The Vulcan Letter

Voice of the MSTP at the Universtiy of Alabama at Birmingham

Summer 2010

DIRECTOR'S UPDATE

Robin Lorenz, MD, PhD

I want to begin by saying WELCOME to our new students and by giving a big THANKS to all of our current students for their efforts during the past year. Each of your unique talents and efforts are helping us achieve our goal of making the UAB MSTP one of the best programs in the country.

We have several significant changes that will go into effect in the next year. The first will be the switch to the new Graduate Biomedical Sciences Theme Programs. This switch will involve entirely new graduate coursework for the students in years 1& 2 as well as additional new advance courses that will be available to all students. Students who entered our MSTP in 2009 or 2010 will choose a "theme" for their PhD work, instead of a specific PhD program. These new themes are: Biochemistry & Structural Biology, Cancer Biology, Cell, Molecular & Developmental Biology, Genetics and Genomic Sciences, Immunology, Microbiology, Neuroscience, and Pathobiology and Molecular Medicine. In addition to several new focus areas, the switch to the new GBS themes will make graduate school requirements for qualifying exams and the basic amount of coursework similar across all the themes.

There are also some significant changes with regards to the UASOM curriculum. Although the MD students are now being required to take 8 weeks of Special Topics coursework, the MSTP students will still only be required to take the "Survival Skills for Physician Scientists" course that is taught in the summer between the MS1 and MS2 years. In addition, the UASOM has now gone to a requirement for 3 Acting Internships. MSTP students will only be required to take 2 AIs – a Medicine AI and another AI of their choice, for details see the MSTP Policy Manual.

I also wanted to give you an update on recruitment. As you know, we recently initiated a multifaceted approach to making the UAB MSTP name known throughout the United States. As part of this initiative, I would like you to continue to promote our program when you go back to your home institutions or travel to meetings. Please include a slide indicating that you are part of the UAB MSTP if appropriate. I thought you might like to see a few numbers from the most recent recruiting season to see how these new initiatives have worked.

2009-2010	Number of Applicants	M/F	States Represented	Average MCAT	Average GPA
All Applicants	234	161/73	40	32.86 (15-40)	3.63 (2.47-4)
Applicants Interviewed	41	28/13	19	34.8 (30-40)	3.81 (3.13-4)

These numbers can be compared to the 08-09 season, when we had 225 applicants, with an average MCAT of 29 and an average GPA of 3.58. Of the applicants invited for interview in 2008-2009, the average MCAT was 34.1 and the average GPA was 3.77. Our goal for next recruiting season is to continue to increase the number of applications to our program, to increase our national recognition, and to get the word out about how great it is to be part of our family.

Finally, I want to congratulate our students who received individual fellowships this year: John Hammond (F30 from NIMH) and Kayci Huff (F30 from NIDDK). We have several other fellowship applications currently under review, so I expect several new awards by this time next year. In addition, I want to congratulate my fantastic MSTP team (Paula, Mindy, and Lou) for the successes of our program over the past year. They all care deeply about the success of this program and about each student's welfare and I think they, along with our students, are a significant part of what makes the UAB MSTP one of the best atmospheres for developing physician scientists anywhere in the US. Please come and discuss with me any ideas or concerns that you might have about the UAB MSTP.

NEW MEMBERS OF UAB MSTP STEERING COMMITTEE

VICTOR J. THANNICKAL, M.D.

Dr. Thannickal is Professor of Medicine and Pathology at the University of Alabama at Birmingham, and Director of the Division of Pulmonary, Allergy and Critical Care Medicine at UAB. Dr. Thannickal received his B.A. from Southern California College and M.D. from Oral Roberts University School of Medicine. He completed his residency in Internal Medicine from the University of Oklahoma and a Fellowship in Pulmonary and Critical Care Medicine at Tufts-New England Medical Center. After completing his fellowship, Dr. Thannickal remained on the faculty at Tufts for six years before moving to the University of Michigan where he was promoted to Associate Professor of Medicine with tenure in 2005.

Dr. Thannickal joined the UAB faculty in 2009 to assume his current position. Dr. Thannickal's clinical interests are in interstitial (fibrotic) lung diseases and acute lung injury/adult respiratory distress syndrome. Studies in his research laboratory are focused on elucidation of the cellular and molecular mechanisms of lung repair and regeneration. This work has led to multiple patents, high-impact publications, and continuous funding from the NIH for over 15 years. Training of our next generation of outstanding physician-scientists and fostering an intellectually stimulating, supportive and collaborative environment is a priority in the Thannickal laboratory.

