of the UNC Breast Center. "We want to find the right drug at the right dose for the right patient at the right time."

Targeting Melanoma and Leukemia

Pathologists recently validated a DNA test for a gene mutation called KIT, associated with response to a class of drugs called tyrosine kinase inhibitors. These inhibitors overcome the effect of the cancer mutation to thwart cancer cell growth. Melanoma patients whose tumor cells harbor this mutation

may benefit from expanded treatment options. Interestingly, the same class of drugs is often effective in treating leukemia if the tumor cells have a specific DNA defect called BCR/ABL1 translocation. This defect has a similar action as the KIT mutation in causing cancer growth. Moreover, if the drug stops working, a laboratory test for acquired mutation in the BCR/ABL1 gene can yield further information on which of the alternative 4-tyrosine kinase inhibitor drugs is more likely to be effective. This work is funded in part by the University Cancer Research Fund.

Realizing the Promise

The promise of individualized medicine will only be achieved if there is enough genetic data. "We will only understand cancer well enough to realize the dream of individualized therapy if patients participate in clinical trials," Carey says. "In particular, trials that include samples of the tumor so that we can perform the laboratory experiments needed to identify resistance and sensitivity patterns are key."

There are many ongoing clinical trials for cancer treatment and prevention at UNC. For more information, call 1-877-668-0683 or visit www.unclineberger.org/ct. Details on national trials are available from the National Cancer Institute (cancertrials.nci.nih.gov) and the National Institutes of Health (clinicaltrials.gov).

With enough genetic data, researchers will be able to change the way cancer is detected and treated. "In the next five years, there will be testing available for most common cancers because data will have developed," McLeod surmises. "And in 10 years, the majority of patients will have routine genomic analysis to determine the most effective therapies. Our goal is to get to where we can look a patient in the eye and say, 'This is the best therapy or diagnostic for you.'"

UNC Trains Doctors Worldwide for Robotic Surgeries

Last fall, 200 doctors from around the globe descended on Chapel Hill to learn the art and science of robot-assisted OB-GYN and urologic surgery from the masters by trying out the robot and watching a live, high-definition broadcast of an actual surgery. Over the last three years, more than 450 surgeons have come to UNC for training.

The world is beating a path to UNC's door because two Lineberger members are world leaders in using the da Vinci® Robotic Surgical System. John Boggess, MD, associate professor of gynecologic oncology, has been using the device to treat endometrial and cervical cancers, and Raj Pruthi, MD, associate professor of surgery/urology and leader of UNC Lineberger's Urologic Oncology Program, has been using the system to treat prostate and bladder cancer.

The duo are widely recognized as national leaders and innovators in the field. They, along with other UNC surgeons, have worked with the system since it arrived at UNC in January 2005.

Boggess has been at the forefront in adapting the robot for GYN patients and initiated the first GYN training program. Dr. Pruthi has been a pioneer in developing robotic bladder surgery.

"When we started there was nothing - no publications, descriptions or videos," recalls Boggess. "Just because it's FDA approved doesn't mean people know how to use it. So we saw this as an opportunity

to document our practice and create the resources that were lacking," Boggess says. "We created reproducible techniques that we could train other people to do."

Similarly, Pruthi and fellow urologic surgeon Eric Wallen, associate professor of surgery/urology, are innovators in the application of robotic techniques to bladder cancer. "At first, we helped to develop the surgical procedure for bladder removal itself," Pruthi explains. "The UNC experience with robotic cystectomy remains one of the largest not only in the U.S. but in the world." Pruthi recently provided training for surgeons in China, and led an NIH-sponsored conference on robotics in urologic oncology.

The technology allows surgeons to operate more precisely and through smaller incisions. "When you don't have to create a large incision to gain exposure you eliminate complications," Boggess notes. "And convalescence including pain is great. We haven't had to give IV pain meds in over three and a half years, and patients are able to go home within 24 hours compared with three to seven days the old way." To date, more than 700 GYN/ONC patients have had robot-assisted surgery.

