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Welcome to the second issue of the UNM PathFinder! With this newsletter, the UNM Department of Pathology wishes to better connect with our extended family of alumni, friends, and supporters.

The UNM Department of Pathology is on the cutting edge of education, and research, and clinical care. We’re integrating novel, evidence-based interactive methods into our medical student teaching activities. Our faculty are receiving awards for their teaching and research efforts. Through TriCore Reference Laboratories, we are becoming a leader in Population Health Management. Through our HTR-TASR laboratory, translational research is flourishing. Our researchers were awarded over $22 million in research funding in fiscal year 2015, keeping the UNM Pathology Department in the top ten pathology departments nationwide for NIH research grant support. Our graduate students benefit from the open, collaborative research environment in the UNM Department of Pathology and at the two national laboratories in New Mexico, Sandia National Laboratory and Los Alamos National Laboratory.

During this season of giving, please consider a making a tax deductible gift to one of the three funds in the UNM Department of Pathology that support education and research. Your gift today creates a legacy for tomorrow.

Please keep in touch by sharing your news with us.

Wishing you the best in the New Year!

Enhanced Medical Student Curriculum
By Drs. Von Samedi, Leslie Danielson, and David Czuchlewski

For the first time in more than a decade, incoming medical students at the University of New Mexico (UNM) were exposed to a renewed and enhanced curriculum in 2015. The UNM School of Medicine is committed to provide exceptional and integrated training for the next generation of New Mexican physicians and thus developed the enhanced curriculum. One new exciting aspect of this curriculum was the infusion of pathology as a thread throughout their first two years. This first half of their training was organized by organ system-specific block. However, for these eager and bright new physicians-in-training, the introductory block was the Foundation of Medical Sciences which focused on understanding the basic alterations associated with diseases at the molecular, cellular and histological levels. There were hands-on experiences as well for the students in laboratory setting such as seeing and touching tumors that have arisen from various tissues. The students’ enthusiasm was palpable and infectious.

The Hematology portion of the curriculum was expanded into a stand-alone course under the direction of members of the department’s Hematopathology division. A record number of enthusiastic pathology faculty members were in fact recruited to make this overall renewal process a reality. As with previous years, active learning remained an essential underpinning of education as it facilitates the expansion of student knowledge and retention. This curriculum, while aligning with national trends of medical education, will ensure that newly trained physicians will continue the rich tradition of UNM in producing doctors that provide the highest quality care for patients. Many first year medical students praised the curriculum in their evaluations. They mentioned strengths and weaknesses. Their suggestions will help us better present the material in the coming years. The pathology faculty members who participated should be very proud of their job well-done. And on that note, there is always room for additional expertise and participation in the coming blocks—come and join the fun!

By Dr. Angela Wandinger-Ness, Vice Chair for Research

In FY 2015, Pathology faculty received over $22 million in research funding—13.6% of the record high HSC funding. Achievements include successful renewal of several major Centers. Dr. Wilson renewed funding for the Spatio Temporal Modeling Systems Biology Center with subprojects and cores led by Drs. Lidke, Wandinger-Ness, and Bearer. Dr. Willman received $1.8 million in year 10 of an NCI P30 Cancer Center award and with Pathology faculty in key leadership roles (Drs. Lidke, Sklar, Wandinger-Ness, Wheeler, Wilson) secured a 3rd consecutive 5-year renewal for UNM’s Cancer Center and was accorded Comprehensive status effective September 2015. Dr. Wheeler received new funding for Human Papilloma Virus research through an NCI PROSPR award, and Glaxo Smith Kline clinical trial funding that with continuing grants totaled $5.25 million for the year. Dr. Larson closed out the 5th year of an NCATS Clinical Translational Science Award and with Dr. Sklar leading a Drug Rescue, Repurposing and Repositioning module secured a 5-year $23 million renewal. Junior Faculty members, Drs. Gillette, Neu mann and Cleyrat received new NIH and DOD research awards. The Pathology research program held a top 10 ranking in the Blue Ridge Institute for Medical Research for the 5th consecutive year.
A gift today creates a legacy for tomorrow.

