

NEVADA CANCER INSTITUTE 1-866-621-NVCI

Pathway

Resource Management For Physicians of Patients Battling Cancer



NEVADA'S CANCER BURDEN:

According to the American Cancer Society, in Nevada alone, there will be an estimated 11,370 new cases of cancer diagnosed in 2008. Nevada Cancer Institute is a collaborative academic research organization working side by side with community clinicians to improve the health status of their patients by offering new, and a larger number of treatment options. NVCI is a powerful resource for physicians in Nevada and our neighboring states. We welcome the opportunity to work with you developing a cure and bringing new hope to cancer patients. >>>



Nevada Cancer
INSTITUTE

Research • Treatment • Education



Louis M. Fink, M.D., Director of Core Laboratory Services at Nevada Cancer Institute, stands next to the Cell Tracks System marketed by Veridex, LLC, a division of Johnson & Johnson. This instrument allows researchers to isolate and analyze cancer cells and to accumulate a database for research, particularly for prostate and colon cancer.

To refer a patient call (702) 822-5111

Research Fellows Target Emerging Lung Cancer Therapies

Nevada Cancer Institute (NVC I) has named three fellowships focusing on the prevention and therapy of lung cancer created by an endowment from the Engelstad Family Foundation.

The fellows named were Abu Haroon, M.D., Ph.D., Jennifer Xu, M.S., Ph.D, and Xiahui Xiong, Ph.D, who are working with Drs. Oscar Goodman, Yupu Ma and Hong Sun, respectively. Fellows will interact and collaborate with senior-level scientists, engaging in research and in sharing the goals of supporting innovative knowledge production and of building research capacity.

Dr. Haroon's research program in the Goodman Laboratory is focusing on a protein called neprilysin, a protein present on the cell surface of normal gland-forming and blood vessel-forming cells in the lung. It functions to cleave, and thereby inactivate, a number of polypeptides known to facilitate the growth of cancerous cells. In the normal lung, neprilysin is thought to function much like a guardian, preventing growth factors from causing dysregulated growth.

In lung cancer, neprilysin is frequently suppressed, allowing molecules that it normally inactivates to accumulate and promote the growth of these cancers. In other diseases such as prostate cancer and Alzheimer's, neprilysin activity is known to be enhanced by other agents, including androgens such as testosterone, and hormones such as somatostatins.

Borrowing from these model systems, Haroon, working in the lab with Dr. Goodman, is developing novel therapeutic approaches aiming to restore neprilysin expression, or selectively suppressing some of the small molecules inactivated by neprilysin. One such molecule, fibroblast growth

factor-2 (FGF-2), when expressed at high levels in lung cancer following treatment, predicts a short survival and is one of the most potent angiogenic growth factors. Restoring neprilysin or mimicking its effects in lung cancer hypothetically would lead to decreased tumor growth and angiogenesis, representing a novel therapeutic approach.

Dr. Xu's research in the Ma Laboratory focuses on cancer progenitor cells—aberrant cells that maintain and propagate cancers including lung cancer.

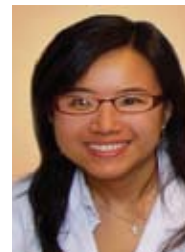
By developing a methodology to isolate enriched populations of lung cancer progenitor cells, this project will make it possible to clarify the role of cancer progenitor cells in the initiation and progression of lung cancer. This work may also hold potential in identifying new targets for more effective future therapies to eradicate cancer progenitor cells that presumably are responsible for the resistance to chemotherapy and tumor relapse.

Dr. Xiong's work in the Sun laboratory studies the mechanisms of signal transduction, a process that interprets and processes the environmental stimuli, instructing cells when to grow and when to rest. Normal cells require growth signals from outside to dictate their growth, while the cancer cells will grow even in the absence of outside signals. The insulin-like growth factor (IGF-1) receptor pathway is a major regulator of cell proliferation and cell survival.

This pathway is intimately associated with the development and progression of lung cancer and is involved in allowing lung cancers to survive despite chemotherapy and radiation therapy. Therefore, the IGF-receptor pathway has emerged as an important target for anti-cancer therapy.



Abu Haroon, M.D., Ph.D.,

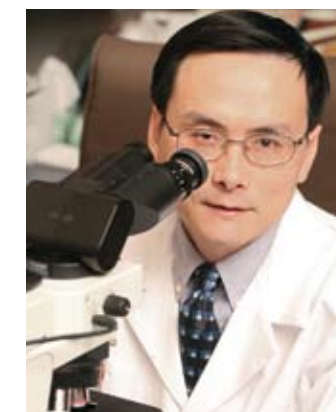


Jennifer Xu, M.S., Ph.D.,



Xiahui Xiong, Ph.D.