MARY-ANN BJORNSTI, PH.D.

Dr. Bjornsti is the chair of the department of pharmacology. She is also the program leader at UAB for cancer cell biology as well as the Associate Director for Translational Research at the UAB Comprehensive Cancer Center. Dr. Bjornsti received a Bachelors degree from New York State University College at Cortland and a Ph.D. in genetics from the University of Minnesota. She completed a Fogarty Postdoctoral Research Fellowship, sponsored by the National Institutes of Health, at the University of Basel in Switzerland. She also completed a postdoctoral fellowship at Harvard University in the department of biochemistry and molecular biology. Dr. Bjornsti is an internationally recognized researcher whose work focuses the enzyme DNA topoisomerase 1 and ways to disrupt its function using the anti-tumor agent camptothecin.

INCOMING STUDENTS

Asher Albertson

Alexander Bray

Alex graduated in 2010 with a B.S. in biological science from the home of the Fighting Irish, the University of Notre Dame. Despite the lamentable performance of the Irish football and basketball teams, Notre Dame was able to instill in Alex an interest in research. He is particularly interested in the fields of gene therapy and molecular genetics and how they may relate to cancer cell biology. He has previously worked on the development of a vaccine for leishmaniasis as well as the development of rapid diagnostic influenza and RSV tests. Outside of the lab, he enjoys playing intramural football and it is the speculation of this author that he brings more skill than the members of his alma mater's D1 football team. He is also an animal lover and enjoys volunteering at shelters.

Daniel DiToro

Daniel graduated in 2006 with a B.S. in molecular biology from the University of Texas at Austin. Despite the overwhelming prevalence of hipsters with ironic t-shirts and lamentable bands in his college town, Daniel gained an interest in research. He is particularly interested in pursuing projects in the field of immunology. Daniel has previously taken part in several research projects including, the study of T cell differentiation, a study in population divergence of S. Cervisia, and a study of annexin and integrin genes in plants. Outside of the lab, he enjoys swimming competitively and rock climbing. Daniel is also a black belt in karate and it is the opinion of this author that he could take on any member of the Notre Dame football team.

David Figge

David graduated in 2009 with a B.S. in biomedical science from the University of Milwaukee. Despite the never ending supply of Milwaukee's finest and the poor performance of the Brewers, David gained an interest in research. He is particularly interested in pursuing projects in the field of neuroscience and learning and memory. David has previously taken part in several research

projects including work on the subthalamic nucleus and a study of the working memory targets of the basolateral amygdala. Outside of lab David enjoys playing intramural sports and being a lifeguard. David also claims to enjoy independently studying physics, although it is the opinion of this author that David only says that to impress the female librarian population of Milwaukee.

Edison Leung

Edison graduated in 2009 with an M.S. in cellular and molecular biology from Johns Hopkins University. Despite the frustrating performance of the lacrosse team and the complete lack of a real sports team, Johns Hopkins University was able to instill in Edison an interest in research. Edison is particularly interested in pursuing research in the field of pathology, a choice which will undoubtedly please the director of the UAB MSTP. He has previously been involved with research examining neonatal hydrocephalus and research examining iron-phosphate regulation. Outside of lab, Edison enjoys playing table tennis and being the co-founder of a finance and investment college club. It is the opinion of this author that Edison should help this author with his taxes.

Jonathon Lockhart

Jonathon graduated in 2010 with a B.S. in biochemistry, a B.S. in cellular and molecular biology, and a B.S. in chemistry from the University of Tennessee in 2010. Despite the University's inability to keep a football coach or beat the University of Wyoming, UT was able to instill in Jonathon an interest in research. He is particularly interested in studying viral and microbial pathogenesis. Jonathon has previously taken part in research project studying variation in H. influenza using the adorable chinchilla as a model. He followed that up by studying intestinal flora in rodents. Outside of lab, Jonathon enjoys being a Big Brother Mentor and backpacking. It is the opinion of this author that this big hearted guy should consider being a Big Brother Mentor to this author.

