

PELICAN FELLOWS

In 2007, the Sir Peter and Lady Michael Foundation underwrote three Pelican Fellows conducting postdoctoral prostate cancer imaging research at three leading medical institutions.

University of California
San Francisco/Mission Bay

Dr. Daniel B. Vigneron

Professor, Department of Radiology

Dr. Albert Chen

Pelican Fellow

The continued support by the Sir Peter and Lady Michael Foundation over the past year has greatly benefited prostate cancer imaging research at UCSF. Under the direction of Professor Daniel Vigneron, Ph.D., the research focuses on developing improved methods for anatomic and metabolic imaging of prostate cancer. Such improved imaging is critical for guiding and evaluating emerging therapies, in the consensus view of participants of the Colloquium on Prostate Cancer, sponsored by the Pelican Cancer Foundation last year. This continues to be an under-funded area of research, but a very necessary one that offers great potential benefit to prostate cancer patients.

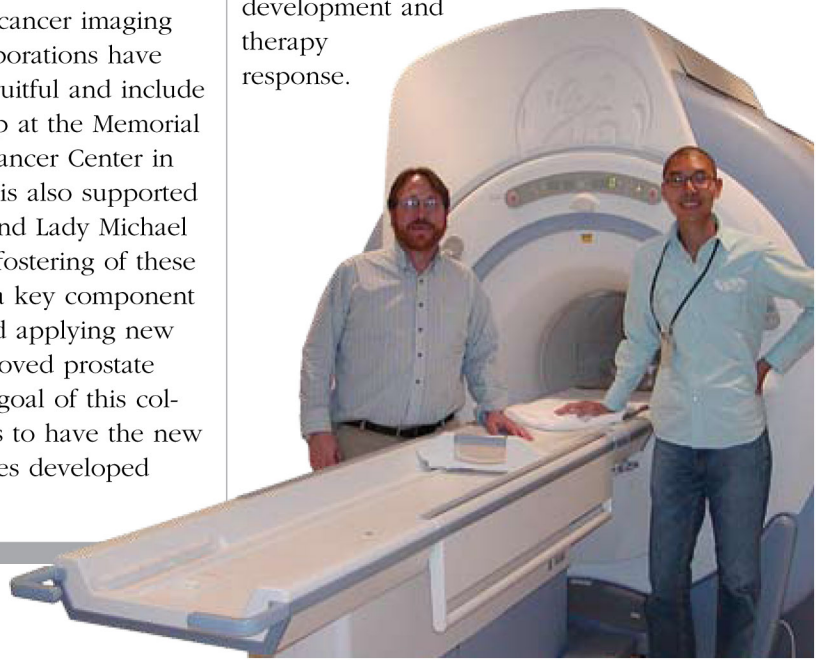
Over the past year, the funding from the Sir Peter and Lady Michael Foundation has supported the Pelican Fellow, Dr. Albert Chen's research developing new prostate cancer imaging methods for diagnosing as well as guiding and monitoring treatment. His work has resulted in new magnetic

resonance (MR) techniques which double the spatial resolution of MR anatomic and metabolic imaging and reduce the time as compared to currently commercially available techniques. Dr. Chen's work has resulted in a recent publication in the Journal of Magnetic Resonance Imaging titled "High Speed 3T MR Spectroscopic Imaging of Prostate with Flyback Echo Planar Encoding". He also presented his work titled "High Resolution MRSI and DTI of Prostate Cancer" at the May meeting of the International Society of Magnetic Resonance in Medicine in Berlin Germany. The new techniques he has developed allow more accurate determinations of the precise volume, shape and location of individual prostate cancers.

