WILLIAM GUY FORBECK
RESEARCH FOUNDATION
wgfrf.org

Thirtieth Anniversary Edition // SPRING 2015

Cancer Throughout the Years

John Kemshead, PhD
Chairmen, Scientific Advisory Board

The Foundation has been in existence for 30 years and how have things changed during this time? On multiple occasions you read in the news about breakthroughs in treatment but have these really turned into a reality?

Thirty years ago cancer treatment focused upon the mainstays of surgery, radiation therapy and chemotherapy. In addition, diagnosis relied primarily upon CT scans, X-rays and the skills of both the pathologist and oncologist. Through the development of the Magnetic Resonance Imaging (MRI) scanner, Positron Emission Tomography (PET) scans, monoclonal antibodies and the Polymerase Chain Reaction (PCR) technique to enable a look at gene profiles, our ability to diagnose and sub-divide tumors into different groups has markedly improved. This has led to both faster and better diagnosis, which has led to faster treatments. This alone has improved survival rates as, for many cancers, early diagnosis and treatment lead to better outcomes.

However, no matter how good diagnostic tools, because if there is not an effective treatment available all comes to naught. Chemotherapy is the area where the biggest advances have occurred. Thirty years ago we used different combinations of drugs to treat cancers and the same is true today. Now, we have learned what drug combinations are best suited to different cancer types and how to use them in higher doses. This has led to significant changes in the survival of patients with some cancers while others remain particularly refractory to treatment.

Designer drugs have been developed to block pathways involved in the division of specific cancer types. With all of the basic research that is being undertaken to understand the differences between cancer cells and normal cells, we are on the verge of approaching cancer treatment as a “personalized medicine”.

Today it is possible to envision that individual tumors will be biopsied and analyzed by sophisticated molecular techniques to identify what drugs are best suited to treat the patient’s disease. This is a world away from the old style of treatment but it comes at a price. The world of designer therapies means a rethink in the ways drugs are developed and tested in the clinic. In addition, the costs involved in this approach to treatment are not insignificant.

Bruce Chabner, MD
Scientific Advisory Board, Emeritus

The time my colleagues have spent with the Foundation was transformative. Beginning in the late 1980's, we had the belief that the treatment of cancer would be completely changed and placed on a more rational footing by rapidly expanding knowledge of the genetics causing cancer. A particular meeting in the late 1980's which had the participation of many of the leading scientists and clinical researchers in the field was the key event. The idea was presented that the genetic changes underlying the various kinds of cancer would become the targets for new therapies, "targeted therapies". That has proven to be true, and the concept has led to the expansion of the field of "precision medicine" recently endorsed by the President in his State of Union speech. Many of the subsequent sessions of the Foundation dealt with aspects of this larger change. There is no doubt that this concept has radically altered and improved cancer treatment, and given us real hope that the disease can be effectively treated if we only understand its causes.

Edward Frick
Chairmen of the Board, 1989-2004

It has been a great privilege to be one of the founders of the William Guy Forbeck Research Foundation and then Chairman of the Board of Trustees for over 15 years. Our talented team focused on molding the Foundation from an idea into an effective, leading-edge, worldwide organization to fight cancer, particularly pediatric cancer. Our approach was simple: bring the most brilliant scientific minds together in a small group and encourage them to have a free-form discussion on a specific cancer issue. The results were amazing, Billy Forbeck would be very pleased. With the Foundation’s positive momentum and talent, the future looks extremely promising.

IN THIS ISSUE

We achieved Top-Rated Status!

These rating sites provide transparency and gauges for the quality of nonprofits.

FORUM 2014: INVASION AND METASTASIS

William Guy Forbeck Research Foundation XXXth Annual Forum
Hilton Head Island, South Carolina
November 6th–9th, 2014