Make a Gift: Impact Education and Research

Why donate to support education and research at the UNM Department of Pathology?

Pathologists partner with clinicians to provide personalized medical care for each patient. Pathologists impact virtually all clinical patient care. Pathologists interpret laboratory tests with high accuracy, make “life and death” diagnoses daily for patients and salaries fund. The Foucar endowment has funded research projects lead by pathology residents and fellows and funded their travel to present their research at national conferences.

- Contribute to the “George D. Montoya Research Scholarship Fund”. George Montoya was an exemplary UNM Pathology staff member who dedicated his life to biomedical research. The Montoya Family and the UNM Department of Pathology established this fund. The endowment funds annual scholarships to UNM undergraduate or graduate students to encourage biomedical research careers.

- Contribute to the “Dr. Thomas M. Williams & Margaret G. Williams Endowment for Education and Training” to support the greatest educational and training needs within the Department of Pathology. Dr. Tom Williams was a dedicated faculty member, former Chair of the UNM Pathology Department and former Executive Vice-Dean of the UNM School of Medicine. The Williams Family and the UNM Department of Pathology established this fund.

To make a contribution, please visit our website: http://pathology.unm.edu/make-a-gift/index.html and follow the individual fund links at the bottom of the page.

Your generosity will impact education and training today, for better healthcare tomorrow.
University of New Mexico Human Tissue Repository-Tissue Analysis Shared Resource

Authors: Thérèse Bocklage, MD, Medical Director, Dennis McCance, PhD, Scientific Director, and Kelly J Higgins, PhD, Senior Operations Manager and Project Consultant

OVERVIEW
Translational research has many definitions, but usually involves the facilitation of “bench-to-bedside” research activities where drugs, devices, or diagnostics are moved from the research lab into the patient care setting. Whether it involves the translation of basic research discoveries from animal model systems to human systems, or the performance of correlative laboratory studies in clinical trials, one critical element is access to human tissue and novel analytical platforms. The Human Tissue Repository-Tissue Analysis Shared Resource (HTR-TASR) in the Pathology Department is an important catalyst for such translational research at The University of New Mexico.

The HTR-TASR, established in 2003, is jointly funded and managed by the Department of Pathology and the UNM Comprehensive Cancer Center. The HTR-TASR primarily collects tissues from consented UNM Health Sciences Center patients who have surgeries performed at our hospitals. Subsequently, their high quality tissue samples are processed, stored, annotated and made available to UNM researchers with IRB approved protocols. High specimen integrity and strict donor confidentiality characterize the samples. Current holdings include more than 22,000 specimens encompassing a wide range of cancers, often with accompanying normal tissues. The UNM HTR-TASR recently successfully finished a five-year, multi-site study sponsored by the NCI that evaluated optimal methods for human specimen preservation. Results of this work will enable the NCI Office of Biorepositories and Biospecimen Research to further refine best practice recommendations. The UNM-HTR is proud to have participated in this nationally-led initiative.

HTR-TASR SERVICES
In addition to tissue collection, processing, and storage for research, the HTR-TASR provides a wealth of other services to UNM researchers. Innovative services recently introduced into the HTR-TASR include novel assay development for tissue analysis using the Ventana Discovery platform for immunohistochemical and fluorescent in situ hybridization assay development. Such assays are augmented by quantitative image analysis capabilities using state-of-the-art software created by a local Corrales company. Other new services include real-time PCR, next-generation sequencing, and other molecular pathology testing conducted by an experienced research scientist, Jin Wu, MD.

NEW VENTURES
The UNM Cancer Center has joined a consortium, called ORIEN, made up of leading Cancer Centers throughout USA. This consortium will share de-identified patient data and tissues in an effort to speed up and optimize research and clinical trials. The HTR-TASR will be the collecting site for tumor tissue at UNM and will be an important component of the consortium and its goal of accelerating bench to bedside medicine.

FACULTY AND STAFF OF THE HTR-TASR
Nine members operate the HTR-TASR: a senior operations manager (Kelly Higgins, PhD), a senior technical manager (Cathy Martinez, PA), a research associate professor (Jin Wu, MD), two research technicians (Josh Dorrance, BA and Chrys Djatche de Kamgaing, BS), an administrative assistant (Karen Capobianco, BA), and a systems manager (Fred Schultz, MA). Two co-directors, one scientific (Dennis McCance, PhD) and the other medical (Thérèse Bocklage, MD), round out the group.

