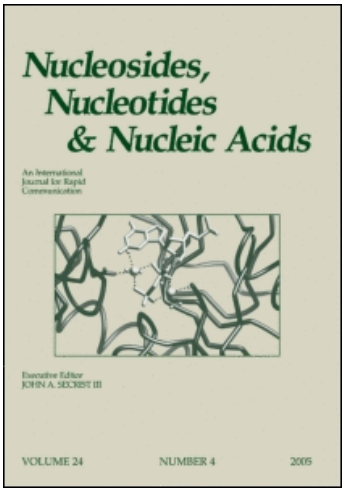


Nucleosides, Nucleotides and Nucleic Acids
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713597286

A Memorial Tribute to Roland Kenith Robins

Leroy B. Townsend

To cite this Article Townsend, Leroy B.(1994) 'A Memorial Tribute to Roland Kenith Robins', Nucleosides, Nucleotides and Nucleic Acids, 13: 1, 3 — 16
To link to this Article: DOI: 10.1080/15257779408013227
URL: http://dx.doi.org/10.1080/15257779408013227

NUCLEOSIDES & NUCLEOTIDES, 13(1-3), 3-16 (1994)

A MEMORIAL TRIBUTE TO ROLAND KENITH ROBINS

Leroy B. Townsend *

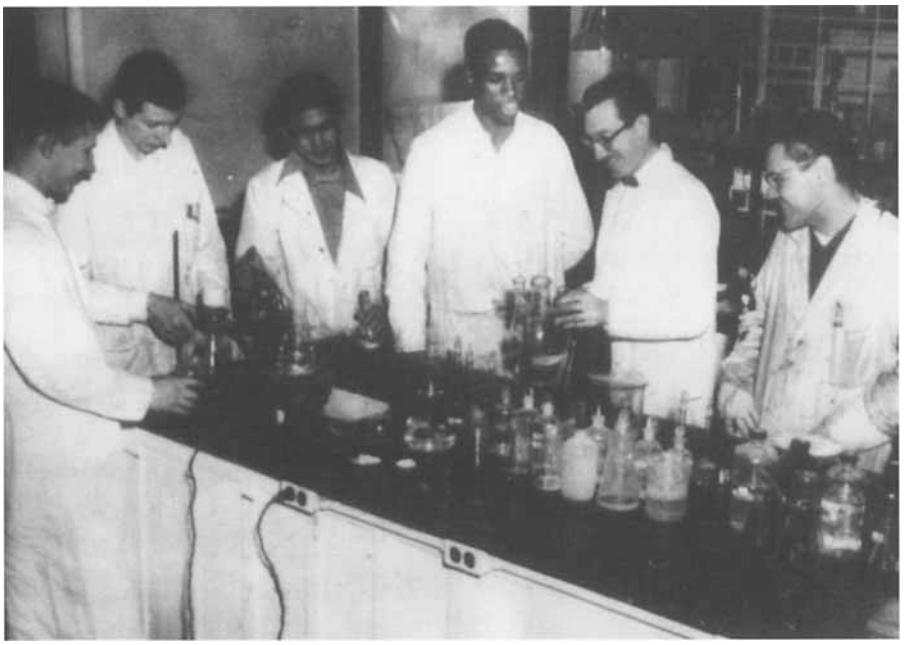
A variation of this tribute was presented at the 10th International Roundtable on the Chemistry and Biology of Nucleosides and Nucleotides, Park City Utah, Utah U.S.A.

I. ROLAND KENITH ROBINS (1926-1992)

* The author would like to express his gratitude to Dr. C-C Cheng, Dr. G. R. Revankar and Dr. A. F. Lewis, for providing most of the photo s used in the preparation of this article.