CHAIRMEN

Ann Chambers, PhD
University of Western Ontario
London, Ontario, Canada

Zena Werb, PhD
University of California San Francisco
San Francisco, CA

Most cancer deaths are due to metastasis – the spread of cancer from its site of origin to distant, vital organs, and the physiological damage caused by tumor growth in those organs. While the broad outlines of the process of metastatic spread are known, much of the details of the process remain poorly understood. To continue to improve cancer survival rates, we must face and tackle the problems inherent to metastatic disease. Cancers that are detected early, before they are believed to have spread to other organs, are generally treated with more success than cancers that are metastatic at diagnosis. However, even cancers that are detected early will recur in some patients, but our ability to predict which individuals will have recurrences is limited. Thus, adjuvant therapy is often given to patients with early stage disease who are believed as a group to be risk for recurrence, leading to over-treatment of some patients to benefit a subset of them. Some recurrences can occur years or even decades after apparently successful primary treatment, and research on tumor dormancy is providing insights into these delayed recurrences. Progress has been made in the basic biology of tumor invasion and metastasis, and in understanding some of the complexities of interactions of tumor cells with host cells in their microenvironment. Great advances have been made for many cancers, in terms of molecular markers/subtypes that are associated with favorable vs. poor outcome, as well as prediction of response to a growing list of molecularly targeted agents. However, we also recognize that tumors are not static entities, but instead evolve and change over time, and information from a primary tumor specimen may poorly characterize individual metastases that occur years later. Bioinformatic analyses of tumors and their metastases, over time, are providing a wealth of data to be interpreted. New models are being developed to address problems in metastasis. The challenge is to learn how to harness this growing body of information to help patients with cancer. Can we prevent metastasis? Can we delay appearance of metastases following primary treatment, either through information inherent to the primary tumor, or through life style or anti-metastatic chemoprevention strategies? Can we learn how to better treat metastases once they have developed?

2014 Forbeck Forum Participants

SUMMARY

The Forbeck Forum offered a unique environment to discuss the latest issues in metastasis and new approaches that may advance our knowledge and give rise to new therapies in the clinic. The discussions were wide ranging and exciting. Importantly, several new collaborations arose immediately as a result of these interactions.

- We are beginning to define new mechanisms that contribute to tumor invasion and metastasis. We are recognizing that cancer is a heterogeneous and dynamic disease that can evolve in patients, and new therapies need to address this concept.
- Progress has been made in advancing our understanding of metastatic disease but much more is needed. We appreciate the willingness of patients to participate in clinical trials and tissue and clinical data banking as a partnership to further our understanding and lead to improved treatments.
- There is slow progress in developing new approaches to prevent, treat or delay metastatic disease. However, we are learning that cancer can affect the whole body, and that the body in some cases can limit metastatic spread. We need to learn better how this occurs, to be able to harness this ability.
- There is a need for comprehensive basic research to learn more about metastasis and there is a great need to identify strategies to improve response to targeted agents. The first of the new ideas are beginning to be translated to the clinic to benefit patients, but it is early days.

Collaboration & Communication
A Recent Publication

The full article, Invasion & Metastasis - Recent Advances and Future Challenges, resulted from the 2014 Forbeck Forum and was published in the Journal of Molecular Medicine.

The full article can also be found at www.wgfrf.org

"Despite major advances in understanding the molecular and genetic basis of cancer, disease progression to metastasis remains the cause of >90% of cancer-related mortality. Prevailing theories hypothesize that metastases are seeded by rare tumor cells with unique properties, which may function like stem cells in their ability to initiate and propagate new tumors in metastatic sites through self-renewal and differentiation."

Zena Werb, PhD, University of California San Francissco

"Novel immunotherapeutic approaches that better harness the anti-tumor activity of cellular therapy approaches are underway. However, results from both pre-clinical and clinical trials highlight the need for a combination of both immunological approaches with those that target the microenvironment to better treat the most aggressive forms of the neuroblastoma."

Julie Park, MD, Seattle Children's Hospital

"Improved early detection and adjuvant therapy have facilitated progress in diagnosis and therapy for patients with solid tumors; however, the prognosis of cancer patients is still limited by the occurrence of distant metastases."

Klaus Pantel, MD, PhD, University Medical Center Hamburg-Eppendorf

"The translation of metastasis experiments to the clinic remains problematic. Dr. Steeg discussed the fact that basically, standard phase I-III trials in the metastatic setting quantify the shrinkage of metastatic lesions, not the prevention of their occurrence. Two types of new trial designs were discussed."

Patricia Steeg, PhD, National Cancer Institute

"Understanding genes that are altered in metastasis or host genes that can regulate metastasis will hopefully pave the way for identifying potential new drug targets."

