

**Wood Hudson
Cancer
Research
Laboratory**

Report

Summer 2021



Summer 2021 Undergraduate Research Education Program

Wood Hudson's virtual summer Undergraduate Research Education Program (UREP) is in full swing. Eighteen students, four scientists (Dr. Larry Douglass, Dr. Ron Snyder, Professor Diane Gilb, and Dr. Julia Carter), and numerous guest speakers are busy and working through the 14 week program, which began May 10th and will last until August 11th. UREP was featured in a recent article in *Northern Kentucky Tribune* (<https://www.nkytribune.com/2021/06/local-cancer-research-laboratory-survives-pandemic-by-going-virtual-digital-microscopes-zoom-worked/>)

Students are spending their Mondays, Tuesdays, and Wednesdays together (online) studying cancer biology, presenting chapters from the textbook *Principles of Cancer Biology*, and listening to guest speakers who are selected from the Wood Hudson Board of Trustees and other collaborators. They are viewing virtual demonstrations of research techniques and presenting journal articles for discussion. For their final projects, each student will design an experiment that addresses a Provocative Question from the National Institutes of Health, National Cancer Institute. They will present written and oral reports on their projects. This challenging program gives students the opportunity to learn and to think critically, and it prepares them to go far in careers in healthcare and scientific research (see page 2).

Wood Hudson has provided the Undergraduate Research Education Program (UREP) since 1982, and has trained nearly 350 students in cancer research. UREP serves men (46%) and women (54%). 42% of UREP students have gone on to become scientists or educators. 51% of UREP students have chosen medicine or healthcare. The research experience helps in their studies, as well as when they apply to medical school, graduate school, or other advanced programs. Wood Hudson Cancer Research Lab is providing hands-on research experience for tomorrow's scientists and physicians through its Undergraduate Research Education Program.

UREP students are paid for their time, and each student earns approximately \$2,800 during the summer program. We couldn't provide this program without donors like you. UREP is also funded through grants from PNC Charitable Trusts, the R.C. Durr Foundation, and the Chemed Foundation. We thank these foundations for their support.

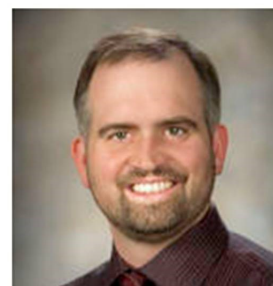


Summer students 2021 pictured above: From Gatton Academy/WKU, Krupa Hegde, Sarisha Lohano; from University of Kentucky, Norman Chan; from Mt. St. Joseph University, Kimberly Holland, Michael Sundahl; and from Xavier University, Natasha Abro, Heidi Arth, Sarah Been, Laura Bennett, Jon Bernard, Ian Dissett, Olivia Jenkins, Andrew Lim, Jacob Lyons, Natalie Lyons, Hannah Russell, Julian Wiggins, and Zach Wilson

Spring students 2021 not pictured (see page 7): From Thomas More University, Brianna Hoegermeyer, Anna Oliverio, and Angel Rapp

Past UREP Students Discuss Impact of UREP on their Careers

Michael Markey, Ph.D.
Research Associate Professor
Director Center for Genomics Research, Department of Biochemistry and Molecular Biology
Wright State University



When I first came to Wood Hudson Cancer Research in 1999, I was an undergraduate student studying molecular biology. The field was new, and I was the only person at my college to major in it. I was excited to find Wood Hudson and their Undergraduate Research Education Program. We worked with human cancer cell lines. I was exposed to sterile technique, record keeping, tissue culture, and learned my way around a pipettor. I found that much of what we know about human molecular biology comes from the study of cancer. My experience with the UREP was a great first step to a career in the field of cancer research. Now at Wright State University, I direct the Center for Genomics Research. I carry out my own independent research program in a similar vein to my work at Wood Hudson, and as core director I facilitate the research of numerous investigators and their students at Wright State and collaborating institutions. I am grateful to Wood Hudson for sparking a lifelong passion for cancer research.