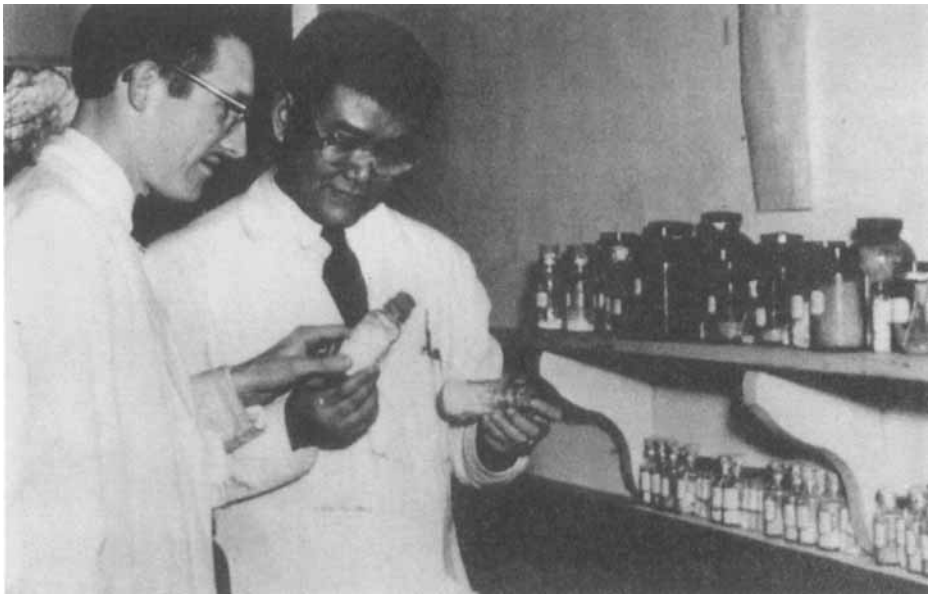
I am very pleased to have been asked to offer this memorial tribute to Roland Kenith Robins. Photo I represents the Roland K. Robins that most of you knew, Professor of Pharmacology, Professor of Medicinal Chemistry, Professor of Biological Chemistry, Professor of Organic Chemistry, nationally and internationally recognized as one of the leading scientists in several disciplines, research director, research administrator, author and/or co-author of over 600 publications, over 100 patents, many contributions to books as well as an editor of books, Senior Vice President of Research, President & Director of Molecular Research, etc, etc.

This is an accurate, but a rather narrow and incomplete portrayal of Roland K. Robins. I would like to take this opportunity to provide a different perspective of R. K. Robins from the one I have just described and the person that most of you have known. It all began for Roland K. Robins in Scipio, Utah on the 13th of December 1926. However, I will not elaborate on the many interesting facets of this multi-talented man's early years. I will confine my remarks to the post high school educational and scientific aspects of his very full life. Roland received his Bachelor of Arts and Master of Arts in Chemistry from Brigham Young University in 1948 and 1949, respectively. In 1949, he applied unsuccessfully for admission to the Ph.D. Program in Chemistry at the University of Utah. Since this was where he had always wanted to obtain his Ph.D., this rejection was a severe disappointment. However, instead of accepting this unsuccessful application as a total defeat, he viewed this as a challenge and opportunity to prove that they were wrong. He applied, was accepted and graduated with a Ph.D. in Organic Chemistry from Oregon State University in 1952 under the supervision of Professor Bert Christensen. I am of the opinion that anyone that was ever associated with Roland K. Robins will understand and recognize that this optimistic philosophy and intense work ethic was vintage for Roland K. Robins and served him well throughout his career. After receiving the Ph.D. degree, he spent one year at the Wellcome Research Laboratories, Tuckahoe, N.Y. under the direction of Dr. George H. Hitchings and Gertrude Elion. His doctoral thesis project was on the synthesis of various purines and halopyrimidines followed by a study on the pattern of nucleophilic substitutions for these halopyrimidines and his postdoctoral research involved the synthesis of purines and purine analogs as potential anti-cancer agents, e.g. pyrazolo[3,4-*d*]pyrimidines. Therefore, it should come as no surprise, that when he accepted the Assistant Professorship of Chemistry at New Mexico Highlands University in the Fall of 1953 that his research would be focussed on heterocyclic compounds (especially nitrogen containing heterocycles). In fact, the title of his first publication on chemical research accomplished at New Mexico Highlands University was "4-Hydroxy-6-aminopyrazolo[3,4-*d*]pyrimidine, A Potential Guanine Antagonist". The Chemistry Department at Highlands was not a Ph.D. granting program, so he was faced