Louise van der Weyden , PhD, Wellcome Trust Sanger Institute

Subject: Invasion & Metastasis

Section I: Tumor Progression & Molecular Genetics of Metastatic Disease

Christine Iacobuzion-Donahue, MD, Ph.D.
Zena Werb, Ph.D.
Yibin Kang, Ph.D.
Daniel Haber, MD, Ph.D.

Section II: Issues & Progress in Pediatric Tumors

Rosandra Kaplan, MD
Julie Park, MD
Nada Jabado, MD, Ph.D.
Mario Shields, Ph.D.
Karla Williams, Ph.D.

Section III: Tumor Cell & Host/Microenvironmental Interactions

Sara Courtneidge, Ph.D.
Gregg Semenza, MD, Ph.D.
Erik Sahai, Ph.D.
Klaus Pantel, MD, Ph.D.

Section IV: Therapeutic Strategies to Combat Metastasis

Louise van der Weyden, Ph.D.
Ann Chambers, Ph.D.
Chad Pecot, MD
Patricia Steeg, Ph.D.

"I wanted to extend my deepest thanks to the organizing committee and all members of the Forbeck Foundation present at the meeting. Their incredible hospitality and generosity are something that made a lot of difference to me...beside the incredible exchange of scientific information we were privy to."

Nada Jabado, Ph.D
Professor of Pediatrics
McGill University
Montreal, Quebec, Canada

SCIENTIFIC ADVISORY BOARD

John T. Kemshead, PhD
Chairman, Scientific Advisory Board

When I decided to enroll for a PhD in the UK in the 1970's, I was warned by my supervisor that funding for research had never been worse in the UK. I should stick to medicine and forget about science. The reality is that the funding base has shrunk in many European countries and in the USA to a point where the 1970's now look positively advantageous for scientific research. King's College in London was a prestigious University with a great track record for research, but my last visit to lecture to medical students revealed that the biochemistry staff had lost all of their research funding and had essentially become a teaching facility.

The USA has always faired better with respect to the support for scientific research but even here the funding base is being sliced. It is clear that if you are both good and lucky you can succeed in science but the opportunities are reducing. You have to really want to pursue a career in academic science today as the structure gives people little security. How many people would want to have to raise all or part of their salaries throughout their careers to do something that can be of significant benefit to humanity? How does a career where there is so much uncertainty about the future match with supporting a family and dealing with everyday items such as mortgages and children.

The issue of funding for science and medicine has been made far worse with the recession but as we hopefully move back into a period of growth, will the situation improve?

The Forbeck Foundation has always focused on funding think-tank type meetings to enhance collaborations between scientists with different backgrounds. In the past, I have not been enthusiastic about diverting from this programming. Faced with the dire funding situation scientists are faced with today, it is time for change of heart.

The Foundation prides itself on trying to help in developing the careers of some of the best scientists, both in the USA and internationally. Through the recommendation of our Scientific Advisory Board, the Foundation has put a program into place to support this group of scientists during the early part of their careers. It will involve supporting scientific work between at least two laboratories. At least in its early years it will be available exclusively to those who have been Foundation Scholars and the program fits with the ethic of promoting collaboration between different centers and scientific groups.

One has to be realistic that the Foundation cannot cure the problem of the lack of funding for scientific research but it can play a small part in helping our scholars develop their careers and put them into a better position to compete for larger government grants and other types of funding as their careers mature.

Introducing the New Collaborative Research Grant!

Starting in 2015, the Forbeck Foundation will be issuing grants to current and past Forbeck Scholars who collaborate on research. Funding of research projects will be based upon collaborations between two laboratories/fellows/scholars/MDs/PhDs in their early years of scientific development. At least one of the collaborators must be either a past or current Forbeck Scholar. The funding will be for two years, with the option for one additional year subject to review by the Scientific Advisory Board.

Preference will be given to Scholars who are developing their own laboratories and need funding to enable them to establish themselves as independent investigators capable of receiving major funding from alternative sources.

Grant applications will be reviewed by the Foundation's Scientific Advisory Board as well as outside investigators.

Declaration of Interest deadline in February of each year.

Grant Application deadline in April of each year.