Likewise, in urologic oncology, the technology helps minimize the morbidity and harmful effects of surgery while maintaining oncologic efficacy. "Ultimately, it's the patient who benefits from the development and widespread application of this technology," Pruthi says. "Maximizing cancer cures



Drs. John Boggess and Eric Wallen with the da Vinci console.

and minimizing the side effects of surgery have always been an important goal of surgery. A huge step forward has been made with robotic-assisted surgery." UNC surgeons have performed more than 400 robotic radical prostatectomy procedures, and all prostate cancer operations are performed this way at UNC with most patients going home the day after surgery.

Helping doctors learn to use leading-edge technology helps patients, too. "Surgeons have to hurt people to help them," Boggess says. "If you can accomplish the same or more without being so invasive, you clearly have to do it."

faculty *Profile*

Equipped with his five senses, man explores the universe around him and calls the adventure science.

These words from astronomer Edwin Powell Hubble fittingly describe UNC Lineberger's Rudy Juliano, professor of pharmacology, associate dean for research at the UNC Eshelman School of Pharmacy and principal investigator for the Carolina Center for Nanotechnology Excellence (CCNE). His life is a balance of precise study and unbounded love for the world around him. In addition to his professional interests, he's also an avid outdoorsman, painter and steward for environmental issues.

Small Science, Big Results

The CCNE, one of only seven in the country, was founded in 2005 when UNC Lineberger received almost \$4 million per year in grants from the National Cancer Institute. The Center allows Juliano and his colleagues to use the smallest technology to make huge improvements in the treatment and care of cancer patients.

"Nanotechnology pertains to all cancers," he says. At UNC Lineberger, nanotechnology is used to improve the delivery of anti-cancer drugs and develop novel

X-ray technologies. "It's complicated work," he says, "but it will be helpful in the treatment of diseases."

That kind of straightforward, stripped-down response isn't uncommon for Juliano, who doesn't like talking about his accomplishments. He's more comfortable pointing out the achievements of his co-workers than calling attention to himself.

"He has sacrificed his own recognition many times to support and promote others in the UNC scientific community," explains his longtime friend and colleague, Gary Johnson, PhD, professor and chair of pharmacology in the UNC School of Medicine. "His support of others and commitment to excellence have given him the respect of everyone who knows him."

Juliano has made impact contributions in drug delivery and molecular therapeutics, and integrins and cell signaling. "The discoveries have provided insight for the development of new ways to target tumors for drug delivery and the development of novel therapeutics to treat many different cancers," Johnson notes.

The Science of life

A native of Queens, N.Y., Juliano came to UNC in 1987 as professor

and chair of the Department of Pharmacology. It was the native New Yorker's second stint below the Mason-Dixon Line.

After receiving a degree in physics from Cornell University and a PhD in biophysics from the University of Rochester, Juliano spent a few years researching and teaching in Toronto. Then he moved to Houston to teach pharmacology at the University of Texas Medical School.

A Love of the Outdoors

When he's not in the lab, Juliano likes to spend time outdoors. "It is very satisfying to be close to nature," he says. He enjoys hiking and sea kayaking along the North Carolina coast, especially with his two sons and three-year-old grandson. Lately, he quips, the hardest part about his outdoor activity is not finding the time to go but rather, "getting the kayak off the car."

Juliano also is a passionate advocate for the environment. He even ran for Chapel Hill town council in 2003 out of concern for land conservation. But don't look for him to give up his white coat for a career in politics. Says Johnson, "He still wants to be a scientist first."

Juliano lives in Chapel Hill with his wife, Eve, associate director of the Office of Information Systems in the UNC School of Medicine. ●



Rudy Juliano

research *Briefs*

Lineberger scientists help set national cancer research agenda

The U.S. Agency for Healthcare Research and Quality (AHRQ) recently selected UNC as one of two cancer research sites to help set the cancer care national research agenda and carry out accelerated practical studies examining the comparative effectiveness of cancer treatments. The other medical center is Brigham and Women's Hospital in Boston, Mass. Along with AHRQ, the hospitals will participate in a multi-center cancer research consortium called DEcIDE (Developing Evidence to Inform Decisions about Effectiveness). The consortium is a multi-year endeavor. Subsequent work is likely to investigate questions in breast and prostate cancer and then other cancers.