Jordan Jones, M.D.
3rd year Dermatology Resident
University of Louisville School of Medicine, Division of Dermatology
Louisville, KY

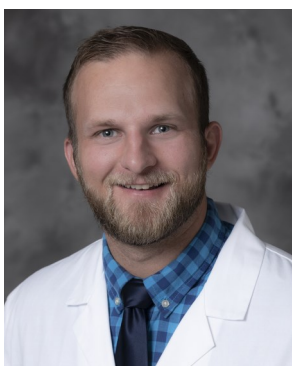
I graduated from medical school at the University of Louisville in 2019 and am currently halfway through a residency in Dermatology. In addition to working in clinics seeing patients, I spend my time training in surgical techniques, learning dermatopathology of cutaneous diseases, and staying up to date with new and emerging evidence in journal publications. My time at Wood Hudson has been a talking point in every interview I have had from medical school through residency, and many of the laboratory techniques I learned while working under Dr. Carter have become the foundational knowledge for my ongoing studies and future practice. The UREP program was my first “science” job, and has certainly had a prominent role

in getting to where I am today.

Allison Bartlett, M.D.
Pediatric Hematologist/Oncologist
Division of Bone Marrow Transplant
Cincinnati Children’s Hospital



Together with a wonderful team, I care for critically ill children with cancer and blood disorders, and their families. We walk along the journey together, from the time of diagnosis through sometimes challenging treatment. In addition to my clinical work, I am also passionate about the significant role of research in furthering the field. When I walked through the doors at Wood Hudson Cancer Research Laboratory, I had just graduated college with dreams of becoming a doctor. Beyond the personalized instruction and basic benchwork techniques I was taught, I came to appreciate the value of pursuing research with a collaborative team, troubleshooting together when we encountered a challenge, celebrating together when we learned something new. I left Wood Hudson with an unwavering sense of purpose, passion and desire to continue to contribute through research. I spoke about it in my medical school interviews and continue to speak about it today to the medical students I teach.



Grant Lewis, D.O.
General Surgery Resident, PGY 3
McLaren Greater Lansing Hospital
Lansing, MI

I started at Wood Hudson during my senior year at Thomas More College. I needed undergraduate research to complete my concentration in Molecular and Cellular Biology. It didn't take long for me to be an active participant in many of the projects occurring at the time; including projects on ovarian, gastric, and breast cancers as well as melanoma. Throughout the year and during the summer UREP program, I learned even more about the biology and genetics of cancer. Being able to work with the in-facility tissue bank to complete pseudo-clinical trials was fascinating to me. I knew I wanted to be in medicine as a career, and my time at Wood Hudson confirmed that for me. Seeing the passion of Dr. Carter and Dr.

Douglass inspired me to want to achieve my professional goals. Wood Hudson prepared me well for medical school, not only with the knowledge base in oncology but also having a great example of a strong work ethic like Dr. Carter's to emulate. Wood Hudson not only produces strong peer-reviewed research, 4 published articles in my 2 years there, but produces future leaders in the field of biology and medicine. I would recommend Wood Hudson to anyone and am thankful for my time spent there.

Wood Hudson 20th Annual

Car Show



**Saturday,
August 14,
2021**

Rain or Shine!



Join us at Hofbrauhaus—Newport

**** 200 Third Street, Newport, KY**

Registration from 9-11:30 AM

(\$20 Entry Fee)

Awards 3 PM

OPEN TO ALL MAKES
of cars and trucks!

Class I: Pre-1981

Class II: 1981-2004

Class III: 2005-2019

Super Door Prizes!
Music by DJ Ray!

All proceeds benefit



**Wood Hudson
Cancer
Research
Laboratory**

Hosted by:



Contact Jack Buecker 513-708-1521 for details

In Memoriam (11/23/20 to 7/15/21)

Memorial and special occasion gifts are used solely to fund supplies for cancer research aimed at prevention, early detection, and treatment. Such research will one day reduce the human suffering associated with cancer.