Jeffrey Singer

Jeff graduated in 2010 with a B.S. in biology from Duke University. Despite the inherent evil of his alma mater's basketball team, Duke University was able to instill in Jeff an interest in research. Jeff is particularly interested in studying bacterial pathogenesis and mucosal immunology. Jeff has previously been involved in studies examining vaccine adjuvents, breast and ovarian cancer chemotherapeutics, and alpha2-macroglobulin as an antigen carrier for vaccination. Outside of lab Jeff enjoys brewing beer, watching horrendously bad movies, and growing playoff beards for finals. In honor of coming to UAB, Jeff has decided to name one of his beer creations MSTPilsner. It is the opinion of this author that this author should be entitled to extensive tasting.

Sara Stone

Sara graduated in 2009 with a B.S. in Nutrition from the Auburn Universtiy. Despite the unoriginality of her alma mater's mascot, Auburn University was able to instill in Sara an interest in research. Sara is particularly interested in studying neurodegenerative disease. She has previously worked studying Parkinson's disease as well as studying mycoplasma infections in (easily the most annoying of all pets) the common finch. Outside of the lab Sara has previously worked as a cake baker and decorator. It is the strong opinion of this author that Sara should team up with the brewer of the MSTPilsner to create a deadly, two-pronged attack of deliciousness.

Steven Witte

Steven graduated in 2010 with a B.S. in biomedical science and a B.S. in neuroscience from Central Michigan University. Despite the cold climate at Central Michigan, his alma mater was able to instill in him an interest in research. Steven is particularly interested in studying neuroimmunology. He has previously worked studying T cell differentiation, structural biology, and therapeutic stem cell biology. Outside of the lab Steven spends time as a chemistry tutor. Steven is also an EMT and it is the opinion of this author that Steven should be present at the unveiling of the MSTPilsner due the possibility of either extreme toxicity or deadly deliciousness overload.

CONGRATULATIONS GRADUATES 2010

The MSTP would like to congratulate its recent graduates: Christa Whelan Habela, Jonathan Lehman, and Katie Lynn White. Each year we ask our graduates to write a bit about where they're heading and why, while also giving them an opportunity for some words of advice.

Christa Whelan Habela

Christa had not considered child neurology before she started her clinical rotations. Although both her scientific and clinical interests centered on the brain for some time, she had limited herself to adults when considering a career. During her clinical rotations she was surprised to find how much she enjoyed working with children and how much neurology is integral to so much of pediatrics. During her child neurology acting internship, she found that the field deals with most of the difficult and fascinating questions facing adult neurologists in addition to those unique to children. What fascinated her was the way that pathology manifests differently at different developmental stages and, in turn, how outcomes are affected. Most of all, it felt right.

When she began to look for a residency program, she had certain criteria for training programs and institutional characteristics in mind. The interview process taught her that there are a lot of amazing programs, opportunities, and people in the field. When it came down to submitting a rank list, however, she found that it was the environment of the programs, the people and how they interacted, and the overall feeling that she got from the days spent with them that stuck with her. Similar to her decision to come to UAB, she chose to go to Johns Hopkins, because in addition to being everything she was looking for in a training program, it felt right.

It is hard to give general advice on how to get through the whole process as experiences are likely specialty dependent. Child neurology is comprised of two years of pediatrics and three of child neurology. The interview process and the programs' expectations were different between the two. While most of her interviews were spent talking about her research in Dr. Harald Sontheimer's lab during child neurology days, pediatrics interviews were more focused on clinical performance. In general, being an MD/PhD helps you, but you must work hard during your clinical rotations. The MSTP and UAB as a whole provide excellent training and have an equally good reputation so after all of your years of hard work don't forget to stop and think about what you are looking for in terms of clinical training and research opportunities. When you find the specialty that gets you excited to come into the hospital everyday, talk to residents and faculty and make sure that your expectations match what they have to say about their field.

Christa has loved every bit of her experience at UAB and would like to thank Dr. Lorenz, Paula, Mindy and all of her MSTP colleagues for making it such an exciting and supportive program..