In addition to Lineberger members, the UNC team includes representatives from the Eshelman School of Pharmacy, the Cecil G. Sheps Center for Health Services Research, and the Gillings School of Global Public Health (GSGPH).

The consortium will initially investigate the comparative effectiveness of different chemotherapy treatments for advanced colorectal cancer. Led by William Carpenter, PhD, research assistant professor in the department of health policy and management in the GSGPH; and Richard Goldberg, MD, associate director of UNC Lineberger and

physician in chief of the N. C. Cancer Hospital. To assess different treatments' effectiveness, researchers will use secondary data from multiple sources to examine patient-reported, clinically measured, and claims-based outcomes.

New UNC GI cancer clinical trials funded

UNC Lineberger Comprehensive Cancer Center is one of eight institutions in the nation to receive a two-year \$125,000 grant to support clinical trials in gastrointestinal (GI) cancers. Bert O'Neil, associate professor of medicine and co-leader of the UNC Lineberger GI Oncology Program, is principal investigator of the grant, funded by Aptium Oncology GI Consortium.

"The consortium is exciting because it will allow the UNC GI program to bring a number of new agents to patients with GI malignancies such as stomach, liver and pancreatic cancer that have been relatively underserved by clinical trials," O'Neil says.

Other member institutions are: University of Southern California/Norris Comprehensive Cancer Center, Vanderbilt-Ingram Cancer Center, University of Colorado Cancer Center, New York University Langone Medical Center, Fox Chase Cancer Center Partners, and Swedish Cancer Institute.

No need to repeat colonoscopy until 5 years after first screening

The risk of developing colorectal cancer within five years is extremely low if you've had an initial colonoscopy that found no polyps, according to a new UNC study. "For that reason, once

someone has had a negative initial colonoscopy, there is no need for that person to have another colonoscopy sooner than five years after that screening," explains David Ransohoff, MD, professor of medicine and senior author of the study, published in the September 18, 2008 issue of the *New England Journal of Medicine*.

"The current recommendations call for re-screening 10 years after an initial negative colonoscopy," Ransohoff adds. "Based on the results of this study, we know that there's no need to re-screen sooner than five years later. But we still don't know exactly how long the appropriate screening interval should be, so that's a question that future studies should address."

UNC researchers find clue to stopping breast cancer metastasis

If scientists knew exactly what a breast cancer cell needs to spread, then they could stop the most deadly part of the disease: metastasis. New research from the UNC School of Medicine will help scientists understand what breast cancer cells need to spread. That knowledge could lead to a way of stopping metastasis.

Carol Otey, PhD, associate professor of cell and molecular physiology, and her colleagues reduced the ability of breast cancer cells to migrate by knocking down the expression of a protein called palladin. They also found higher levels of the protein in four invasive breast cancer cell lines compared to four non-invasive cell lines. Hong Jin Kim, MD, and a UNC Lineberger member, was a study co-author.

"Now that we see palladin is expressed mostly in invasive cells, it raises the question as to whether it might be useful as a prognostic marker," Otey explains. "This study shows that

International Collaboration

continued from page 1

retrieve expertise to bring back to UNC Lineberger and to initiate coordinated relationships between the two institutions.

Der, professor of pharmacology said, "The highlight was the opportunity for us to observe and to participate firsthand in some research that the group in the UK has pioneered in the use of experimental models to discover new anti-cancer drugs." He said he enjoyed the opportunity to spend time in a lab where he could learn about cancer research and then transfer the knowledge to the labs at UNC.

Both members of the UNC Lineberger Molecular Therapeutics Program, Cox and Der conduct research focused on pancreatic cancer. Because those diagnosed with pancreatic cancer have low survival rates, researchers must find ways to detect and treat the tumor early enough so that patients can be treated before their tumors have advanced.

As Cox learned from the lab in the UK, she said, "They have a lot of programs at CRI that are complementary to ours. Also, you can't get the experience of being on a medieval street anywhere around [Chapel Hill]."