SUMMARY
Now in its 13th year, the HTR-TASR continues to grow and undertake new challenges all the while committed to serving UNM medical researchers and through them, the diverse population of the Southwest.

http://pathology.unm.edu/htr-tasr/index.html
TriCore and the University Of New Mexico Department Of Pathology began a partnership more than 17 years ago and we have both evolved since that time. Most recently the UNM School of Medicine celebrated its 50th anniversary and, to quote Dean Roth, “(UNMSOM) is looking forward to what we hope to achieve in the next 50 years.” TriCore also celebrates past accomplishments and is looking forward to the future.

Innovation is happening today within the Pathology Department and TriCore. TriCore is building on its core competency as a clinical laboratory by adding three innovative business lines which will change the way healthcare is delivered. With access to 70% of New Mexico’s historical clinical laboratory data, TriCore is well-positioned to deliver valuable health information that significantly improves screening, diagnosis, and targeted treatment, resulting in better outcomes. The three business lines leveraging New Mexico data are TriCore’s Research Institute, Diagnostic Optimization Institute, and Laboratory Management Services. The combination of being a laboratory that produces clinically actionable data and providing analytics that can aggregate data at the patient or population level is new territory for pathologists and laboratories.

In February 2015 we opened TriCore Research Institute (TRI) which performs clinical device trials with the UNM Department of Pathology and others in the research community. TRI supports the research community by providing the most current diagnostic laboratory techniques and translational research to further clinical advancements. With both the agility and strength to steer clinical trials through to their prompt and successful completion, we offer personalized attention to facilitate a study, maximize resources and minimize costs.

Data is imperative to the Diagnostic Optimization Institute which was established to improve healthcare outcomes and lower healthcare costs. TriCore is building targeted intervention models based on New Mexico’s most prevalent disease states and can push data to providers and care managers in real time to potentially change health outcomes.

Last, but not least, TriCore is offering Laboratory Management Services to other health systems to improve processes and efficiencies. Through these new partnerships, we will share our expertise and quality management system (TriCore is accredited to the ISO15189 International Standard for Medical Laboratories by the CAP 15189SM program).

We’re excited to share this great news with our colleagues at the Department of Pathology.
“Open” describes M. Frank Erasmus, in personality and in professional pursuits. Frank is a dynamic, goal driven, and externally funded graduate student in the UNM SOM Biomedical Sciences Graduate Program. Frank exudes enthusiasm for the open, collaborative, intellectual environment in New Mexico, created by research scientists at the UNM School of Medicine’s Department of Pathology, the UNM Comprehensive Cancer Center, the UNM Center for Advanced Research Computing, The UNM Center for Molecular Discovery, Los Alamos National Laboratory and Sandia National Laboratory. Mr. Erasmus has visions of translational research, future cancer cures and the multifaceted resume to propel his career forward.

After attaining his BS degree in Molecular Biology from California Polytechnic State University in San Luis Obispo, California, Frank gained insightful industry experience at Medtronic Inc. in Minneapolis, MN and at Newport Scientific Inc. in Irvine, CA. He achieved an MS degree in the molecular biology and structural biochemistry program at San Diego State University. Frank was intrigued by the new antibody approaches to cancer treatment.

So why did Frank choose graduate training in the Department of Pathology at the University of New Mexico School of Medicine?

Frank was attracted to the integrated network of theoretical and biological scientists associated with the New Mexico Center for the Spatiotemporal Modeling of Cell Signaling (STMC), headed by Dr. Bridget Wilson. The STMC opened pathways for Frank to work with Dr. Bridget Wilson, a cell biologist in the UNM Department of Pathology, Dr. Stuart Winter, an oncologist in the UNM Department of Pediatrics, Dr. Diane Lidke, a biophysicist in the UNM Department of Pathology, and Dr. Gnanakaran, a computational chemist at Los Alamos National Laboratory (LANL). What an amazing team of mentors for Frank’s translational research project! Frank is able to work at least 3 days per week at UNM and 2 days per week at LANL. This intellectually rich team of mentors works openly and collaboratively, in a way that Frank had not seen before.

