

## *Editorial*

# **Great kindness from a giant: scientist, friend, and mentor-preface of the special issue in memoriam and celebration of Leland W.K. Chung, Ph.D. (1940-2021) from special issue senior guest editor(s)**

Edwin M Posadas<sup>1,2</sup>

<sup>1</sup>Center for Urologic Research Excellence & Experimental Therapeutics Program, Cedars-Sinai Cancer, USA;

<sup>2</sup>Division of Medical Oncology, Department of Medicine, Cedars-Sinai Medical Center, 8700 Beverly Blvd, Los Angeles, CA 90048, USA

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In this special issue of the AJCEU, we pay tribute to a tremendously wonderful man whose life was devoted to ending the scourge of cancer and more importantly, inspiring his friends and students. May 10, 2021, marked the passing of Professor Leland W.K. Chung, PhD, my esteemed colleague, friend, and mentor. There are few individuals who leave such a profound mark on a field so that their legacy carries forward as does Dr. Chung. Over a career that spanned six decades, Dr. Chung provided immense contributions to the field of cancer research as a scientist. His works provided foundational insights into the role of androgen stimulation on the development of male accessory sex accessory organ development, maintenance of differentiated phenotypes, and the cellular interactions that regulate tumorigenesis, cancer progression, and metastasis. Over the years, Dr. Chung gifted to the field of urologic research, models that have made innumerable discoveries possible. Through his own work and those of his collaborators, he has brought countless technologies and ideas from concept to clinical trials that continue to move forward even after his passing.

Dr. Chung began his academic journey at the prestigious National Taiwan University at a student of botany. He came to the United States in the 1960s to pursue an M.S. in soil science from Oregon State University at a time when few foreign students were rare. He originally

planned to continue his studies in botany then return to Taiwan to teach but became excited by the medical sciences and changed his focus to Pharmacology. He finished his dissertation and earned his Ph.D. in 1969 from the University of Oregon Health Sciences Center. Through the personal friendships he developed with his professors, he was directed to pursue postdoctoral studies at Johns Hopkins where he developed a lifelong friendship with his mentor, Prof. Donald Coffey-a young assistant professor who had taken his basic work to a clinical department. Dr. Chung attributed a great deal to his mentor and lifelong friend that impacted his career and his mentoring style. Like his mentor, Leland focused on being a good steward to his students at all levels. He consistent gave credit to his students and lived his life with profound integrity and endless curiosity. He remained bold when facing opposition to his disease and remained committed to a principle he passed to all his students: "let your data speak to you and do not assume what cannot be proven experimentally".

Perhaps one of Dr. Chung's greatest strengths was his profound belief that we can and will beat cancer. For all of us who spent time with him, it was clear that he emphasized the "we" in this thought. His infectious belief in team sciences was only overshadowed by his endless energy and drive to accomplish this mis-

sion by assembling teams of individuals who could bring us closer and closer to this goal. While Dr. Chung's eyes were always turned to the future, he believed even more in the people who could and would build that future. As a mentor, he would find creative and energetic young scientists. He would then bring them to his office and home welcoming them into his scientific family. In this way, he would infuse them with ideas that would permeate their thoughts. He then would explain how their participation and leadership in the efforts would bring these ideas to reality. In this way, Dr. Chung would bring out the best in everyone with whom he interacted. His emphasis in these interactions was not focused on himself and his personal plans, but rather on the gifting of ideas and support to the next generation of leaders who would then carry the mission forward. In this manner, Dr. Chung developed a family of investigators that spanned the globe carrying with them the inspiration and model of mentorship he provided to each one of them. It is in this family of mentees, that Leland saw his greatest legacy. Dr. Chung's academic career spanned multiple prestigious research institutions such as McGill University, the University of Colorado, MD Anderson Cancer Center, the University of Virginia, Emory University, and Cedars-Sinai. At each post, he led local, national, and even international efforts to push forward the frontiers of science. It is with great happiness that he would look upon those he taught—all of whom he regarded as dear and lifelong friends.

For Dr. Chung, science was an important medium through which he connected people—overcoming differences in background, education, training, and other beliefs. Through the medium of science, he spearheaded efforts to cross political and geographical barriers to develop exchange of ideas between the East and West. For Dr. Chung, each great scientific accomplishment was the work of another bright young student in his laboratory or an amazing collaborator. More importantly, for every accomplishment, there was a story of profoundly good humanity that showed his admiration and affection for his students and friends well beyond their scientific contributions.

What gave Prof. Chung the greatest pride and joy, however, was mentoring young basic scientists and clinicians. His passion for cancer

research has inspired hundreds of scientists and physicians, some of whom now lead prestigious cancer research programs. His intellectual curiosity, drive for discovery, and dedication to his students and colleagues will forever be cherished.