Yeh, assistant professor of surgery, named the goals for visiting China as sharing her expertise in intraoperative radiation and beginning a collaboration with the surgeons there. Intraoperative radiation therapy (IORT) involves a machine called a Mobetron that administers a single dose of radiation in the OR during a patient's



Drs. Calvo and Kim visit the Forbidden City in Beijing, China.

operation. The single-dose can have the same effect as 20 daily radiation treatments.

Yeh said, "[The Chinese] have poor access to care many times. The concerns for Chinese people are different from those of our population. Not everyone can come to the centralized centers for care or radiation therapy, which is why intraoperative radiation therapy may be a promising and practical option for them."

Drs. Kim and Calvo also met in Beijing with National Institutes of Health Field Officer, Julie Schneider, to talk about ways that the NIH can facilitate collaborative work with China. Kim is associate professor of surgery, and Calvo is professor of surgery and division chief of surgical oncology.

"Our aim was to establish personal communications because we would love the opportunity to send surgical residents or research fellows to China," said Calvo. Calvo said he would like UNC Lineberger to be involved in international collaborative relationships with researchers so that physicians in Chapel Hill can share with and learn from health care providers and scientists in other countries.

Der said he hoped that the collaborations would produce a long-term productive exchange between the institutions. ●

Newkirk Joins External Affairs Staff



Katisha Newkirk of Carrboro, NC, has been named annual giving director for UNC Lineberger Comprehensive Cancer Center. Newkirk comes to Lineberger from North Carolina Central University where she was director of annual giving. Prior to that, she worked at the UNC Development Office where she held several positions, including assistant director of the annual fund. Newkirk ('98) earned her BA in biology from UNC-Chapel Hill. ●

palladin may play an important role in the metastasis of breast cancer cells as they move out of the tumor and into the blood vessels and lymphatics to spread throughout the body. Maybe someday doctors could test for the presence of palladin to identify patients who have the most aggressive tumors, then give those patients personalized, more aggressive treatment." The results were published in the November 8, 2008 online issue of *Oncogene*.

UNC scientists to study potential predictor of dangerous condition in cancer patients

UNC scientists have received a grant of almost \$2 million to investigate a potential early-warning indicator of venous thromboembolism, a leading cause of disability and death in cancer patients.

The five-year grant is funded by the National Heart Lung and Blood Institute, part of the National Institutes of Health.

In the condition, clots initially form in deep veins of the legs but can break loose and travel to the lungs. Anti-cancer drugs can increase the risk of venous thromboembolism because they increase the release of a clotting protein from the tumor and blood vessels into the circulatory system.

However, the mechanisms of the condition in cancer patients are largely unknown. The study, involving laboratory and clinical research, will determine if levels of this clotting protein can be used as a biomarker of a pre-thrombotic state in patients with pancreatic or colon cancer.

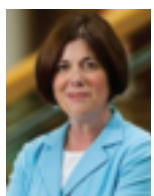
Principal investigators are Nigel Key, MD, Harold Roberts Distinguished Professor of Medicine, and Nigel Mackman, PhD, John C. Parker Distinguished Professor of Medicine. Both are Lineberger members. Participating study institutions are UNC, East

Faculty Recognized for Outstanding Achievement

Several UNC Lineberger members recently received honors:



Etta Pisano, MD, vice dean for academic affairs in the School of Medicine; and **Barbara Rimer, PhD**, dean of the UNC Gillings School of Global Public Health, are among 65 newly elected members of the Institute of Medicine (IOM). Election to the IOM is considered one of the nation's highest honors for those in the fields of health and medicine. The inclusion brings the number of IOM members from



UNC to 17.



Joel Tepper, MD, Hector MacLean Distinguished Professor of Cancer Research and professor of radiation oncology at the UNC School of Medicine, is one of two recipients of the prestigious American Society of Therapeutic Radiology Gold Medal Award, the Society's highest honor. He was recognized for his outstanding contributions to the field of radiation oncology, including research, clinical care, teaching and service. Tepper is a pioneer in the use of intraoperative radiation therapy, and was one of the first to be involved in treating patients with proton therapy.