The fight to cure cancer is a battle of science and research; Nevada Cancer Institute (NVC I) is founded on the concept that cutting-edge science will lead to breakthrough research, which will have groundbreaking results for cancer prevention, treatment and cure around the world. So far, results have been encouraging and through the continued efforts and dedication of our staff and faculty we will work to win the battle. In brief these research divisions are: **Basic Science Division** with a goal to decipher the basic biology of cancer generation and progression, as well as to discover and glean mechanisms for potential novel treatment strategies. The **Experimental Therapeutics** program champions the application of recent ideas and discoveries generated in the realm of basic sciences to the treatment or prevention of cancer. The program maximizes interactions between researchers with basic and clinical science backgrounds to enhance the rate at which pertinent new discoveries are translated to direct patient care. The **Clinical Sciences Division** of NVC I represents the delivery of state-of-the-art diagnosis and treatment to patients. NVC I's **Research Imaging Facility** is a resource available for use by researchers from the Nevada community and its academic institutions. And, the **Office of the Directorate**, together with the external advisors and other senior leaders, set the course of NVC I. For more information about our research programs, please contact Nevada Cancer Institute at 702-822-5433 or visit www.nevadacancerinstitute.org.



In Focus: Yupu Ma, M.D., M.S., Ph.D.

Yupu Ma, M.D., M.S., Ph.D., joined the Nevada Cancer Institute's Division of Pathology and Laboratory Science in 2005 and currently serves as the chief of Hematopathology. Dr. Ma specializes in the diagnosis of leukemia and lymphoma. Dr. Ma's research interests include targeting approaches to study human homeotic gene function in human development and human cancer. His research is funded by a National Institutes of Health grant. Most recently he has received notification from the National Cancer Institute (NCI) that his NCI R21 grant award has been released and will be funded at 90% of the adjusted requested level. This grant began on July 1, 2008. This is an extremely competitive grant, and the award represents that Dr. Ma's lab is doing sound and valuable science research. The project for his NCI R21 grant is to model myelodysplastic syndromes and leukemic processes. "The understanding of these processes should help us to fight these blood cancers," said Dr. Ma. He commented that the grant "will help [NVC I] to hire more [researchers] and speed up our discovery in a very competitive field of progenitor cell research."



Bryan Wong, M.D., Ph.D., Assistant Member, Department of Hematological Malignancies at Nevada Cancer Institute (NVCi) is the primary investigator (PI) for several current clinical trials, including early phase and investigator studies. He has been a PI on 19 clinical trials and a participating sub investigator on 68 clinical trials since NVCi's opening in 2005.

Research is paramount to the mission of Nevada Cancer Institute (NVCi). At NVCi, the Clinical Trials Office (CTO) assures clinical research follows federal, state and local regulations. The CTO is part of the Clinical Division of NVCi. The CTO supports research scientists in preparing protocols, screening patients for protocol participation, monitoring patients on protocols and managing data collected on clinical trial participants. The CTO ensures that patients participate properly in the informed consent process and that protocols are interpreted and followed correctly. Within the CTO, there are research scientists to explain complicated scientific and medical goals to patients, family members, staff and the community. The CTO works in conjunction with a Protocol Review Committee and Institutional Review Board (IRB) to assure that clinical research is conducted safely.

Every person in the CTO office is essential to the NVCi research team. Clinical research nurses (CRNs) and clinical research coordinators (CRCs) are responsible for patient assessments and patient safety, CRNs and CRCs also ensure that every clinical trial patient give informed consent and that all protocols are followed accurately. The data management team ensures that information gathered in a clinical trial is precisely and appropriately reported to the organization sponsoring the clinical trial. They also ensure that all appropriate regulatory organizations such as the Food and Drug Administration and the IRB stay appropriately informed. All CRCs, CRNs and data managers have direct access to each leading research scientist conducting a clinical trial at NVCi to maintain the highest of ethical research standards. For information about our clinical trials programs, please contact Nevada Cancer Institute at 702-822-5433 or visit www.nevadacancerinstitute.org.

NVCi Receives Joint Commission's Gold Seal of Approval for Health Care Quality and Safety

By demonstrating compliance with The Joint Commission's national standards for health care quality and safety, Nevada Cancer Institute (NVCi) has earned the Joint Commission's Gold Seal of Approval™—and received no findings during the accreditation process.

"We sought accreditation for our organization because we want to demonstrate our commitment to patients' safety and quality care," said Sandy Murdock, NVCi president and chief executive officer. "We view obtaining Joint Commission accreditation as another step toward achieving excellence."

The Joint Commission conducted three-day on-site evaluation of NVCi on July 16, 17 and 18. The accreditation award recognizes NVCi's dedication to complying with the Joint Commission's state-of-the-art standards on a continuous basis.

The visit included a thorough on-site review of the quality and safety of care being provided. NVCi is



committed to meeting rigorous national standards—continuously.