SCIENTIFIC ADVISORY BOARD MEMBERS

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University of Manchester, England
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Oregon Health Sciences Center
Portland, Oregon
Michael Jensen, MD
Seattle Children's Research Inst.
Seattle, Washington

Jan Karlseder, PhD
The Salk Institute
La Jolla, California
Anthony Letai, MD, PhD
Dana-Farber Cancer Institute
Boston, Massachusetts
Katherine K. Matthay
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Ed Harlow, PhD
Michael B. Kasten, MD, PhD
Philip A. Pizzo, MD

The Forbeck Foundation welcomes Anthony Letai, MD, PhD to the Scientific Advisory Board. As a former Forbeck Scholar, Tony Letai has remained involved with the Foundation, nominated Scholars, and collaborated on research with other Forbeck Scholars. We are happy to welcome him to the Scientific Advisory Board.

FORUM 2015: Cancer Immunotherapy

Catherine M. Bollard, MBChB, MD
Washington Children's Hospital

Daniel Powell, PhD
University of Pennsylvania

Some of the most exciting results in cancer medicine, in the last decade, have come about by treating relapsed patients with B cell lymphoma with their own T cells that have been modified to attack the tumor cells. T cells in the body form part of the cellular immune response and they normally carry out a very important role in killing cells that are infected with viruses. These cells can be modified in the laboratory using sophisticated molecular techniques to change their specificity so that they can attack tumor cells. Once the cells are expanded in the laboratory they can be reintroduced into the patient and they target the cells one wants to eliminate. This technology has been around in one form or another for over fifteen years, but it now looks as if researchers have arrived at a watershed where the therapy appears to work really efficiently for this disease. Unfortunately, there are no markers available today that avoids the T cells attacking the patients normal as well as malignant cells and this may be a significant problem in the future.

Many questions remain concerning this new form of personalized medicine. Will it work for other cancers, particularly solid tumors where access of the T cells to the malignant tissues is more difficult to achieve? Many tumors also produce factors that inhibit T cell function so how does one deal with this? Apart from these questions there are others regarding the residence time of the modified T cells in the body, whether they are immunogenic and can the therapy be repeated. Finally, there is a question as to whether this type of therapy can be converted into one that is available outside of an academic research setting.

The topic of immune therapy is one that fits perfectly with the rationale underlying the Forbeck Foundation think tank meetings. I cannot think of a topic that is better suited to bring together basic reseachers in molecular biology and immunology with clinical colleagues to try and solve some of the problems eluded to above. Input from industry will also be encouraged. If this is possible and the early clinical results prove to be substantiated then we may be on the brink of changing the treatment of specific cancers, using the bodies own cells to attack the tumor as compared to use of more toxic chemotherapeutic regimens.

FORUM 2016: Chromosomal Instability/Aneuploidy

Large-scale sequencing efforts have provided unprecedented insight into the genomic changes that occur during tumorigenesis. We now understand that structural and numerical chromosomal aberrations are an almost universal feature of cancer and that tumors are karyotypically heterogeneous, constantly evolving ecosystems. The challenges we are faced with now is to explain what drives this genetic plasticity and to find ways to exploit this hallmark of cancer for therapeutic intervention. The development of new single cell analysis tools and the development of ever more sophisticated cell and animal models of genome instability have opened up new ways to tackle these longstanding questions.

The Forbeck Foundation meeting will bring together the leading researchers studying cancer genomes and their evolution with scientists who seek to understand the mechanisms underlying genome instability. By bringing researchers together from these diverse fields we are hoping to develop hypotheses and approaches to describe in molecular detail how genome instability mechanisms shape the cancer genome and how the condition fuels tumor evolution.

The 2016 Forum on Chromosome Instability and Aneuploidy will be chaired by Dr. Angelika Amon of the Koch Institute for Integrative Cancer Research at MIT and Dr. David Pellman of the Dana Farber Cancer Institute at Harvard Medical School. The goal is to bring together leaders from cancer genome and chromosome instability fields to discuss the state of their respective fields and ways forward to translate this information to the clinic.