As part of his legacy, Dr. Chung put time and energy into the establishment of the Society for Basic Urologic Research envisioning it as the premier forum for scientists from varied disciplines (basic and clinical) to meet and cross-fertilize and ultimately synergize the propel advances in the field of urologic research. As one of the founding members who worked with Timothy Ratliff to establish and grow the SBUR (as well as later becoming one of the Society's past-presidents), it is fitting and important that we pay due tribute to Dr. Chung in the flagship journal of this group.

In this special issue of the AJCEU, we have wonderful contributions from a sampling of some of Leland's friends and students. The contributors represent the arc of Leland's career in science. These distinguished contributors include Beatrice Knudsen, Zhou Wang, Qing-Xiang Sang, JT Shieh, Stefan Mrdenovic, Ken Pienta, Jerry Cunha, Allen Gao, Daquin Wu, Shafiq Kahn, Michael Freeman, and Bekir Cinar. The ideas, data, and reviews contained in this issue of AJCEU also illustrate the impact of Leland's scientific work, but also display the personal connections he has made with the people who conduct these important studies. Topics range from the tumor-stromal interaction to the biology of metastasis and the importance of models of prostate cancer including the ARCaP models that Leland developed with his wife and partner in all things, Dr. Haiyen Zhau. Many of the papers point to growing ideas borne of mentorship, collaboration, and friendship with Leland. Dr. Pienta captures the curiosity that characterizes Leland's drive. Dr. Cunha provides insights into the impact of mesenchyme on epithelial development which recalls Leland's focus on the microenvironment. Drs. Khan, Cinar, Freeman, and Knudsen present drivers of cancer progression and metastasis studied and developed with Leland over the years. Drs. Sang, Hsieh, and Wu provided illustrations of the importance of the ARCaP model in understanding androgen signaling in advanced prostate cancer. Dr. Gao complements this with a review on androgen synthesis. Finally, Dr. Mr-



**Figure 1.** Photo of Dr. Leland WK Chung and Colleagues at Dr. Donald Coffey's retirement party at the Brady Urologic Institute at the Johns Hopkins Hospital (June 2016), from left, Haiyen Zhou, Leland WK Chung, Donald Coffey, Edwin Posadas.

denovic, one of Leland's last students relates his shared vision with Leland about a new class of dye-drug conjugates in cancer therapy.

For all of us who worked with Leland, we would say that to know him and work with him was to enter a special family that spanned generations and covered the planet. Many of us have come to him as a wise friend and advisor in the face of negative findings and/or obstacles to developing ideas. These moments would be colored with Leland's warm smile, inspiring stories, and renewed vision and energy to press forward with important research. This great kindness he shared with all of us is apparent in these papers contained herein and in all of his students. As humble as Leland was, the legacy and vision he leaves with his friends, colleagues, and mentees, calls each of us to rise to the challenge of solving the riddle of cancer with great kindness in our hearts. Leland points us toward thinking and fostering the next generation of great learners and scientists who will carry the mission forward and bring our discoveries to the patients who desperately seek a cure. Even the final months of life, Leland expressed his continued commitment to his

friends and his vision for the future by fostering the family of scientists he assembled at Cedars-Sinai while bringing an entirely new type of anti-cancer therapy from an idea to a clinical trial that has just now opened.

On a personal note, I was advised by one of my first and most important mentors, Dr. Coffey, to spend time with Dr. Leland WK Chung—a man he regarded as his finest student (**Figure 1**). For years, I followed Leland's work and developed a profound respect for him as a scientist. When I finally had the chance to spend time with him and to learn from him during his tenure

at Cedars-Sinai, I came to realize why Don Coffey felt so strongly about Leland—not just as a scientist, but as a person. The years we have spent together will forever impact me as a physician, a scientist, and as a human being. The example of personal excellence and generosity of heart he provided gives me and all of us who know him cause to strive to become better.

In closing, we hope you find this special issue of the AJCUE inspiring and hopeful. We believe that the gifts the Leland has passed onto each of us and our field will continue to blossom and yield discoveries, excitement, hope, and ultimately a cure for cancer. Finally, we urge all of the AJCEU readership to cherish the kindness you have felt within your interactions with Leland and his students and to pass them forward so that his gifts to our field continue in perpetuity.

**Address correspondence to:** Dr. Edwin M Posadas, Center for Urologic Research Excellence & Experimental Therapeutics Program, Cedars-Sinai Cancer, USA; Division of Medical Oncology, Department of Medicine, Cedars-Sinai Medical Center, 8700 Beverly Blvd, Los Angeles, CA 90048, USA. E-mail: Edwin.Posadas@csmc.edu