William "Bill" Able <i>Bev Holiday</i>	<i>Fred Dittrich</i> Sharon Drewry <i>Bev Holiday</i>	Willis & Margurite Hoop <i>Dennis & Judy Bradford</i>	<i>The Vogelpohl & Stoll Family</i>	Dr. Ronald & Mary Lou Summers <i>Robert & Charlene Summers</i>
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JoAnn Dittrich	Bev Holt <i>Bev Holiday</i>	Lou Pleiman <i>James Vogelpohl</i>		

Did you know...?

Memorial and special occasion contributions are used to purchase cancer research supplies.

Thank you for helping to make cancer research at Wood Hudson possible through your generous contributions!

Wood Hudson wishes to thank the following individuals and organizations for their generous contributions to the Lab's research and education programs
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Special Occasion Gifts 11/23/20 to 7/15/21

Anniversary

Laura & Percy Carter
 25th
 Patricia Wilcox
 Dr. Julia H. Carter

Virginia & Roy Smith
 Becky & Greg Jones

Birthday

Rose-Mary Ashworth
 Dr. Julia H. Carter

Jamie Bezold

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Dr. Ron Snyder

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Dr. Julia H. Carter

William VonStrohe

Gary & Georgia Kinman

Bonnie Wagenlander

Charlene Rasche

Cancer Survivors

Will Campbell

Bev Holiday

Monica Ebert

Bev Holiday

Leukemia Remission 15

Year

Katie Keeler Wilson

Dale & Martha Renner

Christmas

Dr. Julia Carter
 Charlene Rasche

Laura & Percy Carter

Patricia Wilcox

**Dr. & Mrs. Cirilo Ga-
lang**

Neal Bensley
 Dr. Julia H. Carter

Gary & Georgia Kinman

Easter

Gary & Georgia Kinman

**Recognition of Dr. Julia
Carter**

Rev. Fred & Ruth Allen

Thanksgiving

Gary & Georgia Kinman

Thinking of You

Dr. Julia Carter
 Charlene Rasche

The Gentleman of Swing

Harold Dimond

Mark Modlin

Becky & Greg Jones

Brian Riesenber, Ph.D.

Karen Barth

In Honor

Jonathan Bender
 Nancy & David Bender

Sandy & Lou Galang

Pam McKean

After a years' hiatus due to COVID-19, The Wood Hudson Undergraduate Research Education Program will be supported by our two major fundraising events again this year...

20th Annual Ft. Thomas Corvette Club Car Show



Mark your calendars: the Ft. Thomas Corvette Club Car Show is back! Saturday, August 14, 2021, rain or shine, join us at Hofbrauhaus in Newport (200 Third Street, Newport, KY) for the 20th Annual Ft. Thomas Corvette Club Car Show (see flyer, page 3). The proceeds of this exciting event are donated to Wood Hudson Cancer Research, and we cannot thank the Ft. Thomas Corvette Club enough! You can even enter your car in the show for a \$20 entrance fee, which will be donated to Wood Hudson. All cars are welcome- antique cars, new cars, Fords, Chevys, Chryslers, Imports, Trucks – you name it! Thank you to the generous sponsors who have provided trophies for the event. Even if you do not want to show your car, come and see the other beautiful cars, have some great food, and listen to music by DJ Ray. If you are ready to come out again, we would be happy to see you there!

Flying Pig Returns to Flight Oct. 29-31 2021



Get Ready—The Flying Pig Marathon is coming up!

The 23rd Cincinnati Flying Pig Marathon is live and in person on October 29-31, 2021! Wood Hudson has been involved in the marathon for fifteen years, and it is one of our top fundraising events. Again this year, Wood Hudson is one of the participating charities, and donations can be made through the Flying Pig website. Fall virtual registrants can convert their registration to in-person events; please call Wood Hudson for a code that gives you a discount on your registration fee as well as a donation to Wood Hudson.



How can you help?