Brian D. Strahl, PhD, associate professor of biochemistry and biophysics in the UNC School of Medicine, is among the first 38 recipients of a new award for innovative, potentially revolutionary research. He has been awarded the \$200,000 EUREKA (Exceptional, Unconventional Research Enabling Knowledge Acceleration) grant through the National Institutes of Health. He will use the funding to work on deciphering what's known as the "histone code," which researchers think may play a role in health and disease.



Jason Lieb, PhD, associate professor of biology, and **Blossom Damania, PhD**, associate professor of microbiology and immunology, received the Phillip and Ruth Hettleman Prizes for Artistic and Scholarly Achievement by Young Faculty. The award, which carries a \$5,000 stipend, recognizes the achievements of outstanding junior tenure-track faculty or recently tenured faculty.



Lieb is recognized internationally for his research investigating the accessibility of information encoded in a genomic DNA sequence and how that accessibility affects gene expression.

Damania's study of viral pathogenesis at all levels - the molecular, the cellular and the infectious - are models for future approaches to diseases of worldwide import. ●

Nurse Navigators Help Patients Find Their Way

When you're sick, just finding your way from the parking lot to your doctor's office can be challenging enough. So imagine how it feels for cancer patients. Not only do they have many appointments over time, some involving many different treatments and tests, but they also have an evolving condition that evokes new questions and concerns on a regular basis. Family and friends are a huge help, but having an advocate on the "inside" makes treatment and care easier, and improves patient outcomes.

These insiders are patient navigators like LuAnn Smith, RN.

"LuAnn is just great," says Tim Courtney, a Rocky Mount resident who's being treated for kidney cancer. "She's helped me in every way you can think. Anytime I've had a question she's there. And when I've needed a lot of appointments, she gets them lined up on one day so I don't have to make so many two-hour trips."

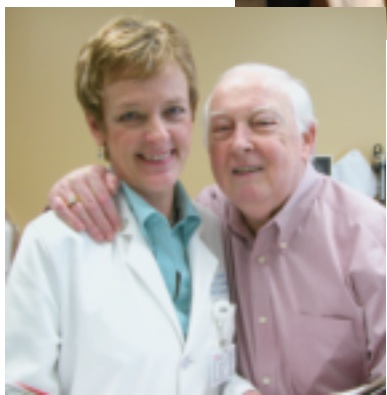
But there's more to the job than providing logistical support. "There's a lot of comfort in knowing somebody cares," Courtney says. "Working with her gives me confidence - and keeps my mind positive."

Fifteen nurse navigators are a crucial part of UNC Lineberger's tumor-site specific multidisciplinary program, which manages all



UNC Lineberger's Nurse Navigator team
 Front row: Pasha Lemmah, Leslie Williams (Breast), Amy Nelson (Thoracic), Christina Lewis (Pediatrics), Susan Hayden (Head and Neck). Back row: LuAnn Smith (GU), Lisa Licht (Hematologic Malignancies), Jami Linn (Breast), Joan Kurczak (GU), Judy Maloney (GI/Melanoma), Delma Armstrong (Breast and other cancer types), Ann Fish-Stegall.
 Not pictured: Beth Fogel (Breast); Sean Gallagher (Head & Neck)

Left: LuAnn Smith and Tim Courtney.



aspects of patients' treatment. "Navigators introduce themselves to new patients at the first visit if at all possible, and serve as a point of contact for those patients whenever needed," explains John Rockwell, administrative director of oncology business and financial operations, who manages the navigators.

Navigators might help coordinate appointments to make certain patients are lined up with the correct procedures and appointment slots, educate patients on their ongoing treatment, or provide personal support on clinic days. They also serve as an important communication bridge between patients and the care team.

All their efforts make it easier for patients - many of whom live hours from the medical center - to get the tests, treatments and consults they need. That ensures they get the best care possible. And the emotional support keeps stress to a minimum, an important factor in healing and wellness.