II. L. to R.: Calvin G. Beames, Alan D. Grauer, Hsi-Hu Lin, Jesse W. Jones, Roland K. Robins, and Lee B. Holum (1955)

with the challenge of establishing a credible research program and research reputation with undergraduates and Master of Science students at a small teachers college with essentially no resources or encouragement from the administration to establish a research program. Photo II was taken in 1955 and it is evident that, after only two years, he had already assembled a respectable research group. This was accomplished in addition to teaching "all" of the Organic Chemistry courses. In fact, he used this apparent obstacle toward doing research to his advantage. He taught Organic Qualitative Analysis. This was the first time this course had been offered at Highlands University. After the students had signed up for the course, they were paired up and given their first unknowns. There was only one small problem, no instrumentation was available for this course and so each pair of students had to build the appropriate instruments before they could determine the structure of their unknowns. Each pair of students had a different problem, so after the course was completed, Roland had the following functional instruments: Carbon and Hydrogen; Dumas (for Nitrogen); Kjeldahl (for Nitrogen); Ionizable Halide, etc. These instruments could now be used for his research group which consisted entirely of Master of Science



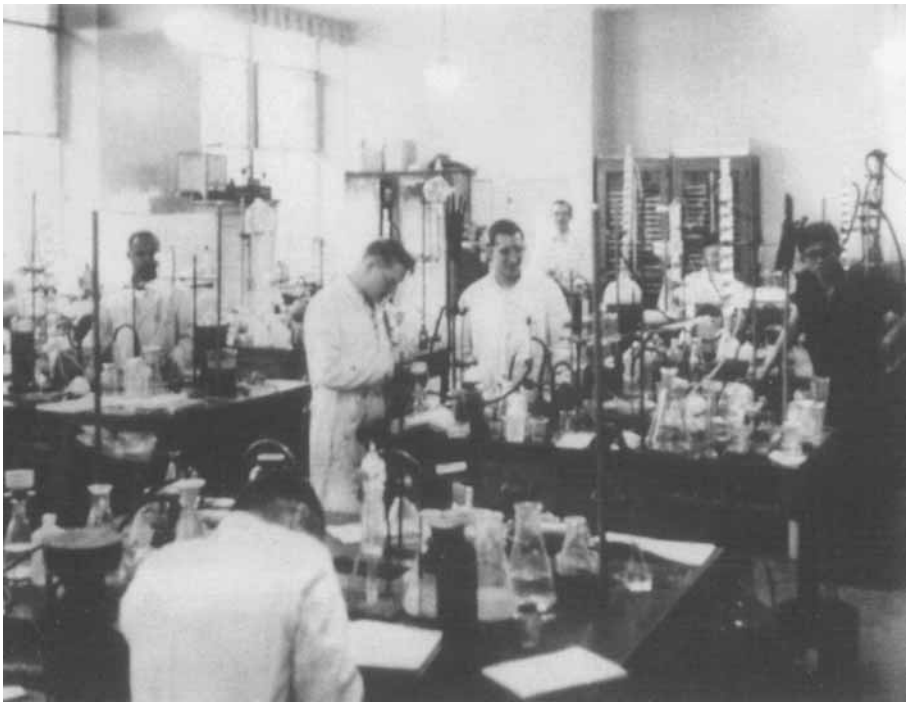
III. Roland K. Robins and Chia-Chung Cheng in Springer Hall (1955)