The surveyor was impressed not only with the care and concern shown by faculty and staff to every patient, but with the Institute's integrated and comprehensive electronic medical records system.

NVCi received no "Request For Improvements" during the survey—meaning NVCi received a perfect score in its quality and patient care measures during the survey—a rare accomplishment for any healthcare organization.

"Accreditation by The Joint

Commission sets Nevada Cancer Institute apart," said Michael Kulczycki, executive director, Ambulatory Care Accreditation Program, The Joint Commission. "Organizations awarded this Gold Seal of Approval™ dedicate themselves to continuous operational improvement."

NVCi is committed to the National Patient Safety Goals as set forth by The Joint Commission. The National Patient Safety Goals promote specific improvements in patient safety by providing healthcare organizations with proven solutions to persistent patient safety problems. These goals apply to the more than 15,000 Joint Commission-accredited and -certified healthcare organizations and programs.

"This is a significant milestone for not only Nevada Cancer Institute, but for our state and patients, who deserve the best oncology care available," Murdock said. "We are continually looking toward how to improve our patient healthcare quality and safety and exceed the standards set forth." ●

Nevada Cancer Institute Opens First-in-Human Clinical Trial

Nevada Cancer Institute (NVCi) made medical history recently by launching a first-in-man clinical trial that focuses on a previously unidentified protein found on many kidney cancer cells.

Sponsored by Medarex, the treatment introduces a non-fucosylated fully human antibody that binds to the CD70 protein, where it is expected to trigger recognition by the body's immune system and kill those cancer cells. The study is designed to help evaluate the appropriate dose of the antibody.

NVCi is one of three sites where the clinical trial is currently available. Other sites include Memorial Sloan-Kettering Cancer Center in New York and Portland Providence Medical Center in Oregon.

"This is a groundbreaking trial so the level of excitement is very high," Wolfram Samlowski, M.D., NVCi chief, Section of Melanoma, Renal Cancer and Immunotherapy said. "Although the trial is very preliminary, we feel that the protein targeted is very

important in the treatment of some types of cancers, including kidney cancer."

The clinical trial is just the latest example of how NVCi continues to advance the boundaries of medicine in Nevada through its research-based clinical care. In less than three years NVCi has opened 96 clinical trials, Phase I, I/II and III, of which nine have been first-in-human.

As of March 2008, 13.5% of NVCi cancer patients have enrolled in the clinical trials program. Nationally, only about three percent of adult cancer patients participate in clinical research studies (Coalition of Cancer Cooperative Groups, 2006).

"We've been very fortunate to attract some of the major new drugs that are being developed in the United States and the world," said Dr. Vogelzang. "By bringing new therapies like the Medarex trial to NVCi, we are allowing Nevadans to access the latest in cancer treatment in their hometown."

This is the ninth, first-in-human trial opened at NVCi. Drs. Vogelzang and Samlowski each have more than 25 and 30 years of experience, respectively, in renal cancer clinical research, along with other types of cancer.

Education is key to Nevada Cancer Institute's core value system. NVCI presents monthly tumor boards to advance discussion on the current state of various cancers. These lectures are approved for CME credit. Karen Milligan, M.D., will lead an ovarian cancer presentation in December. As Medical Director of Oncology Services at University Medical Center, Dr. Milligan mentors the next generation of physicians. Every NVCI faculty member is also on the faculty at the University of Nevada School of Medicine.



Through research, treatment and education initiatives Nevada Cancer Institute (NVCI) strives to reduce the burden of cancer for all Nevadans and our nation. NVCI offers educational services for students, physicians and the entire healthcare community. Most recently NVCI was granted provisional continuing medical education (CME) accreditation for two years by the Nevada State Medical Association.

CME accreditation allows physicians to maintain knowledge of new developments in all medical fields, and earning CME credits is a state requirement for physicians. In addition, most member boards of the American Board of Medical Specialties, such as the American Board of Internal Medicine, have CME requirements for physician recertification. NVCI's CME activities are open to physicians throughout the healthcare community.

The Accreditation Council for Continuing Medical Education describes CME accreditation as a declaration of integrity. Through this designation, NVCI establishes that the purpose of its program is to serve the public interest by improving healthcare and not to promote the products and services of commercial interests. There are stringent guidelines for CME funding to ensure that activities are free of bias from commercial interests.

"This is a significant milestone for the Institute and the collaborative effort to build continuing medical education programs in Nevada," said Phillip Dorsey, academic administrator and research finance officer. "We are honored and appreciative to our distinguished faculty and staff who have helped us reach this level."