Angelika Amon, PhD
Koch Institute for Integrative Cancer Research at MIT

David Pellman, MD
Dana-Farber Cancer Institute at Harvard Medical School

FORBECK FOUNDATION SCHOLAR RETREAT

Lake Geneva, Wisconsin
September 11th–14th, 2014

Clark Chen MD, PhD
University of California
San Diego, CA

The meeting began with a talk by the keynote speaker, *David Cheresh, Ph.D.*, Vice Chairman of Pathology, University of California, San Diego that described his fascinating journey from studies of antibodies to the discovery that defined the role of integrin in angiogenesis, including a detour through a landmark Supreme Court case. In the early 1990's, David had made the seminal discovery that angiogenesis could be inhibited by blocking surface receptor on endothelial cells. He tested RGD peptides supplied by Merck for their anti-angiogenic effects in tumor models. Integra, a company that co-owned five patients (with the Burnham Institute) to variants of RGD peptides, sued Merck for infringement of patent rights. The suit was ultimately reviewed by the Supreme Court. The Court decided in favor of Merck/Cheresh and held that "the use of patented compunds in preclinical studies is protected... as long as there is a reasonable basis for believing that the experiment will produce 'the type of information that are relevant to an IND and NDA.'" Cheresh gave a mesmerizing first person account of the scientific and personal context of this important Supreme Court case that continues to shape investigational use of patented reagents in research. As a life lesson, he emphasized the need to doggedly pursue those studies that are of personal importance, irrespective of the obstacles.

The scientific session on Friday morning focused on Cancer Genomics. Dereck Chiang, Ph.D. (Novartis) discussed the challenges that he faces daily in terms of the clinical translation of the ever-expanding cancer genomic landscape and the need for thoughtful clinical trial design. *Sharon Diskin, Ph.D.* (Children's Hospital of Philadelphia) unveiled novel single nucleotide polymorphism that may underlie unique clinical features of neuroblastoma subtypes. *Chris Putnam, Ph.D.* (University of California, San Diego) provided an overview of how model organisms, such as the baker's yeast Saccharomyces cerevisiae, can be used to dissect complex genetic interactions on a *"systems" level. Bob S. Carter, M.D., Ph.D.*, an invited mentor and Chairman of Neurosurgery at the University of California, San Diego, shared an extraordinary career that spans the discovery of clinical importance of Ras in prostate cancer, the construction of chimeric T-cells as a tool for molecularly targeting oncogenes, and the discovery of exosomes as a clinical diagnostic and therapeutic platform. For career guidance, Carter emphasized the importance of collaborative endeavors and innovation through inter-disciplinary investigations.

The session on Friday afternoon focused on **Epigenetics**. *Grant Challen, Ph.D.* (Washington University School of Medicine) spoke on the importance of DNA methyltransferases and DNA methylation in hematopoietic stem cell fate decision. *Gary Chung Hun, Ph.D.* (University of California San Diego) described his work elucidating the molecular physiology associated with aberrant Epidermal Growth Factor Receptor (EGFR) signaling. *Chris Vakoc, Ph.D.* (Cold Spring Harbor Laboratory) discussed the role of the BET bromodomain protein BRD4, as a drug target in acute myeloid leukemia. *Anindya Dutta, M.D., Ph.D.*, an invited mentor and Chairman of Biochemistry and Molecular Genetics, University of Virginia, shared with the Scholars an intellectual odyssey through molecular mechanisms that govern DNA replication and the non-coding RNAs critical for regulating these mechanisms. Dutta's advice to young investigators is that "it is always worthwhile to take the 'high road' when you are placed in an unfortunate situation. The individuals that you lash out against today will inevitably become your Reviewers in the near future."

The Saturday morning session focused on **Tumor Metabolism.** *Julie-Aurore Losman, M.D.*, Ph.D. (Dana Farber Cancer Institute) showed work suggesting that the EGLN1 complex, a critical oxygen sensor for cellular metabolism, may harbor functions outside of its canonical role. *Kathryn Wellen, Ph.D.* (University of Pennsylvania) provided data suggesting that metabolic disturbances can translate into genomic instability and altered DNA damage repair. *Michael Cox, Ph.D.*, an invited mentor and a tenured Professor at the University of Wisconsin, described his pioneering work uncovering mutations that mediate evolution of extreme resistance to ionizing radiation and the pertinence of these mutations to therapeutic development for cancer patients. Importantly, many of these mutations modulate processes independent of DNA damage repair. For the Scholars, Cox emphasized the importance of cultivating and training the next generation of scientific investigators.