students with some undergraduates as technicians. Photo III is of R.K.R. and C. C. Cheng, his first postdoctoral fellow, and this photo would convey the impression (which had been true) that the research momentum had continued to accelerate. However, an individual interpretation can be very misleading when given limited access to all the facts. The next photo (IV) is a little more informative and reveals that although the research momentum had continued, as evidenced by the addition of a postdoctoral fellow to the group (C. C. Cheng), in fact, the research momentum had suffered a severe setback when the Science Building (Springer Hall) had been destroyed by an early morning fire. Most people would have taken this as a sign that perhaps they were not destined to pursue a research career and would have elected to become a full time teacher with a minimal research commitment. After all, New Mexico Highlands University was only a small teachers university where the major emphasis was definitely not on research. However, R. K. had everyone in the research group, including himself, into the burned out building, as soon as the authorities would allow, in order to salvage anything still usable. The Science Building was condemned and the university administration decided to build a new Science Building across the street. There was one major problem, the approximate completion date was early 1957, which meant approximately two years without research

In this picture taken last spring, Dr. Roland K. Robins, head of Highlands' cancer research project (left), and Dr. C. C. Cheng, research assistant, inspect some of the approximately 220 chemical compounds which had been prepared under the program as possible anti-cancer drugs up to the time of the Springer hall fire. The important two-year-old project—compounds, equipment, records—was virtually wiped out by the fire except for personal notes Drs. Robins and Cheng happened to have at home when the building burned. From these notes, a few salvaged compounds, and emergency financial aid from cancer organizations, the research has already gotten a new start in the Las Vegas high school laboratories. It will continue next fall in Viga hall's temporary science facilities until the new science building is completed next year. The blaze set back progress of the project at least three months, to say nothing of the loss of expensive equipment and supplies, detailed records, and hours of individuals' time.

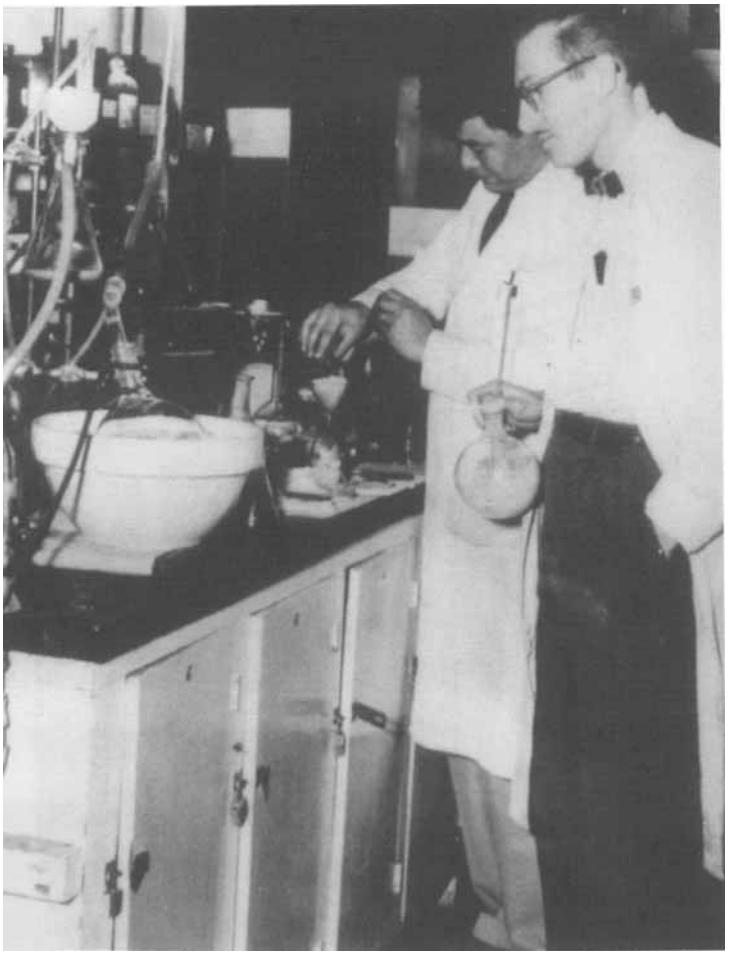
IV. R. K. Robins and C. C. Cheng in Springer Hall (1955)