Since March 2007, the Institute has been joint sponsoring CME activities with the University of Nevada School of Medicine in Reno. Acquiring individual accreditation allows NVCI to provide CME credits and offer many more activities. NVCI also has been approved as a provider for nursing continuing education credits. For additional information about our educational programs, please contact Nevada Cancer Institute at 702-822-5433 or visit www.nevadacancerinstitute.org.

Continued Medical Education

Tumor Board presentations

A multidisciplinary approach is an important part of the care of the cancer patient at Nevada Cancer Institute (NVCI). Monthly tumor boards are held for presentation of the current state of a particular cancer and are followed by a presentation of interesting and/or difficult cases. NVCI and community physicians have the opportunity to discuss various aspects of these cases including diagnosis with pathology and radiology presentations as well as treatment plans and can also discuss other recommendations for treatment. NVCI tumor boards also provide valuable medical education for all medical disciplines with the fundamental learning objective of understanding diagnosis, treatment, clinical trial options and outcomes for the specific malignancy discussed.

September 18, 2008 (12-1 p.m.) Melanoma presented by Head of the Section of Melanoma, Renal Cancer and Immunotherapy Wolfram Samlowski, M.D.

October 16, 2008 (12-1 p.m.) Lung Cancer Presented by Medical Oncologist Lin-Chi Chen M.D., Ph.D.

December 18, 2008 (12-1 p.m.) Ovary Cancer presented by Assistant Member, Breast Cancer Oncology Division, Karen Milligan, Assistant Professor of Medical Oncology; Director of the Lance Armstrong Foundation Clinical Survivorship Program, Medical Director of Oncology Services at University Medical Center

Grand Rounds Lecture Series

September 26, 2008 (12-1 p.m.) Radioembolization with Yttrium 90 Microspheres for Primary and Secondary Liver Malignancies. Presented by Riad Salem, M.D., M.B.A., Associate Professor of Radiology, Medical Oncology and Liver Transplantation, Director, Interventional Oncology, Northwestern University Feinberg School of Medicine, Chicago, Illinois

LEARNING OBJECTIVES: Following the lecture, participants should be able to:

1. Identify the role of Y90 in treatment of hepatocellular carcinoma
2. Identify the role of Y90 in treatment of liver metastases
3. Discuss adverse events, imaging following, future directions of Y90

CME Accreditation and Designation

NVCI is accredited by the Nevada State Medical Association to provide continuing medical education to physicians.

NVCI designates this educational activity for a maximum of 1.0 AMA PRA Category 1 Credit(s)[™]. Physicians should only claim credit commensurate with the extent of their participation in the activity.

The Nevada State Board of Nursing allows licensed nurses to apply CME Category 1 credit toward the renewal of their nursing license.

Unless otherwise noted, lectures and presentations are held at Nevada Cancer Institute, One Breakthrough Way, Las Vegas, Nevada 89135. For information, contact NVCI at 702-822-5433.

SAVE THE DATE: March 27-28, 2009

3rd Annual John R. Murren Memorial Symposium: Advances in Genitourinary Treatment

Yale School of Medicine and Nevada Cancer Institute (NVCI) are pleased to announce that the 3rd Annual John R. Murren Memorial Symposium will be held at the Red Rock Resort & Spa Las Vegas, Nev., March 27 and 28, 2009. John Murren, M.D., was the Director of the Medical Oncology Clinical Services at the Yale Cancer Center and among the founders of NVCI. In advancing his efforts, course directors, W. Kevin Kelly, M.D., Nicholas Vogelzang, M.D., and Giuseppe Pizzorno, Ph.D., Pharm.D., have gathered renowned national and international faculty who will provide evidence-based education to multidisciplinary clinicians involved in the screening, diagnosis and treatment of patients with genitourinary cancers.

SAVE THE DATE: April 29 to May 1, 2009

2nd Biannual Conference on Normal Tissue Radiation Effects (CONTRE)

CONTRE is a forum devoted strictly to different aspects of the normal tissue responses to ionizing radiation. The scientific program of this year's conference covers topics related to the biological effects and signaling events induced by low doses of radiation; strategies for protecting the population against the adverse effects of radiation in the setting of radiological or nuclear terrorism; as well as mechanistic and interventional work aimed at minimizing the short- and long-term side effects of radiation therapy in the exponentially growing cohort of cancer survivors.

This conference will address both low-dose and high-dose radiation effects and post-exposure survivorship issues.

LEARNING OBJECTIVES: Following the conference, participants should be able to:

1. Discuss the effects of low-dose and high-dose radiation on normal tissue
2. Identify lessons from previous exposure (e.g., Chernobyl) and better comprehend the tissue, cytological and molecular effects of such exposure
3. Identify possible methods to protect against the deleterious effects of radiation exposure (both planned and cataclysmic events)
4. Discuss the molecular effects of the therapeutic radiation
5. Identify strategies that can lower the pernicious effects of a life-saving technology

For information: www.nevadacancerinstitute.org

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