The final session of the meeting focused on **Resistance Mechanisms**. *Mari-Francis Arteaga, Ph.D.* (Universitatsklinikum Munster, Germany) described the importance of PHF8, a lysine demethylase, as a molecular sensor for mediating retinoic acid treatment response in acute promyelocytic leukemia (APL). *Cory Johannessen, Ph.D.* (Dana Farber Cancer Institute) reviewed his work demonstrating molecular pathways responsible for acquired therapeutic resistance to molecularly targeted agents. *Kristopher Sarosiek, Ph.D.* (Dana Farber Cancer Institute), discussed assessment of apoptotic potential in various organs to better understand developmental programming. I spoke in this last session describing miRNA degradation as a novel mechanism of acquired resistance to chemotherapy. The degradation of key miRNAs results in simultaneous de-repression of multiple DNA repair process. Moreover, such resistance can be circumvented by retroviral gene therapy.

The breadth and the depth of the scientific discussion at this retreat are both impressive and extraordinary. The unique presentation format provided a forum for consequential dissection of the central questions of the various fields, affording cross-fertilization of ideas and concepts as invitees build on and critique the ideas of each other. The small group size facilitated meaningful intellectual discourse, exchange of friendship, and guided mentorship. Excitement of discovery and advancing the frontier of knowledge was palpable with every exchange. Without a doubt, the ideas and talents cultivated by this Retreat will play key roles toward scientific advances that ultimately benefit humanity.

"Thank you to our mentors who provide impressive presentations and provide great wisdom to carry our Scholars throughout their careers." - The Forbeck Foundation

FOCUS ON THE FUTURE: SCHOLAR AWARDEES

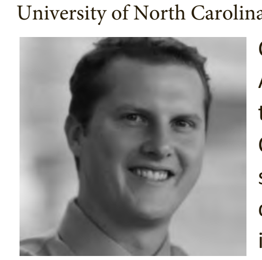
Rosandra Kaplan, MD

National Institute of Health

Dr. Kaplan received her MD from Dartmouth Medical School and completed her pediatric residency training at Harvard Children's Hospital Boston, and [illegible] Medical Center, where she was Chief Fellow. She did her postdoctoral research work in the laboratory of Dr. David Lyden. Dr. Kaplan was appointed Assistant Professor at Weill Cornell Medical College and Assistant Member at Memorial Sloan Kettering Cancer Center in 2006. In 2010 she joined the Pediatric Oncology Branch of NCI. She is a clinician and physician scientist with active translational and clinical research interests focused on the mechanism of cancer spread.

Chad Pecot, MD

University of North Carolina



Chad Pecot is an Assistant Professor at the University of North Carolina who specializes in lung cancer. His laboratory is located in the Lineberger Cancer Center and is focused on studying metastatic biology cancer. Because metastases are responsible for the death of nearly all lung cancer patients, the ability to inhibit this process is vital. Using nanoparticle-based platforms, he is interested in using RNA-interference approaches to develop novel therapies for this problem. As a prior cancer patient, his passion is to make high-impact discoveries in cancer biology and translate these to the clinic as rapidly as possible.

Sponsored by: Fran Zappitelli

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4 year pledge, $1,000/year

For more information please contact admin@wgfrf.org

Louise van der Weyden, PhD

Wellcome Trust Sanger Institute

Dr. Van Der Weyden is a Senior Staff Scientist at Wellcome Trust Sanger Institute (WTSI) in Cambridge, UK. She received her PhD in cancer biology from University of Sydney, Australia, before moving to the UK to work as a Post-Doctoral Fellow at WTSI. In Professor Allan Bradley's laboratory, her research is focused on generating and characterising mouse models of cancer. This was further built on in Dr. David Adam's laboratory where she used insertional mutagenesis (retroviruses and transposons) to identify genes that co-operate in tumorigenesis. Most recently, she has undertaken a research program that focuses on understanding the nature of metastasis, in particular melanoma metastasis.

Mario Shields, PhD

Cold Spring Harbor Laboratory

Dr. Shields is a postdoctoral fellow in the laboratory of Dr. Mikala Egeblad at Cold Spring Harbor Laboratory. He is employing a novel approach of live animal imaging to dynamically monitor interactions between cancer cells and components of the tumor microenvironment. More specifically, he is investigating how changes in the extracellular matrix molecules surrounding pancreatic cancer cells regulate growth, metastasis and resistance to therapy. He received his PhD in Life Sciences from Northwestern University.