Jon Lehman

Jon chose internal medicine and sub-specialization because he wants to know as much as possible about as little as possible. Actually, he chose internal medicine because he likes taking care of adults, having the option of doing inpatient or outpatient medicine, and looking at disease from the perspective of how it impacts multiple organ systems at once. He will be pursuing a fellowship in hematology/oncology as part of the ABIM (American Board of Internal Medicine) research pathway at Vanderbilt. Hem/onc is a field with high impact potential; there is a lot of room for translational research in cancer/bone marrow transplant therapy, and Jon loves dealing with that patient population. Initially he had a hard time deciding between internal medicine and dermatology.

Dermatology has a lot of attractive aspects for researchers: the lifestyle and scheduling are convenient, the patients are very appreciative, and human research studies and samples are readily available. How to choose? Well he chose based on his acting internship experiences with both fields. Although he enjoyed both AIs, but he found that he missed the inpatient and higher acuity environment in Dermatology and felt like a fish in water during his Internal Medicine AI. At the end of the day, your feelings during your AIs are the most important factor because they can be your only opportunity to really get a feel for the culture and gestalt of the specialty. Conversely, if you didn't enjoy your acting internship in your specialty of choice, then you need to talk to your advisor or mentors to find out if the experience you had is representative of your field of interest.

As far as matching and interviews go, there are a growing number of excellent research track internal medicine programs. Jon interviewed almost exclusively for research pathway programs. These are programs that combine residency with a guaranteed fellowship in a subspecialty and 3-4 years of postdoctoral research. This means that you can focus on programs with strong residency, subspecialty, and research faculty in your interest areas. If you are interested in the ABIM research track, then going to

an institution with a pedigreed research track program like the Harrison Society at Vanderbilt, or various Physician Scientist Training Programs are the way to go. Well run programs help manage the critical transition points from residency to fellowship, from fellowship to postdoc, and even will help you seek and attain transitional NIH funding for future faculty appointments. Other programs may say that they offer the ABIM research pathway, but then do not have staffing for the program and you have to be more self directed and blaze your own trail. This isn't necessarily a bad thing, and many schools offer more comprehensive but informal support for the research track. Ask them when you interview. Many PSTP programs require additional application materials and often have specific interview dates and additional interviews. This is because you will be interviewing for fellowship positions at the same time as for the medical school itself. The whole process is very similar to applying for an MD/PhD program versus medical school.

Jon found the whole match and interview process went very smoothly. Some interviewers/programs love that you are an MD/PhD, some don't care, and some don't like MD/PhDs. You should come prepared to interview with all three types. Your training, both clinical and otherwise, at UAB will stand you in good stead and you will do well. Just remember to pay attention to the intangibles and get a sense of the "culture" of a residency program as you make your choices. His decision matrix was very similar to the why he chose an MSTP: good clinical training, a strong cancer center, and a supportive institutional and administrative culture.

Speaking of a supportive institutional and administrative culture, Jon wanted to take this opportunity to thank the UAB MSTP, the program's directors, and coordinators who have tolerated me over the years. Dr. Jon Lehman looks back at his time at UAB as some of the best years of his life.

Katie Lynn Davis

Katie will also be joining Vanderbilt, starting her Internal Medicine residency in July. She ultimately was torn between three very good programs, and chose what felt best for her long term goals. Katie found Vanderbilt to have a strong commitment to research and the strengths of the faculty in her area of research. She will be moving up to Nashville with her new husband Billy White. Dr. Katie White is looking forward to joining Jon and the older UAB MSTP alumni James Davenport and Kayvon Modjarrad in the Harrison Society.