laboratories. Instead of waiting two years to renew his research program, R.K. became involved in persuading the administration into converting a vacant men's dormitory (Viga Hall), which had been slated for demolition, into a temporary Science Building. But, even a conversion of the vacant dormitory into a temporary laboratory was going to take approximately four to six months, so R. K. persuaded the local high school administration to allow him to use the high school chemistry laboratory until a conversion of the dormitory into a research facility could be completed. In photo V, you see the typical high school (1955) laboratory with small benches, and only one small one-man fume hood. The hood had a sign-up sheet and it was used only for lachrymators, thiations, etc. and functioned on a twenty-four hour basis. Even under these adverse conditions, several students were able to complete (or redo) a sufficient quantity and quality of research that



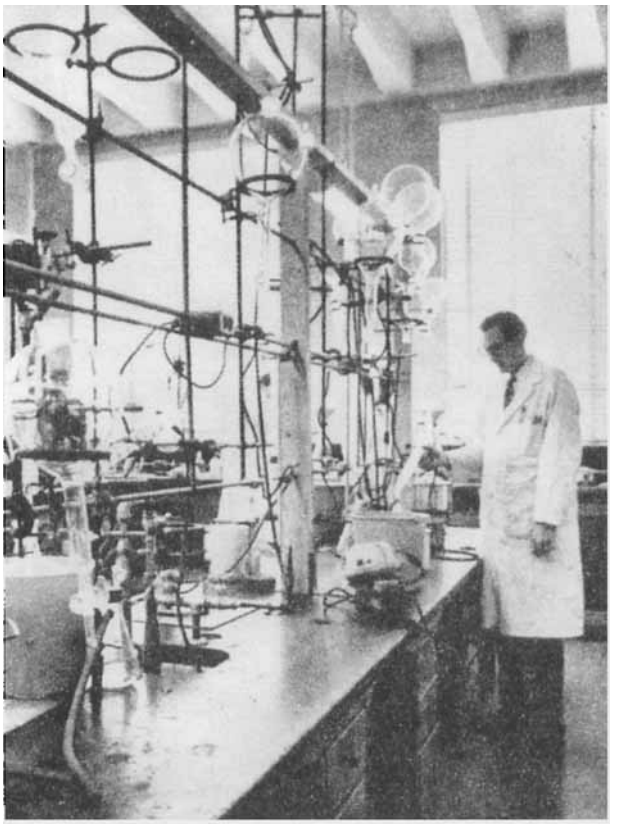
V. L. to R.: Felton C. Anderson, Leroy B. Townsend, C. Wayne Noell, Calvin G. Beames, Roland K. Robins, Delores Choa, and Hsi-Hu Lin, High School Chemistry Laboratory, Las Vegas, New Mexico (1955)

allowed them to write and defend their Masters thesis and enter graduate programs in several disciplines at other universities. In photo VI you see R. K. R. and C. C. Cheng at a laboratory bench (actually second-hand kitchen cabinets) in the "new" temporary science building (converted men's dormitory) where he pursued research until November of 1956 when his entire research group moved into the New Science Building (with the exception of one student that was left in Viga Hall since he was slated to finish and defend his thesis in January of 1957). Later in 1957, R. K. accepted an Associate Professorship of Organic Chemistry at Arizona State University in Tempe, Arizona. He was once again challenged with the establishment of a new research program and assembling a new research group. However, it is obvious from Photo VII that the quality of the research space and resources had definitely improved. He was promoted to a full Professor of Chemistry in 1960 and it was during this phase of his career that the major emphasis of his research effort shifted from heterocyclic to nucleoside chemistry. In 1964,