Frank Erasmus currently studies tonic signaling by the pre-BCR in acute lymphoblastic leukemia (ALL) to lead to new antibody therapies in this childhood and adult malignancy. Frank’s doctoral project revolves around characterizing the pre-BCR pathway, developing antibody treatments, and characterizing ligands presented to leukemia cells by the microenvironment of the bone marrow. The team of researchers have a provisional patent on ALL antibody treatment. They hope that antibody treatments will be less toxic than current therapies and have improved success in high risk ALL relapse cases. When Frank completes his doctoral degree, he plans to return to industry to develop antibodies and possibly other drugs for combination treatment in cancer patients. Moving antibodies and drugs more quickly into clinical trials is one of Frank Erasmus’ goals.

To support his doctoral pursuits, Frank successfully competed in 2014 for a Ruth L. Kirschstein National Research Service Award (NRSA) Individual Pre-doctoral Fellowship (Parent F31), which is a prestigious pre-doctoral award from the National Cancer Institute. An entrepreneur at heart, Frank also recently won a “90 second” pitch contest sponsored by the UNM Science & Technology Corporation (STC) and judged by a group of New Mexican entrepreneurs. Frank’s multidisciplinary background in molecular biology, biochemistry, analytical chemistry bioinformatics and computer programming have been essential to his success.

Frank Erasmus desires to stay in New Mexico, as M. Frank Erasmus PhD. Originally from Orange County, CA, Frank spent time as a youth in Albuquerque NM. Frank’s father is a neurosurgeon at Presbyterian Hospital in Albuquerque and Frank’s fiancé works in the art world of Santa Fe. His fiancé collaborates with the STMC to host the Art and Science symposium in Santa Fe each spring. Art meets science—what a great visual combination!

Frank sees the University of New Mexico’s School of Medicine as gaining prestige and as attractive for new professionals seeking an open, collaborative, and scientifically diverse environment.
Graduate Student and Post-Doctoral Fellow News

The faculty in the UNM Department of Pathology are excited to be mentors to an excellent cadre of graduate students and post-doctoral fellows. These insightful, dedicated trainees add depth to the research programs, stimulate productivity in each faculty’s laboratory and achieve their own awards.

GRADUATE STUDENT AWARDS

MR. EMANUEL SALAZAR CAVAZOS, a graduate student in Dr. Diane Lidke’s laboratory received a Scholarship from the Mexico Secretariat of Public Education.

MR. M. FRANK ERASMUS, a graduate student in Dr. Bridget Wilson’s laboratory, received an F31 pre-doctoral award from the National Cancer Institute in 2015.

MS. YUNA GUO, PhD, a graduate student in Dr. Angela Wandinger-Ness’ lab, received the UNM Department of Pathology’s George D. Montoya Research Scholarship in May 2015.

MS. DOMINIQUE PEREZ, a graduate student in Drs. Alexandre Chigaev and Dr. Larry Sklar’s laboratory, is supported by Oxnard Foundation award “Unbiased screening to identify novel therapeutics for pediatric ALL” (Prof. Larry A. Sklar Pl, November 2, 2013- May 11, 2016).

MS. CHELSEA SAITO-REIS, a graduate student in Dr. Jennifer Gillette’s laboratory, was appointed as a fellow on the Cardiovascular Physiology Program T-32 in June 2015. Ms. Saito-Reis also received a UNM Office of Graduate Studies Travel Award to present her research at the 8th International Meeting on Membrane Scaffolds held in June 2015. Finally, Saito-Reis’ work was selected for an oral and poster presentation at the 8th International Meeting on Membrane Scaffolds held in June 2015.

STEPHANIE JERMAN, PhD, formerly a graduate student in Dr. Angela Wandinger-Ness’ laboratory, completed her F31 funded project from the National Institute of Dental and Craniofacial Research (NIDCR) in February 2015, completed her doctoral defense, and moved to a post-doctoral fellowship at Yale University.