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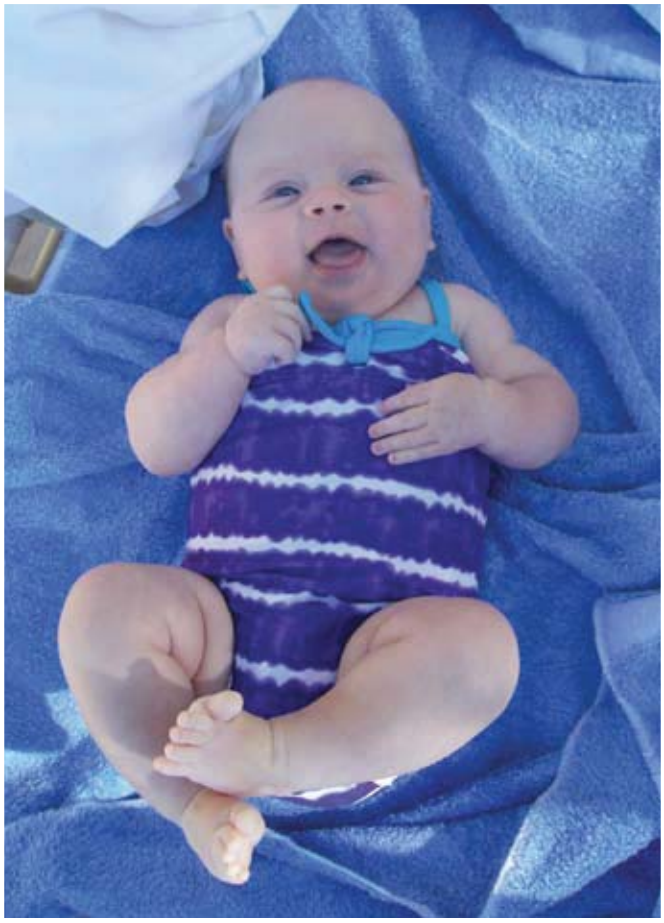
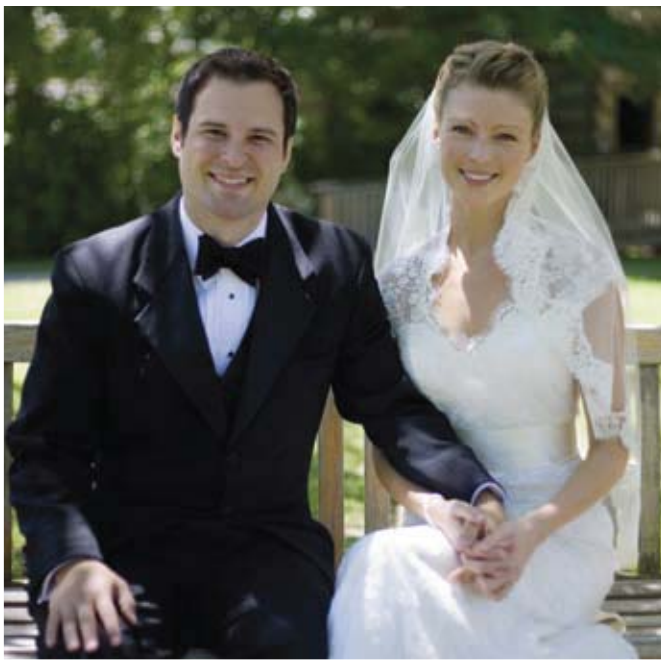
AWARDS AND ANNOUNCEMENTS



Brian Warmus *fathered a child named Audrey*

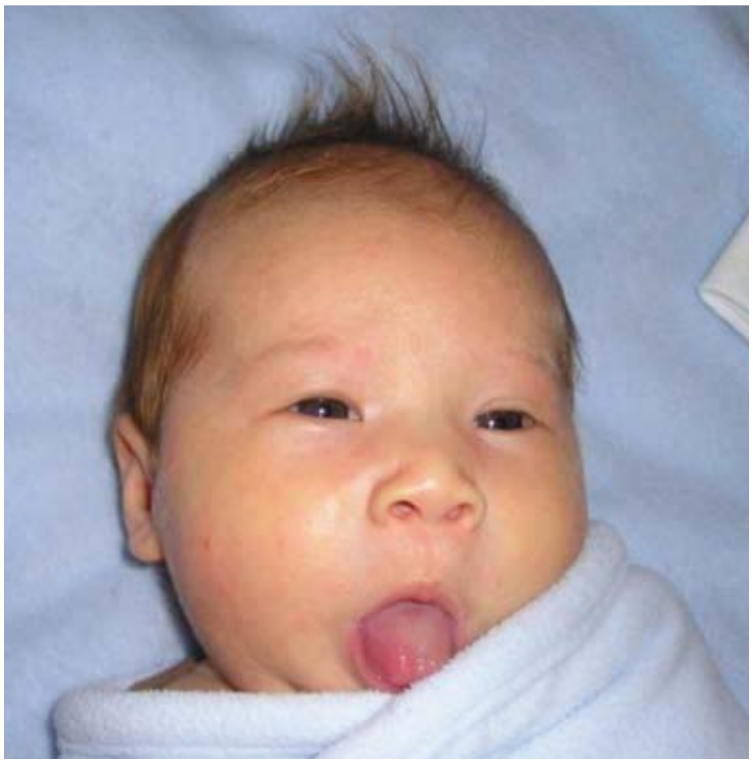


Katie Davis *married* ***Billy White*** *and has begun her transition to Vanderbilt for her residency.*

