

*Dedicated to Professor Claude Nicolau  
on the occasion of his 80th anniversary*

## PROFESSOR CLAUDE NICOLAU, HONORARY MEMBER OF THE ROUMANIAN ACADEMY, AT HIS 80<sup>th</sup> ANNIVERSARY

Alexandru T. BALABAN

Texas A&M University at Galveston, Texas 77553, USA, email: balabana@tamug.edu

*Received December 21, 2015*

The 80<sup>th</sup> anniversary of Professor Claude Nicolau is a welcome opportunity for honoring a brilliant Roumanian scientist who is also a French citizen and permanent resident of the United States of America, where he lives at present. He was born in Paris on January 30, 1936.

His father, Ștefan S. Nicolau, M.D. Ph.D., was a researcher at the Pasteur Institute where he worked between 1920 and 1939. He had completed in 1920 his medical studies in Bucharest and Cluj. At the Paris University he obtained in 1925 a doctorate in sciences, after having worked during the First World War in the 2<sup>nd</sup> Hospital for Contagious Diseases in Moldova. At the Pasteur Institute he was promoted from Assistant to Associate, then Head of Laboratory, and for four years between 1932 and 1936 the Pasteur Institute sent him as Head of Laboratory to the National Institute of Medical Research in London. He accepted in 1939 the invitation to return to Roumania as Professor of Bacteriology at the Faculty of Medicine in Iași, as successor of Dr. Alexandru Slatineanu, who had been an important mentor for him. In 1942 he obtained a transfer to the Faculty of Medicine in Bucharest as Professor, founding the Chair of Inframicrobiology that he led till his retirement in 1962. He had a brilliant career being elected as corresponding member of the Roumanian Academy in 1946 and as titular member in 1948. He founded in 1949 the Institute of Inframicrobiology (at present the Institute of Virology “Ștefan S. Nicolau”) and was its Director till his death in 1967. He was Claude’s example for loving the research that improves human health.

As a student at the Chemistry Faculty of the Bucharest University, where he graduated in 1957, Claude had as a model the professor of Physical Chemistry, Ilie G. Murgulescu, who combined in his lectures elegance with mathematical rigor. Claude, with his bright intelligence, and huge diligence, knew how to put to work the advantages fate had offered him. For several months in 1957 he worked at the Institute of Atomic Physics in Magurele, then during the next three years he obtained his doctorate degree in physical chemistry at the Humboldt University in Berlin.

After his return in Roumania, he was appointed between 1962 and 1970 as assistant professor and then as associate professor at the Chair of Physical Chemistry of the Institute of Petroleum, Gas, and Geology (IPGG) which then was located in Bucharest. He did post-doctoral work at the University of Liege (1964) and at that of York (England, 1968).

I remember how Claude presented at the public sessions of the Roumanian Chemical Society his communications: with his fantastic memory, which is still intact at present, he recited bibliographic references with title, author and journal names, year and page, as if he was reading this information. Often, when I was visiting the Chairman of the Department of Organic Chemistry at IPGG, Professor Valeriu Vantu, I found Claude there, and we had long philosophical or scientific discussions on varied topics.

Around that time, more precisely between years 1965 and 1968, Claude was Director of the Radiobiology Center of the Ministry for Public Health. He imported for this Center various modern instruments that were unique in Roumania. Some of these could also be used by external researchers, including those from the Chair of Organic Chemistry of the Bucharest Polytechnic, where I was working. One of these instruments was the infrared spectrophotometer, operated skillfully by a friend of mine, the pharmacist Gheorghe Mateescu. He also established modern research programs, attracting a number of talented young researchers.

Regrettably, after the 1968 events in Czechoslovakia when the Prague Spring was crushed, Claude's Center was taken over by the Roumanian army, and Claude's directorship was terminated. Scientific collaborations with other researchers were discontinued, and the precious instruments imported by Claude were no longer used efficiently.

Claude's privileged situation allowed him to travel abroad for scientific meetings or stages to Israel, West Germany, and the United States, forming and tightening bonds that would prove to be very useful in the forthcoming years.

In 1970 Claude Nicolau accepted to become professor and chairman of the Chair-Laboratory of Biology-Genetics at the newly founded Faculty of Medicine in the University of Craiova. This move is similar in many respects to his father's move from Paris to Iași, but the similarity ends here. Claude invested all his energy for the progress of his new position, earning appreciation from the scientific and political environment in Craiova. He commuted regularly between Bucharest and Craiova and directed his efforts towards raising the level of research and didactic activities. However, again dark political clouds descended on Roumania after Nicolae and Elena Ceaușescu returned from their travels to China and North Korea. Funding for scientific research that did not produce immediate benefits was drastically cut, contacts with colleagues in the West were discouraged and restrained. In this atmosphere, Claude's isolated efforts could not bring the progress that he had hoped.

As a consequence, in 1973 he decided not to return to Roumania from a travel to West Germany. Professor Oskar E. Polansky, the Director of the Max Planck Institute for Radiation Chemistry in Mülheim/Ruhr offered him the position of Associate Professor and Head of Laboratory at his institute, where he worked for almost eight years till 1981.

From Germany, Claude continued his West-oriented inclinations, and became Professor (Directeur de Recherches Scientifiques I) at the National Center for Scientific Research, Center for Molecular Biophysics in Orléans. For three years (1983-1986) he was the Director of this Center.

In 1986 he received an invitation from the Medical College of Texas A&M University, (TAMU) in College Station, Texas to become Visiting Professor at this University. Based on his previous achievements, he obtained a substantial industrial grant, and brought to College Station his whole team from Orléans.

The research results that he published during the four years at TAMU were of such value that in 1990 he was appointed Visiting Professor at the most prestigious university in the USA, Harvard Medical School in Boston, Massachusetts. He was the Director of the Research and Development Department of the Center for Blood Research Laboratory, affiliated to Harvard Medical School.

He invited me there for two months to his Laboratory at Harvard Medical School, with my wife, Nelly, and we were often guests at his house with Christa, his wife. Boston is a city similar to European cities, in which there is no Cartesian grid of streets and avenues, so that on driving occasionally his Mercedes car I had to rely on Nelly's reading the map quickly and giving me directions. My son, who teaches chemistry at Marseille University, was one of Claude's coworkers in the team that was developing an immunotherapy of Alzheimer's Disease. He is a co-author of a paper, published in the Proceedings of the National Academy of the USA, which led, together with other contributions, to an effective immuno-therapy of early Alzheimer Disease, now in a Phase III Clinical Trial. One of Claude's most significant discoveries in a collaboration with Jean-Marie Lehn, (one of the 1987 Chemistry Nobel Prize winners) involves myo-inositol trispyrophosphate (ITPP), a novel allosteric effector of hemoglobin, which shows, in several animal models, a significant anti-cancer activity. A treatment of different hepato-biliary diseases using ITPP is in a phase II clinical trial. Gene transfer using liposomes is another of Claude's discoveries and may be used for medical purposes in the future.

Claude's bibliography includes over 200 published papers, 11 books as author or editor, and 16 chapters in books edited by other scientists. Even more important are his patents (over 50) that assure his

paternity over his inventions, as well as the companies that he co-founded so that his discoveries can become new tools against diseases that plague humanity.

I cannot enumerate all Claude's contributions to biochemical and medical sciences. However, I will declare that his many discoveries have assured him a prominent place in the in the history of biochemistry, biology, and medicine.

Dear Claude, together with other members of the Roumanian Academy, I wish you good health and success in your attempts to cure diseases that are now considered to be incurable.