Based on this work, Dr. Vigneron's group recently received a grant from the National Institutes of Health, to translate these basic methods into widespread clinical tools available world-wide. Through academic and industry partnerships, these methods are now being refined and distributed to other prostate cancer imaging sites. These collaborations have been extremely fruitful and include Dr. Hricak's group at the Memorial Sloan-Kettering Cancer Center in New York which is also supported by the Sir Peter and Lady Michael Foundation. The fostering of these collaborations is a key component in developing and applying new methods for improved prostate cancer care. The goal of this collaborative work is to have the new imaging techniques developed

at UCSF over the past few years to soon be available at hundreds of sites around the world for improved prostate cancer delineation and characterization before and after therapy.

Also, Drs. Vigneron and Chen are working on an exciting new metabolic imaging technique with General Electric Healthcare that will take somewhat longer to develop but offers over 50,000-fold improvement for imaging cellular metabolism. This new method, called hyperpolarized carbon-13 imaging, was developed by GE scientists and through collaboration with UCSF; this method is being improved with the goal of starting the first prostate cancer patient studies next year. Initial studies in prostate cancer cell cultures and model systems have shown the ability to detect the abnormal metabolism of prostate cancer and differences with progression and response to therapy. This is an extraordinary new technique that has the potential to become an important new radiological tool for metabolic imaging by directly observing key cellular bioenergetic processes involved in cancer development and therapy response.



PELICAN FELLOWS

Memorial Sloan-Kettering
Cancer Center

Dr. Hedvig Hricak

*Chairman, Department
of Radiology*

Dr. Jan Grimm

Pelican Fellow



*Top:
Dr. Hedvig Hricak
Bottom:
Dr. Jan Grimm*

Dr. Jan Grimm is entering his second year as a Pelican fellow. His primary focus is molecular imaging of prostate cancer. Dr. Grimm received his medical degree from the University of Hamburg, Germany and his PhD from the University of Kiel, Germany. His postdoctoral training in Molecular Imaging was at Harvard Medical School, Massachusetts. After his postdoctoral training he was appointed as a

faculty member at Harvard Medical School. In 2006 he joined Memorial Sloan-Kettering Cancer Center to introduce molecular imaging with nanoparticles for MRI and optical imaging. In order to facilitate translational molecular imaging research he will have an additional focus on preclinical and clinical nuclear medicine.

Prostate-specific membrane antigen (PSMA) is highly expressed in

prostate cancer cells and neovasculature (the blood vessels that feed the tumor). The level of PSMA expression in prostate cancer correlates with the aggressiveness of the disease. Dr. Grimm's research is aimed at developing novel imaging agents to detect PSMA and study its biology.

Peptides were synthesized that bind to PSMA. In vitro studies showed that the binding of the peptides was greater on PSMA expressing cells and increased with increasing peptide concentration. To construct a probe suitable for both magnetic resonance and optical imaging, the peptides were bound to iron oxide particles carrying fluorescent molecules. Pilot in-vivo animal imaging studies showed binding of the constructed probe to PSMA-expressing tumor and not to control tumor. These results suggest that the probe could be used to detect and study the function of PSMA in prostate cancer in animals. Ultimately, it may be possible to transfer the new imaging probe to the clinical arena to detect and characterize prostate cancer in humans and to monitor novel therapeutic approaches, such as adoptive immunotherapy.

The Pelican Cancer Foundation

Dr. Mark Emberton

*Urological Surgeon and
Senior Lecturer, University
College Hospital London*

Dr. Hashim Uddin Ahmed

Pelican Fellow

I want to thank the Trustees of the Pelican Cancer Foundation for their support during my last two years in conducting the focal therapy research program in prostate cancer, under the supervision of Mark Emberton.

The research is world-class and we should all be excited by the fellowship supporting work that can produce tangible benefits for men with prostate cancer within 2-5 years. At present, far too many men are encouraged and advised to have radical surgery or radiotherapy which can be extremely detrimental to their quality of life. This work, by targeting only the tumour and not the whole gland will hopefully provide the quality of life after treatment that men want. Such truly translational work is rare to find and I am honoured to have been a part of it.