KIMBERLY KANIGEL, PhD, formerly a graduate student who was co-mentored in Dr. Bridget Wilson’s Laboratory, completed her doctoral defense and moved to a post-doctoral fellowship at the University of Colorado.

KRISTOPHER MARJON, PhD, post-doctoral fellow in Dr. Jennifer Gillette’s laboratory, accepted a fellowship at the Stanford University Institute of Stem Cell Biology and Regenerative Medicine in March 2015. He is working in the laboratory of Irving Weissman focused on leukemia stem cell development.

TESS SHIDELER, PhD, a post-doctoral fellow in Dr. Wandinger-Ness’ laboratory, was selected as a participant in the 9th annual International qBio Summer School and Conference in July 2015. In September 2015, Dr. Shideler was also appointed as an Academic Science Education and Research Training (ASERT) and Institutional Research and Academic Career Development Award (IRACDA) K12 fellow (a National Institute of General Medical Sciences, NIGMS, training award).

GRADUATE STUDENTS AND THEIR PRIMARY MENTORS

M. Frank Erasmus: Bridget Wilson
Matthew Graus: Aaron Neumann
Yuna Guo: Angela Wandinger-Ness
Ellen Hatch: Diane Lidke
Dominique Perez: Alex Chigaev
Chelsea Saito-Reis: Jennifer Gillette
Emanuel Salazar Cavazos: Diane Lidke
Samantha Schwartz: Diane Lidke
Rina Sylejmani: Aaron Neumann
Christina Termini: Jennifer Gillette

Congratulations to all of these trainees and their mentors!

NEW FACULTY

KAREN CLINE-PARHAMOVICH, DO, Assistant Chief Medical Investigator

ELIZABETH JOHNSON, MS, Lecturer II

AARON PRITCHARD, MD, Clinical Assistant Professor

VEENA SINGH, MD, MPH, Medical Investigator

AWARDS, RECOGNITION

LESLIE DANIELSON, PhD received the UNM School of Medicine Educational Leadership Award

JENNIFER GILLETTE, PhD received the UNM SOM Apple for Teacher Award 2015 for Biomedical Research Education Program and UNM HSC Excellence in Research Junior Faculty Award. Dr. Gillette was selected based on her work in publications, research funding, novelty and creativity, and contributions to her field. Dr. Gillette was recognized for her work in Leukemia and Stem Cell Therapies, and for her dedication to mentoring the next generation of Stem Cell Biologists.

BARBARA MASTEN, PHD received the UNM School of Medicine Curricular Leadership Award

MARA STEINKAMP, PHD was a member of the qbio summer school teaching faculty for Systems Biology and Modeling.

BRIDGET WILSON, PHD hosted the National Systems Biology Center Meeting in Albuquerque, NM July 9–10, 2015.

NEW BOOKS

DR. MOHAMMAD VASEF published “Diagnostic Pathology: Molecular Oncology.” Dr. Vasef worked closely with UNM Pathology Drs. David Czachlewski, Therese Bocklage, and Devon Chabot-Richards to recently publish this new textbook. The new book is a guide for practicing pathologists, pathology residents, and fellows to keep up with the rapidly evolving practice of pathology in the era of personalized medicine. Additional UNM contributing authors include Drs. J. Hanson, R. Bakkar, M. Barry, E. Fischer, N. Joste, L. Lomo, S. Reynolds, V. Sameds, K. SantaCruz, E. Loo, D. Cherukuri, A. Mahmoud, R. Gullapalli, Q. Zhang, C. Wilson, K. Foucar.

Faculty Appearances

Upcoming national and international talks by our faculty.

Dr. Rania Bakkar

Dr. Elaine Bearer
• January 28–29, 2016: Bank of America-Gianni Foundation Colloquium, Stanford University, Stanford, CA

Dr. Tione Buranda
• February 14–19, 2016: Invited speaker in “Inflammation and Infection” session, Gordon Conference, Ventura, CA
Faculty Appearances continued

Dr. Douglas Clark
- June 5–9, 2016: 28th Annual Advances in Cytology Course, Harvard Medical School, Boston, MA.