Scholar Award

Forbeck Scholar Award recipients are invited to participate in the Foundation's Scholar Retreats for the subsequent four years. This gives them further opportunities to interact with their peers and meet with different groups of international cancer experts. Existing awardees have found these experiences invaluable in developing collaborations as well as opening up a variety of career opportunities. Joining this group also offers awardees the opportunity to apply for other programs sponsored by the Foundation that are only open to Forbeck Scholars. During this four-year period, the Foundation will pay all expenses to attend the meetings and an honorarium to individuals at the end of their tenure periods.

Important Scholar Dates

Scholar Award
Applications due April 15, 2016

Collaborative Research Grant
Appliations due April 15, 2016

Upcoming Retreats
October 1-4, 2015
October 8-11, 2016
October 12-15, 2017
October 11-14, 2018
October 10-13, 2019

Focus Meetings

Focus meetings give Scholar Awardees the opportunity to host their own think tank with a topic and participants of their choosing. These meetings are a vehicle to further the research and professional development of Forbeck Scholars. Scholars have used these meetings as a way to delve deeper into a topic they want to learn more about or to develop a paper. The Foundation will assist with logisitics, but otherwise it is the Scholar's meeting.

Applications for a Focus meeting can be submitted any time. Details can be found on the Foundation website, www.wgfrf.org.

Tracking Charlie

Cancer won't stop him from his 400 mile journey...

My name is Charlie Howden and I have had a dream of paddling the west coast of Costa Rica to raise money for a charity. Who knew that I would be doing it while battling Pancreatic Cancer.

I am from Eastbourne, East Sussex in the South East of England and have always been keen in all sports particularly those that involved the water. In 2010, I was introduced to paddle while working on yachts in South Florida. From the first time on the water I fell in love with the sport. I knew that someday I would plan an expedition style endurance paddle as it suited my determined nature and my love of exploring.

One day I put a route into the navigation system along the Pacific Coast of Costa Rica from its northern border to its Southern. It took about 20 minutes to decide this was going to be the route I would attempt. Then I decided that I wanted to do this to raise money for a charity. A friend suggested the William Guy Forbeck Research Foundation (WGFRF), a cancer research organization. It immediately made sense as I have lost friends to this terrible disease.

Things were falling into place and I was aiming for March of 2013. But then…. the results were positive. I was diagnosed with Stage IV pancreatic cancer at the beginning of August 2013. This was a strange coincidence after having just decided to raise money for cancer research.

In September 2013 I started my chemotherapy and my road to recovery. During this time, paddling kept me dreaming, pushing myself, and my mind positive. It has kept me strong, and my dream alive to raise money for cancer research. After a year of chemotherapy and a course of radiation my recent scans have come back negative. There is still a long road ahead but throughout this time I have learned I need to live my life. There is no point wasting time wondering what this disease could do to me.

By no means am I back to 100% of my normal self but this was meant to be a challenge. So I have decided to proceed with the paddle. It's time to finish planning and get started on the 450 mile challenge.

The support I have had from friends and family has given me hope that I can live my life and beat this disease. This paddle will raise money for cancer research. More importantly I want to give hope to all those battling cancer or to those who have friends or family battling this, that it is not an end, but a journey of something new.

Sincerely,

Charlie

Note: Charlie plans to make his journey in May 2015.

FROM THE CHAIRMAN'S DESK

A Note From the Past

The Forbeck Foundation has been a success because of the community support from South Carolina, Lake Geneva, the Chicago Board of Trade and the scientific community. The Chicago community, in large part, provided the seed money to get these efforts off the ground. Our highly reputable Scientific Advisory Board members give their personal and professional experience to make the Foundation a great success as well.

There are almost too many supporters to thank. The balance of professional and personal lives, along with combined financial committments, go into making this initiative work. Bill Terlato has received Emeritus Status for his service on the Board. Ed Frick served as Chairman of the Board for years. He was George Forbeck's college roommate. Terry Irmen, also a past Chairman, was a legacy member of the Board. His father, Sam Irmen, was a founding member of the Foundation, co-worker and dear friend of the Forbeck family and gave Billy's eulogy. The list of founders who gave the initial funding for these meetings were co-workers and family friends of the Forbecks. To this day, the Board, along with new members continues to be made up of friends of Billy Guy, children of founding board members, family and friends. I am very proud to be a part of these efforts and to be involved in the transistion of the Foundation.