I have presented at numerous national and international conferences and published widely and have been at pains to emphasise the support offered by Pelican Cancer Foundation. This has raised the profile of PCF and will hopefully bear fruits in the near future. In addition, such conferences have allowed me to debate and engage an international audience of some of the greatest scientific minds in cancer of the urinary tract. The work involved conducting two phase II clinical trials looking at



*Left:
Dr. Hashim
Uddin Ahmed*

*Right;
Dr. Mark
Emberton*

destroying just the tumour in men with prostate cancer in order to reduce the side-effects of incontinence and impotence that we currently get from treatments which destroy the whole prostate. This research is trying to develop treatment of prostate cancer in a similar way to that of treatments for breast cancer which has gone from removing the whole breast (mastectomy) to removing only the tumour (lumpectomy) in the majority of women. We were particularly successful in the Hemiablation HIFU trial which is evaluating destroying just half the gland in men with disease on just that side. This trial was endorsed by the Cancer Research UK charity and obtained prestigious National Cancer Research Network approval – such stamps of approval are usually reserved for very large trials, so this was recognition of the important work we are conducting here.

I started the project with an interest in an academic career in medicine and certainly, that ambition has been strengthened both in terms of transferable research skills that I could take to any other department in the UK and abroad and more importantly, training my mind to think out of the box, to challenge preconceived ideas and develop ways of proving or disproving theories and dogma within clinical practice.

The work at the Pelican Prostate Research Centre at University College London will positively affect large numbers of men in the future. I thank the Trustees and the many supporters of Pelican Cancer Foundation and the Sir Peter and Lady Michael Foundation who have made this possible.

2007 Fundraising Events

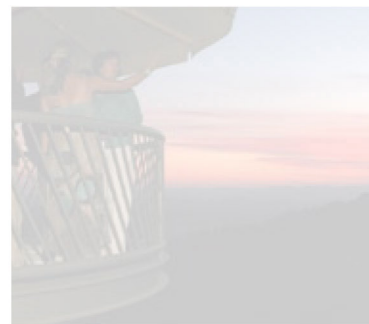
SONATAS IN RED

On June 2nd, in the gorgeous English Gardens of the Peter Michael Winery, supporters gathered for what would be a magical evening--a blending of fine wines with sumptuous food and the virtuoso artistry of Elizabeth Pitcairn. Sonatas in Red featured violinist Elizabeth Pitcairn performing in partnership with the legendary 1720 "Red" Mendelssohn Stradivarius, which is said to have inspired the 1999 Academy Award-winning film "The Red Violin." The Pinot Noir barrel room was transformed into a candle lit, old world, 'red' salon where guests enjoyed an exquisite dinner by Melissa Teaff Catering paired with signature wines from the Peter Michael collection. Sandy Sims, the evening's honoree, spoke from the heart about the life changing benefits resulting from the medical and

scientific research from the team at UCSF/Mission Bay. The "Grand Finale" was the Live Auction, conducted by Patrick Meade of Bonhams and Butterfields, consisting of rare wines, fabulous dinners and unique travel experiences. The highlight was a private performance by Pitcairn, which fetched the highest bid of the evening.

STARS 2007

On August 11th, Sir Peter and Lady Michael and Paul and Emily Michael greeted the arriving guests for Stars 2007 at the Lake in the Vineyards where they were served the first of several food and wine-paired sensations.



Guests were then whisked up to Côte Deux Mille, a mountaintop aerie at 2000 feet overlooking the Knights Valley and the Peter Michael Vineyards. There guests were treated to an exquisite meal prepared personally by Chef Thomas Keller, with each course created specifically for one of the Peter Michael wines. It was a captivating evening as guests enjoyed marvelous food, exceptional wine and intimate conversation under the stars accompanied by the lyrical sound of the Marin String Quartet. Guests attended from as far as the United Kingdom and from ten states throughout the United States.