Dr. David Czuchlewski
- March, 2016: “Bone Marrow Manifestations of Systemic Disease.” Educational course with Dr. George, United States and Canadian Academy of Pathology Annual Meeting, Seattle, WA

Dr. Kathy Foucar
- January 28, 2016: “B and T Cell Chronic Lymphoproliferative Disorders,” “Acute myeloid leukemia” and Case presentations, Weill Cornell Department of Pathology’s Annual Neoplastic Hematopathology Course, New Orleans, LA
- February 7–12, 2016: Snowmass, Five lectures on Myeloid and Lymphoid Disorders, 37th Annual Seminar Pathology Review Symposium, Aspen, CO
- June 27–30, 2016: Faculty lecturer for a 4 day Scientific Symposium course on Hematopathology, Greensboro, GA

Dr. Tracy George
- March, 2016: “Bone Marrow Manifestations of Systemic Disease.” Educational course with Dr. Czuchlewski, United States and Canadian Academy of Pathology Annual Meeting, Seattle, WA
- April 2, 2016: “The Diagnosis, Classification and Clinical Care of MDS,” at the 6th Emirates Hematopathology Conference with the American Society of Clinical Pathology, Dubai, United Arab Emirates
- May 14, 2016: “From Bench to Bedside: Advances in Mastocytosis.” International Society of Laboratory Hematology Annual Meeting, Milano, Italy

Dr. Diane Lidke
- February 1, 2016: Invited seminar, Charles Easton Seminars Series, Department of Immunology, University of Toronto, “Imaging Mast Cell Activation: from Single Molecules to Synapses”, Toronto, Canada
- February 27, 2016: Invited talk at the 2016 Biophysical Society meeting “Imaging the early events in membrane receptor signaling”, Los Angeles, CA

Dr. Kurt Nolte
- January 21, 2016: Inaugural Dr. Robert Brisie Memorial Lecture at the University of Alabama-Birmingham. The talk is “Advanced Radiological Imaging and the Transformation of Forensic Pathology.” Birmingham, AL
- February 23, 2016: “Advanced Radiological Imaging and the Transformation of Forensic Pathology” at the Interdisciplinary Symposium on Technology Innovation and Adoption in Forensic Sciences at the American Academy of Forensic Sciences annual meeting in Las Vegas, NV

Dr. Larry Sklar
- February 10, 2016: Keynote speaker at FlowTex Cytometry Conference 2016 at the Onstead Auditorium at the Texas Medical Center in Houston, TX

Alumni News

In 2012, CARMEN FRIAS-KLETECKA, MD (Molecular Genetics Fellow 2010–11; Surgical Pathology Fellow 2011–12) was recruited by The Louisiana State University Health Sciences Center (LSU HSC) in New Orleans to be medical director of the molecular laboratory and establish critical molecular tests. The LSU HSC Molecular Laboratory recently moved into the new hospital built to replace Charity hospital, which was damaged by Hurricane Katrina in 2005. Dr. Frias-Kletecka and her husband were married in 2002 while they were both students at the University of New Mexico. They have two children; Stone, 12, and Xochitl, 7.

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Acknowledgements

The UNM Department of Pathology gratefully acknowledges Mr. William F. Collins for the design and layout and Mrs. Barbara B. Griffith for the content creation of the UNM PathFinder newsletter.

Please share your comments, suggestions, and questions with:

William F. Collins: wfcollins@salud.unm.edu
Barbara B. Griffith: bgriffit@salud.unm.edu

We look forward to your feedback.

For more information on our department, please visit our website:

http://pathology.unm.edu

Have Alumni News?

The Department of Pathology is keenly interested in you, your accomplishments and your life’s landmarks. Have children or grandchildren enriched your lives? Do you have personal achievements that you wish to share with your fellow alumni (e.g. running a marathon, writing a book, leading a community project, and more)? Have you received professional honors or attained professional goals (e.g. awards from national professional societies, seminal articles or book chapters published in your field, promotions or tenure, and more) that you wish to share? Please email your news, photos, and contact information to bgriffit@salud.unm.edu and wfcollins@salud.unm.edu. Your news will be included in a future UNM Pathology PathFinder newsletter. Thank you in advance, for contributing your news.