Providing that kind of support takes a special kind of person who can be calming and supportive while juggling many tasks. "It's hard keeping up with and tracking what can be hundreds of patients in many different phases of care and doing it effectively," admits Smith, who works with urologic oncology patients. "You have to prioritize and know what can be managed by others."

And yet, the navigators always make each patient feel she or he is their only one. "LuAnn doesn't rush me off the phone," Courtney says. "I know she's got a lot going on, but you'd never know it by the way she is on the phone."

For Smith and her colleagues, the motivation to make it work comes from their dedication to patient care. "We know we're making a difference to the patient and family during their cancer care," Smith notes. "Even the smallest of things like listening, advising, caring can help patients so much." ●

Williams, Hamm Team Up for UNC Lineberger

Nearly 400 guests attended the fourth annual Roy Williams' Fast Break Against Cancer breakfast on the floor of the Smith Center, October 17th. The seated breakfast catered by Carolina Inn raised more than \$180,000 to support cancer research in our community, bringing the four year total to \$660,000.

Tar Heel legend, two-time Olympic Champion, and two-time World Cup Champion Mia Hamm spoke about her brother, Garrett who lost his courageous battle with aplastic anemia in 1997. Hamm has been a friend of UNC Lineberger for a number of years and in 2001 started the Garrett J. Hamm fund. Since 2001 more than \$110,000 has been given to the fund through the Mia Hamm Foundation.

Special thanks to Atlantic Corporation, Fast Break presenting sponsor, and lead sponsors BlueCrossBlueShield of North Carolina, Curtis Media Group, Gateway Trust & Bank, GlaxoSmithKline, Long Beverage, and Jo and Eddie Smith, Jr.

Mark your calendar for the 2009 Roy Williams' Fast Break Against Cancer, which is scheduled for Friday, October 16th. ●



UNC Men's Basketball Coach Roy Williams, Olympic champion Mia Hamm, and UNC Lineberger Director Shelley Earp, MD

Tickled Pink Flourishes in Fifth Year



Guest speaker LaTeacha Coleman (center), with Tickled Pink guests Portia Hedgepath and UNC Lineberger Board of Visitors member Janis Tillman.

Bouquets, blooms, and buds surrounded sellout crowds at this year's Tickled Pink ladies luncheon and Twilight events. Both events were held in the beautiful Pope Box at Kenan Stadium in the heart of the UNC campus. Tickled Pink 2008 raised over \$60,000, bringing the five-year total to \$300,000 for women's cancer research.

UNC Lineberger patient and breast cancer survivor LaTeacha Coleman of Fayetteville, NC, was the guest speaker. Coleman, a beauty pageant winner, was diagnosed in December of 2007 and credits her team at UNC Lineberger for her excellent care and positive results. Coleman's "team" - her mother, grandmother, and husband Demetris - supported her at each Tickled Pink event while she shared the inspiring story of her treatment and dreams to use her platform as pageant contestant to share her success story with others.

Chaired by Julie Amos Sermons, Jean Durham, and Gail Fearing, Tickled Pink 2008 was made possible by the tireless efforts of over 50 volunteers. Thanks to James Spurling, director of Kenan Stadium, for his support and guidance in using the Pope Box as well as to the more than 25 local floral vendors who donated the lovely centerpieces for the silent auction. Food and beverages for both events were donated by local merchants. Additional thanks go to BlueCrossBlueShield of North Carolina, our Lineberger Leadership Partner, who served as the lead sponsor of Tickled Pink 2008. ●

volunteer *Spotlight*

Ulla Blab from Elon, NC, volunteers her artistic talent to fashion soft, handcrafted "buddy pillows" in whimsical designs for our children undergoing cancer treatment. Her volunteer efforts began six years ago at the request of her daughter-in-law, Laurie Blab. Whenever Laurie would pass the pediatric unit on her way to her own chemotherapy treatment, she felt touched to do something special for these children. Laurie brought Ulla an example of a little pillow she thought would be the perfect size to comfort a child and Ulla made Laurie a couple of samples to consider. The two women agreed on the design that would serve as the pattern for over 500 handcrafted pillows since 2003.