VI. C. C. Cheng and R. K. Robins,
Viga Hall (1956)

he was recruited and accepted the position of a Full Professor of Chemistry at the University of Utah. Roland must have experienced a great deal of self-satisfaction in being recruited for a full professorship in this Chemistry Department. Once again, he established a new research program and a new research group. In 1966, he was instrumental in establishing the Medicinal Chemistry Graduate Program in the College of Pharmacy at the University of Utah and accepted a position of Full Professor of Medicinal Chemistry. With this new position, he became very interested in nucleotides and macromolecules and in the application of his research interests and expertise to a broader

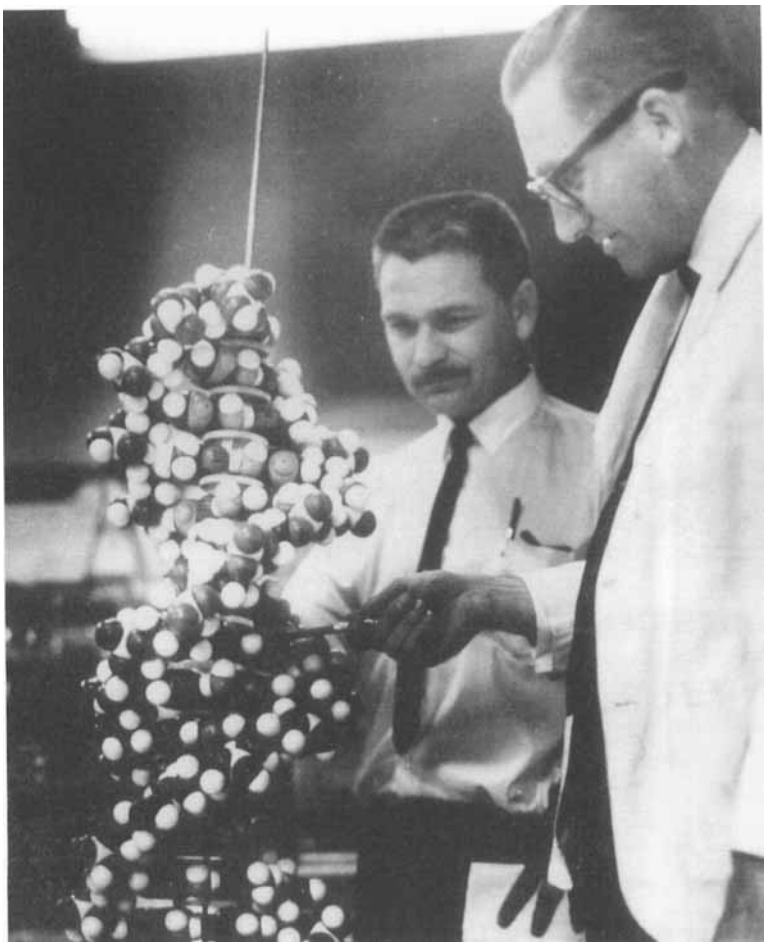


Dr. Roland K. Robins, ASU professor of chemistry, conducts cancer chemotherapy research in his lab, a project he has conducted at ASU since 1957 under large grants from private and public agencies and companies.

Photo VII.

range of diseases. In photo VIII, R. K. R. was trying to convince a rather skeptical younger colleague that he should become more interested in macromolecules.