- Run/Walk the Marathon or another race—get a code that gives you a discount and sends a portion of your fees to Wood Hudson
- Recruit Runner Friends to run for Wood Hudson—the more the merrier!
- Buy Raffle Tickets—Wood Hudson has been posted on the new Piggest Raffle website at <http://piggestraffleever.com>. \$5 per ticket and each and every cent goes to Wood Hudson research and education programs. Drawing of the winners will take place on October 31, 2021. Paper tickets will also be available; call the lab to place your order for paper tickets. All paper tickets must be turned in no later than October 4th.
- Sell Raffle Tickets—Get involved for a great cause!

Welcome Back, Newsletter Volunteers!



*Georgia Kinman,
Volunteer Coordinator*

Our hardworking volunteers have been safely at home during COVID. For the first time in nearly two years, we are eager to welcome them back to the Lab. Pictured on the right are the volunteers hard at work to prepare a 2019 newsletter for mailing. Thank you to Linda Adams, Judy Bradford, Mary Dierig, Donna Flick, Elizabeth Goodman, Georgia Kinman, Karen Kohls, Marylyn Majancsik, Kay Roberts, Inge Sexton, Lois Von Strohe, Patty Wilkens, Mary Wimmers, and all those who have volunteered their time on a short term basis.



Volunteers hard at work in 2019

Kentucky Academy of Sciences and Wood Hudson Host Panel Discussion

June 2021 was Immunotherapy Month. The Kentucky Academy of Science was given the opportunity to sponsor a free showing of the movie “Jim Allison: Breakthrough” by the movie producers. The movie is a new documentary that portrays the story of Jim Allison, a warm-hearted, stubborn man, and his visionary quest to find a cure for cancer. In 2018, Jim Allison won the Nobel Prize for discovering the immune system's role in defeating cancer, but his long journey to get there was filled with barriers and criticism. The Kentucky Academy of Science invited Wood Hudson Cancer Research Laboratory to co-host a



Dr. Christine Brainson



Dr. Jeremy Graff



Dr. Julia Carter

virtual panel discussion about the movie on June 16th. Dr. Siobhan Barone, Professor of Biology Thomas More University, who teaches immunology, Dr. Christine Brainson, Assistant Professor of Toxicology and Cancer Biology, University of Kentucky, Dr. Jeremy Graff, Chief Scientific Officer of IMV, a biotech company involved in development of novel immune-activating therapeutics for oncology, and a Wood Hudson Cancer Research Laboratory Trustee, and Dr. Julia Carter, President of Wood Hudson Cancer Research Laboratory were the Panelists for the discussion.



Dr. Siobhan Barone

Wood Hudson Scientists Report Research at International Meeting



Three UREP students return to the lab, spring semester

The American Association for Cancer Research (AACR) held its Annual Meeting in April. This is the second year the meeting was held virtually. The AACR has more than 48,000 members residing in 127 countries and territories, and this international conference attracted more than 100,000 attendees. Wood Hudson scientists presented two research projects at the conference. One project was entitled “Alterations in TGFβ Signaling in Ovarian Cancer Patients with TGFβ Receptor 1 Variants.” This project was supported by donors like you as well as the Ovarian Cancer Alliance of Greater Cincinnati and the Chemed Foundation in Cincinnati. The other project, “RNA-Based Diagnostic Panel Matches TME Phenotype to Therapeutic Mechanism of Action in Colorectal Cancer,” reported research on the development of a prognostic marker for Colorectal Cancer. This research was performed in collaboration with OncXerna and Genialis, two biotechnology companies in Boston.

Three Undergraduate Research Education Program (UREP) students also presented research at the 16th Annual AACR Undergraduate Student Caucus and Poster Competition, which was part of the AACR annual meeting. Anna Oliverio, Angel Rapp, and Brianna Hoegermeyer, all Thomas More University students, entered their Wood Hudson research project entitled “Phosphoserine Phosphatase (PSPH) Expression and Breast Cancer Progression in Women.” The students studied the serine biosynthesis pathway in surgical specimens of breast cancer. These data are consistent with the conclusion that increased serine biosynthesis is essential for the initiation, development, and progression of breast cancer in women. We were pleased to have their research accepted into this prestigious conference. This breast cancer research at Wood Hudson was supported by the I Have Wings Breast Cancer Foundation. UREP student research is supported by donors like you as well as the R.C. Durr Foundation, PNC Charitable Trusts, and the Chemed Foundation.