Inspiration for the pillows comes from many sources: German fairy tales, books, magazines, friends and family. Ulla's oldest granddaughter, Sydney, age 8, offers ideas from her story books and has learned some of the simple stitches already.

Each pillow is a small production. Ulla must first make a design drawing, transfer the design to felt, hand-stitch the design to the custom pillow, add

additional items to complement the scene, and seal it with love. Ulla does all of her cutting during the day and stitches during the evening hours while talking with her husband of 43 years, Alfred Blab, or listening to music together.

"Ulla's pillows have become more intricate over the years and have impeccable workmanship. Her designs are magical. It is such a joy to watch the children try and pick their favorite pillow. It is a hard choice...they seem to love them all," says Tina Shaban, manager of the Patient and Family Resource Center.



Laurie Blab lost her battle to cancer in the spring of 2003 at the age of 34. In honor and memory of her daughter-in-law's courage and compassion, Ulla Blab continues to create her specialty pillows in an assortment of colors, characters, and designs. There are over 2000 hand stitches in each unique pillow. "Every stitch reminds me of that sweet, sweet girl," says Ulla of her daughter-in-law, Laurie. "If I can make one child's life brighter, it is well worth it." ●

Ulla Blab displays one of her creations.

Honoring William G. Clark III



*William G. (Dubba) Clark III,
Tarboro, NC (1933-2008)
Former UNC Lineberger
Board of Visitors Member*

After William G. (Dubba) Clark III of Tarboro, NC, passed away in March 2008, his friends and family decided to create a permanent legacy in his memory. An active member of the UNC Lineberger Board of Visitors for many years, Clark created the William G. Clark III Fund at UNC Lineberger in 1996 to support the urgent financial needs of cancer patients facing hardship. Over the years, the Clark Fund has helped scores of patients who couldn't afford to pay for overnight accommodations during their treatment or couldn't buy the gas to travel to and from their daily radiation treatments.

In the fall of 2008, a few of Clark's closest friends, Bob Barnhill, Nat Harris, Earl Johnson and Eddie Smith, led a campaign that raised almost \$400,000 from 33 friends

and family members to support the William G. Clark III Fund and expand its impact to help even more cancer patients and their families in need of support. In recognition of their generosity, the spacious Education Room in the Patient and Family Resource Center in the new N.C. Cancer Hospital will be named in memory of Dubba when the new hospital opens this fall.

The Bill "Dubba" Clark Education Room will be located immediately off the main lobby on the ground level, easily accessible to the hundreds of cancer patients and their families who will visit the hospital every day. The Clark Education Room will house a growing library of specialized materials to help guide patients through learning about their disease and will have comfortable and quiet sitting areas for patients and their families to unwind as they cope with the stress of diagnosis and treatment. ●

Susan Lamar's Legacy of Hope

Paws for a Cause, a dog walk and animal parade, was the idea of UNC Lineberger Board of Visitors members Wardlaw Lamar, a multiple myeloma survivor, and his wife Susan, a pancreatic patient at UNC Lineberger. Susan was an advocate for pancreatic cancer research at the state and national levels prior to succumbing to her brave fight against pancreatic cancer in December 2008.

After almost a year of planning by committed friends, family, church and community groups, close to 650 walkers and 250 dogs participated in *Paws for a Cause* on October 4th in Rocky Mount, NC. The fun-filled event raised more than \$100,000 for cancer research at UNC Lineberger.

At the center of the event is a dog named Ned. In the summer of 2007, Susan was told she had no evidence of disease (NED). She and her husband found a wet, bedraggled dog and took him in. After no one claimed him, they adopted the dog and named him Ned. Last year, Susan's cancer returned as she and her friends and the Rocky Mount community rallied around the Lamars to help them and this event.

The event included all types of dogs dressed in fun costumes, face painting, animal blessings, and if participants didn't have a dog, they could rent an invisible one for the walk. ●



Susan Lamar's UNC Lineberger physicians attended the event. Shown (l-r) Dr. Ben Calvo; Susan Lamar; Dr. Hong Jin Kim; and Wardlaw Lamar with Ned.