We all began with the hope that we would live long enough to see the benefits of our efforts. The medical community has demonstrated that we have come a long way. My hope for the next generation is that they "see the cure" and can move the Foundation on to the next humanitarian medical need. Thirty years is proof that mankind can address and conquer what nature has created. Your support means the Foundation's efforts will always be able to move forward to the eventual cure, no matter what the medical challenges are.

Charles H. Jesser, CPA
President, Board of Directors

THE NEXT 30 YEARS

It is hard to believe that 30 years have passed since Billy died, that a neuroblastoma-based foundation has lasted 30 years, that so many of our trustees and supporters have been with us for 30 years, or that neuroblastoma is still one of the deadliest of childhood cancers. It is hard to imagine what the next 30 years will bring, but I do have an idea of some things that I expect to happen.

The Foundation will continue to grow and do more in the fight against cancer. Our mission is to shorten the time table of cancer research, and although progress has been made in 30 years, we have more to do!

We will create more programs to expedite and fund research. I expect to see the INRG database become a tool used around the world for researchers and physicians, just like the staging system created at the first Forum. I expect our amazing Scholars to do great things and come up with brilliant research, especially with the opportunity of the new Collaborative Research Grant. I hope the Neuroblastoma Consortium, which we helped create, builds strength in numbers as NB foundations around the world work together to fund international tools and make help available to everyone.

I hope that the Foundation won't be needed long before the end of the next 30 years.

Jamie Forbeck Collins
Foundation Secretary and Board Member

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PROOF OF CONCEPT

"The most beneficial parts of the Scholar Retreat were the networking opportunities and the ability to get really good feedback on my research."
Kristoher A. Sarosiek, PhD

The Forbeck Foundation strives to achieve collaborations between clinicians and researchers to advance cancer research. Forbeck Scholars Kristopher A. Sarosiek, PhD and Kris Cameron Wood, PhD recently published a paper in Science Magazine, December 2014 issue, titled *RAS signaling promotes resistance to JAK inhibitors by suppressing BAD-mediated apoptosis*. Sarosiek and Wood met as Forbeck Scholars.

The study examines the phenomenon of resistance to JAK2 inhibitors, a family of drugs used in the treatment of JAK2 mutation positive myeloproliferative neoplasms. They found that the activation of pathways downstream of the oncogene Ras can drive resistance to these drugs, that inhibition of these key RAS effector pathways can sensitize drug resistant cells, and patients with this disease frequently show evidence of oncogenic Ras activation. Finally, by studying the mechanism by which Ras effector signaling drives resistance, we identified a downstream protein, BCL-XL, whose pharmacological inhibition may be an effective therapeutic strategy in this disease.

It is hard to quantify the accomplishments of the Forbeck Foundation. Collaborations and papers like this frequently result from Forbeck meetings but we don't always hear about them. Thank you to Dr. Sarosiek and Dr. Wood for sharing this paper and for collaborating to expedite cancer research.

Kristipher A. Sarosiek, PhD
Dana-Farber Cancer Institute
Boston, MA

Kris Cameron Wood, PhD
Duke University
Durham, NC

IN APPRECIATION

From the beginning, Billy's family has been very greatful for all the people who have worked to make the activities of the Foundation a success. They are greatful to the Scientific Advisory Board and the Forum participants, the scientists and clinicians whose leadership and effort are the front line in the war against Cancer. Special appreciation goes to the Foundation Directors, the Scientific Advisory Board and volunteers whose thoughtfulness, time and energy have done so much for the success of the Foundation and the Forums. Most importantly, many thanks go to the hundreds of donors, individuals businesses and foundations, whose financial support assures the continued work in Cancer research.

Sincere Thanks,

The Forbeck Family

WGFRF.org
William Guy Forbeck Research Foundation

23 Peninsula Drive
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Save the Dates

WGFRF GOLF OUTING

GOLF OUTING
FRIDAY, JUNE 19th, 2015

11:00 am Shotgun Start
Lakewood Golf Club
Lake Geneva, Wisconsin
Register under About Us/Golf Outing at wgfrf.org

Blue Jean Ball

BLUE JEAN BALL
SATURDAY, OCTOBER 3rd, 2015

6:00–10:00 pm
Lake Geneva Country Club
Lake Geneva, Wisconsin
Purchase tickets under About Us/Blue Jean Ball at wgfrf.org