Stacy Watkins *won the James E. Beall II Memorial Award for Best Oral Presentation in Neuroscience at the National Student Research Forum in Galveston, Texas for her talk entitled: "Biophysical and biomechanical aspects of glioma invasion." Stacy was also asked to present an oral presentation at the 2009 UASOM Medical Student Research Day.*

Kayci Huff *received an F30 award from the NIDDK.*

Michael Alberti, Simi Akinsiku, Stephen Jordan, *and* ***Chris Yuskaitis*** *were all asked to present an oral presentation at the UASOM Medical Student Research Day.*



Mark Stoddard *fathered a child named Liam*

Asher Albertson *did not father any children during the past year. He won an award for the best oral presentation by a graduate student at the department of neurobiology annual retreat as well as an award for his poster at the UASOM Medical Student Research Day.*

Lisa Nowoslawski Akhtar, James Gladden, Travis Lewis, Brian Warmus, *and* ***Sherry Yang*** *all won awards for their outstanding posters at the UASOM Medical Student Research Day.*

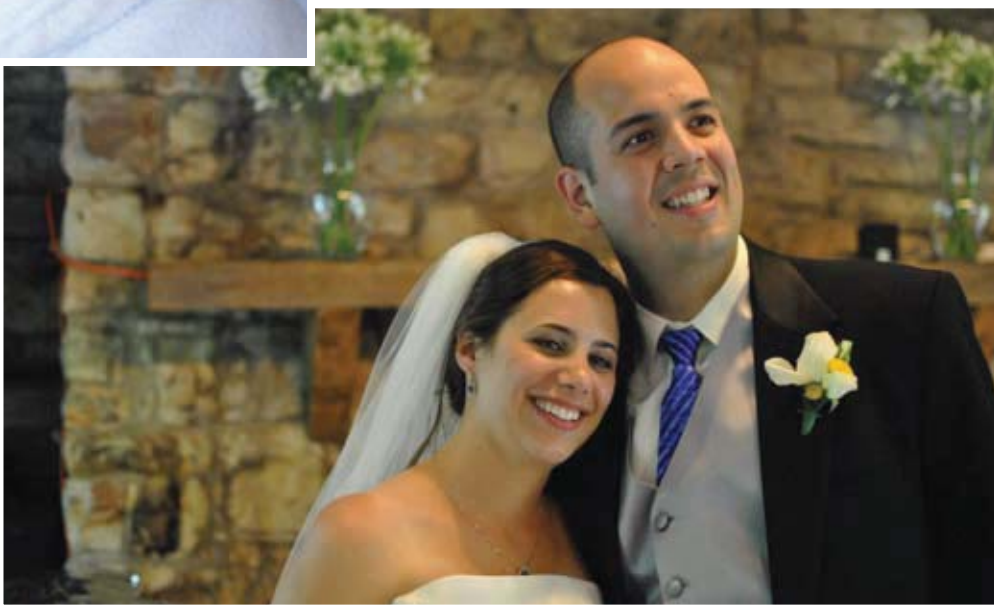
Travis Lewis *and* ***George Atkinson*** *rode in the "Tour de Cure" Metric Century (100km) Bike Race.*

George Atkinson, Lisa Nowoslawski Akhtar, Stephen Jordan, Chris Yuskaitis, Louise Pyle, Yawar Qadri, Lauren Van Duyn Graham, John Wang, *and* ***Jason Paik*** *all successfully defended their PhD dissertations yet they are merely half of the doctors they will someday be.*

Yawar Qadri *was selected as the 'Outstanding Doctoral Graduate Student' in the Cellular and Molecular Physiology program.*

John Hammond *received an F30 award from the NIMH.*

Louise Pyle *was a speaker at the North American Cystic Fibrosis Meeting in Minneapolis Minnesota.*



Juan Calix *married a delightful woman,* ***Marla Hertz****, from whom he hopes to draw forth many offspring. Juan also won the David E. Wells Memorial Scholarship for his outstanding qualifying exam.*

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