Cornucopia House Celebrates Founders' Day

Twelve years ago, licensed therapist Anne Mader and the late Karen Binder and Nancy Dotson crafted a mission to create a community of support for anyone touched by cancer - patients, families, friends and caregivers - free of charge. Cornucopia House Cancer Support Center offers Triangle-based programs and services, and supports and empowers individuals and families affected by cancer to explore the best choices for their own approach to coping with the disease. UNC Lineberger is a longtime supporter of Cornucopia House, and patients and families have greatly benefited from their services. Cornucopia House recently saluted its founders at a special event. Guest speakers at the event were (from left), early supporter Laurie Tepper; staff member Maxine Turner Fitts; founder Anne Mader; executive director Mary Lawrence; former board chair Elizabeth Swaringen; former board chair Dr. Joel Tepper; and Ron Binder. Dr. Tepper is the Hector McLean Distinguished Professor of Cancer Research and professor of radiation oncology. ●

Rosenstein to Launch New Cancer Support Program at N. C. Cancer Hospital

Donald L. Rosenstein, MD, has joined UNC Lineberger as director of the new UNC Comprehensive Cancer Support Program. Rosenstein, who will be a professor in the UNC School of Medicine department of psychiatry, was trained at Northwestern University and Yale University. He comes to UNC from the National Institute of Mental Health (NIMH) where he directed the clinical program as well as serving as chief of the National Institutes of Health (NIH) psychiatry consultation-liaison service. NIMH is a component of the NIH.

In describing the new UNC Comprehensive Cancer Support Program, Rosenstein explained that it will include several educational, clinical and research services. "Each of these components will address different needs of cancer patients, their families and the clinicians who care for them. The program is being designed to minimize the many challenges cancer patients face."

Rosenstein said, "Our UNC-based programs include long-standing services such as the Patient and Family Resource Center and a new Psycho-oncology Clinical Service which will provide inpatient and outpatient psychiatric consultations for patients and families. The recently established Carolina Well Survivorship Program will continue to expand its clinical and follow-up services for patients living with cancer. Additionally, we will work closely with UNC colleagues to offer symptom management clinics, palliative care and integrative medicine services such as yoga, exercise, and massage therapy."

"We plan to extend our efforts well beyond Chapel Hill," Rosenstein said. "We will be reaching out to North Carolina communities in several ways, including community cancer education programs, telemedicine consultations for community oncologists and evaluation of novel models of care delivery to patients in rural areas."



The new N. C. Cancer Hospital with Gravelly Clinical Cancer Center in the foreground and the new Physician's Office Building on the far right.



Donald Rosenstein, MD (left) and Nick Valvano, CEO of The V Foundation, a major supporter of UNC Lineberger's survivorship program.

Richard Goldberg, MD, said, "The leadership of Dr. Rosenstein is critical to UNC as we enhance and expand programs. His expertise at the national level of building effective psychiatric health programs will provide UNC with the direction needed to develop an outstanding service."

David Rubinow, MD, professor and chair of the UNC School of Medicine's department of psychiatry, said, "Don Rosenstein is a national leader in psychiatric medicine and, quite simply, the most talented clinician I know in the assessment and remediation of suffering associated with the stress of medical illness."

Shelley Earp, MD, says, "We were able to attract Don Rosenstein with support from the UCRF, and the Fund's mission to expand and enhance clinical care for the citizens of North Carolina." ●

calendar *of events*

A P R I L 2 0 0 9

2nd Regional UNC Lineberger Reception, Goldsboro

18th 6th Annual UNC Lineberger Beach Ball
University Mall, Chapel Hill

29th - 30th 33rd Annual UNC Lineberger Scientific Symposium, "Stem Cells and Cancer," Friday Center, Chapel Hill

M A Y 2 0 0 9

1st UNC Lineberger Board of Visitors Spring Meeting,
Kenan Center, Chapel Hill

14th Regional UNC Lineberger Reception, Asheville

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