R. K. felt that he could not satisfy these new and broader research interests in an academic environment and in 1969 he accepted the position of Vice President of Research and Development for ICN Pharmaceuticals and Director of the ICN Nucleic Acid Research Institute. The Research Institute idea was conceived, built, organized and implemented by



VIII. Leroy B. Townsend and Roland K. Robins
at the University of Utah (1967)

R. K. He was promoted to Senior Vice President of Research and Development in 1973. During this time he was very heavily involved in the corporate affairs of ICN but somehow maintained a very strong presence in the basic research being conducted at N.A.R.I. This was reflected by his strong participation in the national and international scientific meetings, e.g. his selection as one of the plenary lecturers at the First International Round Table on Nucleosides and Nucleotides. He was the only plenary speaker that was invited from a pharmaceutical firm. The speakers as shown on the bottom row were L. to R.: J-L Imbach (organizer), Jack Fox (Sloan Kettering), John Montgomery (Southern Research Institute),

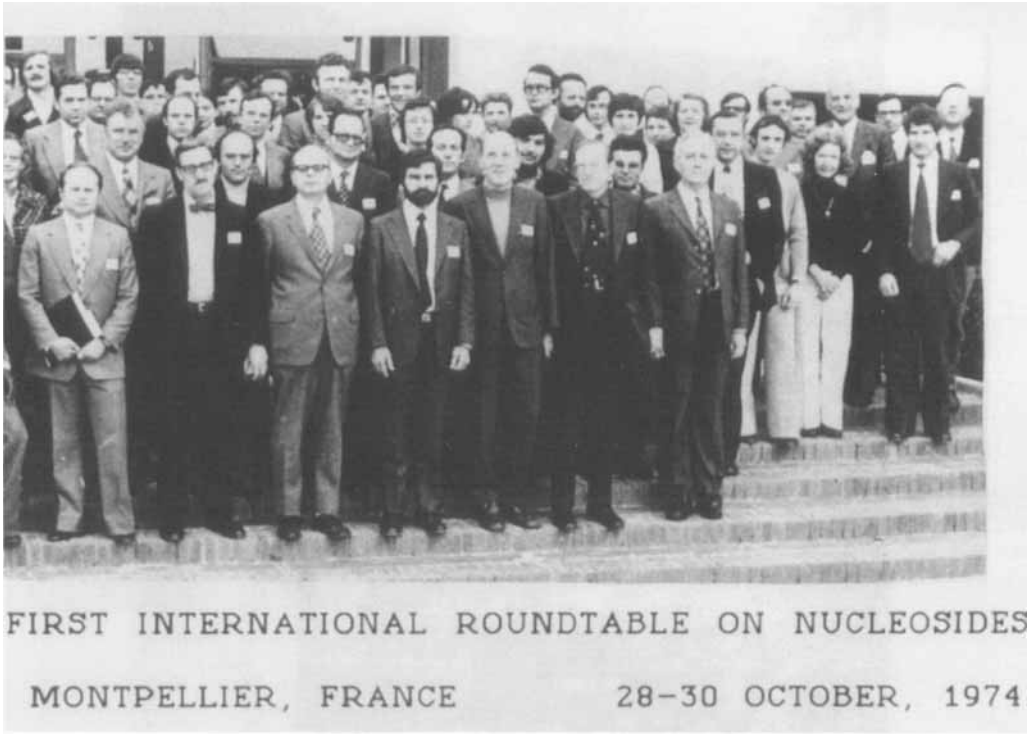


Photo IX.

Leroy B. Townsend (University of Utah), Wolfgang Pfleiderer (University of Konstanz), Roland K. Robins (ICN) and Gordon Shaw (University of Bradford). In 1976, the corporate board closed N.A.R.I. and in 1977, R. K. accepted the position of Professor of Chemistry and Professor of Biochemistry at Brigham Young University. He was once again challenged with the establishment of a new research program and assembling a new research group. This was not an easy task in view of the difficulty associated with obtaining research grants at that particular time. In fact, at that time, a colleague of mine that was serving on a National Institutes of Health study section asked me why Roland didn't forget research and accept the mantle of an elder statesman since he had already proved he could compete successfully at the top in both industry and academia. I could only state that obviously "You don't really know Roland K. Robins." The usual definition of an elder statesman in academia means a tenured full professor with an abundance of advice and no research grants. However, Roland's definition of an elder statesman in academia was a tenured full professor with a lot of advice but also a number of research grants. In fact, Roland was successful in obtaining several new grants that year and, in

Photo X.