Other information about Wood Hudson can be found in an article published online in a February article in *NKY Thrives*. (<https://www.nkythrives.com/features/wood-hudson-cancer-research-laboratory-newport-kentucky.aspx?fbclid=IwAR1g91Y7ns4t2fIAuO46NNM30y-WV99xUa8Gmfv-6srMTsb3OJJGY22r-KM>)

\$5,000 Matching Gift Has Been Met

We are grateful to Dr. Ron Snyder, a member of the Wood Hudson Board of Trustees, for his very generous matching gift of \$5,000, which was ongoing from January through May. Thanks to you and your generous donations, we met the match and accomplished the goal of raising \$10,000 for Wood Hudson Cancer Research Lab. Thank you very much to all who stepped up and gave to this urgent work. We are humbled by your generosity and recognize our responsibility to you to accomplish our mission of continuing cancer research and undergraduate education and scientific research. Thank you for helping to make our work possible.

In addition to financial support, Dr. Ron Snyder has donated his time and expertise for the past three summers to help mentor UREP students on research design and the scientific method. Dr. Snyder is a genetic toxicologist with more than thirty years' experience in the pharmaceutical industry, including research on drug safety.



Dr. Ron Snyder



**Wood Hudson
Cancer
Research
Laboratory**

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Working Towards the Conquest of Cancer Through Research

The Only Independent, Not-for-profit Cancer Research Laboratory in Kentucky and the Tri-State Area



Scan the QR code with your Smartphone to be directed to our "Donate Page" where you can make a donation to Wood Hudson!

Check out our new webpage at
www.woodhudson.org,
thanks to Robert Pullman!

Wood Hudson Mission Statement

Wood Hudson Cancer Research Laboratory, Inc. is a professional, independent, not-for-profit, publicly supported, research institute dedicated to the discovery of new knowledge regarding the causes, diagnosis, treatment, and prevention of cancer. Because the Laboratory is a not-for-profit enterprise, no organization or individual profits financially from its operation, and all discoveries resulting from ongoing research are freely given to the scientific and medical community through promptly reported peer-reviewed publications. **Wood Hudson approaches the cancer problem three ways:**

- 1) study of clinical cases** and experimental models of cancer to learn new methods of cancer prevention, diagnosis, prognosis, and treatment
- 2) study of environmental causes** of cancer, particularly food and drinking water chemicals, and
- 3) provision of training and "hands-on" research experience** for tomorrow's scientists and physicians through its Undergraduate Research Education Program (UREP).

How You Can Support Our Cancer Research Mission

- 1) Our **Annual Fund Drive** has started — our goal this year is to raise funds for our research of human breast, ovarian, lung, colon and bladder cancers as well as sponsorships for students working and learning in the Undergraduate Research Education Program. Donations from individuals, groups of individuals, businesses and organizations are appreciated and needed. Grants from Foundations, Corporations and Government entities are also being sought in this highly competitive environment. Thank you for whatever support you can give to our Annual Fund Drive.
- 2) Need to take your IRA's Required Minimum Distribution (**RMD**)? For those who qualify (over 70 1/2 years of age), any time before December of each year you can contact your banker or IRA administrator to donate directly to Wood Hudson, and save the tax burden while helping our good cause.
- 3) Donating appreciated stock to Wood Hudson Cancer Research Laboratory is an efficient way to avoid capital gains tax and potentially obtain a charitable donation deduction.

For more information on these or other philanthropy options, please contact Wood Hudson Treasurer, Robert Layton, CPA at rlaytoncpa1@gmail.com or 813-575-9199.