1978, he established the Brigham Young University Cancer Research Center and became the first Director. During this time at Brigham Young University (1977-85) he served on many national and international scientific committees. He was also a frequent plenary lecturer and was a familiar figure on the podium. In 1985, he once again accepted a position as Vice President and Director of Molecular Research at the Nucleic Acid Research Institute and once again accepted the challenge of establishing a new research program and assembling a new research group. However, I think, at this point, I should qualify the last statement. R. K. always had a good rapport with his research group and, with every move, there were always some members of the old research group that moved with him and helped to establish the new research group. In 1989, he was promoted to President and Director of Molecular Research, ICN Nucleic Acid Research Institute and Senior Vice President of ICN Pharmaceuticals. Although Roland had many scientific and professional accomplishments, it was only recently that he began to receive some of the accolades that were long overdue. In 1988, he was nominated and selected to receive the Alfred Burger

XI. L. to R.: Roland K. Robins, Lessa R. Robins and Ganapathi R. Revankar at the American Chemical Society Awards Banquet in Toronto (1988)

Award in Medicinal Chemistry which is administered by the American Chemical Society. This award recognizes outstanding contributions to research in Medicinal Chemistry. Shown in photo XI are his wife Lessa and his close associate, Dr. G. R. Revankar. Dr. Revankar worked with Roland from the early 1970's until 1992. This photo was taken during the awards banquet at the Third North American Chemical Congress in Toronto. This next photo (XII) was taken at a small informal celebration after Rolands delivery of the Burger Award Address and included a number of his former students and associates, i.e. Doyle Daves, undergraduate (B.S.) at New Mexico Highlands University; Arthur F. Lewis, undergraduate (B.S.) at Arizona State University; Michael Winkley, postdoctoral fellow at Utah; and Leroy B. Townsend, undergraduate (B.S.) and graduate (M.S.) at New Mexico Highlands University and graduate (Ph.D.) from Arizona State University. This illustrates the basis for the statement contained in the front of the book of abstracts from the 10th Roundtable which is as follows "although his research accomplishments are very important and impressive, the major contribution to science by Professor Robins is undoubtedly the training and education of students, post-doctoral

XII. L. to R.: Leroy B.Townsend, Michael W. Winkley, Roland K.Robins, Arthur F. Lewis and G. Doyle Daves at an informal celebration after the Burger Award lecture

Photo XIII.

fellows, visiting scholars and faculty that had the privilege of working in his laboratory. These former associates, in their roles as professors, directors of research, chairman of departments, section heads, independent researchers, etc., have and will continue to have an influence on teaching and research advances in the area of nucleosides and nucleotides as well as other related areas of chemical and biological research". The validity of this statement is also strongly supported by the following: The President (Chairman) of the Tenth International Round Table, (Professor Arthur D. Broom); The Program Chairman and Chairman of the first session, (Professor Morris J. Robins) and the first speaker of the first session, (Dr. James R. McCarthy) all received their Ph.D. degrees under the supervision of Roland K. Robins. I know that Roland would be very disappointed if I didn't close this tribute by acknowledging the fact that through all of his trials, tribulations, accomplishments and triumphs, there was one person that was always there to provide the support he needed. We were fortunate to have that person (Mrs. Lessa R. Robins) with us at the Tenth International Roundtable on the Chemistry and Biology of Nucleosides & Nucleotides.

In closing, although the scientific community has lost a very valuable and respected member from its ranks, for many of us, we have, in addition, lost a mentor, advisor and a friend.

Leroy B. Townsend
Albert B. Prescott Professor
of Medicinal Chemistry and
Professor of Chemistry