

## Professor Gábor Bernáth

### A Tribute



**This Special issue of *Arkivoc* is to celebrate the 70<sup>th</sup> anniversary of the birth of Gábor Bernáth on 19 September, 1933**

Gábor Bernáth graduated in organic chemistry from the University of Szeged in 1957 and in the same year was appointed to a position on the staff of the Department of Organic Chemistry of the same university. He was awarded his C.Sc. degree in 1967, and his D.Sc. from the Hungarian Academy of Sciences in 1974. He held various teaching appointments at the Department of Organic Chemistry and became full professor in 1977. Between 1979 and 1998, he was Director of the Institute of Pharmaceutical Chemistry, Albert Szent-Györgyi Medical University, Szeged. From 1998, he continued as Professor at the same Institute; in the period 1999-2002, he was Széchenyi Professor. Since January 1, 1999 he has been Head of the Research Group for Heterocyclic Chemistry, Hungarian Academy of Sciences and University of Szeged.

His main research topics involve the synthesis, stereochemistry and conformational analysis of condensed-skeleton saturated or partially saturated 1,3-heterocycles, *e.g.* oxazines, thiazines, pyrimidinones, tetrahydroisoquinolines and related compounds and synthetic aspects of original drug research. Adhering to the Szeged traditions in organic chemistry and following the studies of Viktor Bruckner and Gábor Fodor, he worked on the N→O acyl migration of alicyclic 1,3-amino alcohols, which afforded results and ideas suggesting that research into saturated heterocycles would prove a very interesting and fruitful research field. He recognized that the synthesis and conformational analysis of condensed-skeleton saturated heterocycles had long been a neglected area of organic research. The work on saturated heterocycles yielded numerous interesting results. With his co-workers, he has published over 360 scientific papers, 20 review

articles and book chapters and 21 patents. Additionally, he has published almost 100 papers in Hungarian. The contents of his scientific papers in international journals illustrate his very broad range of scientific interest.

His main research topic, synthesis and conformational analysis of fused-skeleton “*Saturated heterocycles*” resulted in 266 publications. Further main series of his papers include “*Stereochemical studies*” (167 publications), “*Cyclic aminoalcohols and related compounds*” (41 papers) and “*tert-Butylcyclopentane derivatives*” (8 publications). The Institute of Pharmaceutical Chemistry headed by him achieved a remarkable progress. Three of his co-workers, G. Stájer, J. Szabó and F. Fülöp were appointed as full professors at the same Institute, which was quite unusual in Hungary at that time. He supported his colleagues in all respects, and the formerly not too widely known Institute became one of the important schools of organic and medicinal chemistry in Hungary, with broad Hungarian and international co-operations. The outstandingly successful grant applications of the Institute provided up-to-date instruments and research facilities.

Professor Gábor Bernáth has participated in wide-ranging collaboration with a number of pharmaceutical companies and organizations, *e.g.* the Biogal, Chinoin, Egis and Gedeon Richter Pharmaceutical Work, Hungary; the Janssen Research Foundation, Beerse, Belgium; and the Orion-Farmos Pharmaceutical Works, Finland. He also has research contracts with Acros Chimica, Geel, Belgium. His scientific co-operation with numerous Hungarian and foreign scientists also illustrates his tremendous activity.

He was a Postdoctoral Fellow in the Central Research Institute for Chemistry and Biochemistry of the Academy in Prague (1963/64), and at the NRC Canada in Ottawa (1968/69). He has been Guest Professor in Turku, Reims and St. Andrews. He has travelled and lectured widely abroad. He has delivered over 320 conference and seminar lectures in different countries (Australia, Austria, Belgium, Bulgaria, Canada, China, Cyprus, The Czech Republic, Finland, France, Germany, Great Britain, Hong Kong, Iran, Israel, Italy, Japan, Poland, Portugal, Russia, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Taiwan, The Netherlands, The United States of America, and Yugoslavia) and over 280 scientific lectures in Hungary. In recent years he has been a plenary or invited speaker at leading conferences on heterocyclic chemistry, *e.g.* in Bled (1994), Tokyo (1994), Taipei (1995), Bowral, Australia (1996) and Vienna (1999).

He has a long list of memberships on various Hungarian committees, and has performed substantial work and achieved many developments in this capacity. He is or was a Member of the Committee of Alkaloid Chemistry of the Hungarian Academy of Sciences (since 1971); a Member of the Committee of Theoretical Organic Chemistry of the Hungarian Academy of Sciences (since 1973); a Consultant Member of the Chemical Division of the Hungarian Academy of Sciences (1990-1993); a Member of the Committee of Pharmaceutical Sciences and Pharmacopoeia of the Hungarian Academy of Sciences and the Ministry of Health (1981-1985); a Member of the Pharmacy Committee of the Hungarian Academy of Sciences (1990-1993); a Member of the Committee of Drug Research of the Hungarian Academy of Sciences (1990-1996); President of the Instrument Committee of Albert Szent-Györgyi Medical University

(1991-1999); a Member of the Habilitation Committee of Semmelweis Medical University, Budapest (1994-1997); a Member of the Doctor and Habilitation Committee of the Faculty of Natural Sciences of Kossuth Lajos University, Debrecen (1994-1999); a Member of the Scientific Committee of the Hungarian Pharmaceutical Society (1995-2001); a Member of the Presidium of the Hungarian Chemical Society (1981-1996); Chairman of the Hungarian Chemical Society, Csongrád County Group (1981-1999); a Member of the Committee for Drug Research of the Hungarian Pharmaceutical Society (1981-1991); a Member of the Committee of the János Bolyai Award (since 1998); a Member of the 2<sup>nd</sup> Chemical Jury of the National Research Foundation (1999-2001); a Member of the Committee of Heterocyclic Chemistry of the Hungarian Academy of Sciences (since 1990); President of the Chemical Division of the Hungarian Academy Committee of South Hungary (1991-2002); President of the Ph.D. Programme "Bioactive Compounds" of Albert Szent-Györgyi Medical University (1993-2001); a Member of the Committee of Organic Chemistry of the Hungarian Academy of Sciences (1979-1997); a Member of the Committee of Organic Chemistry and Biomolecular Chemistry of the Hungarian Academy of Sciences (since 1997); and a Member of the D.Sc. Committee of the Division of Chemistry of the Hungarian Academy of Sciences (since 1995).

His International Memberships in Scientific Societies include: the International Society of Heterocyclic Chemistry: Member since 1987, Regional Officer, 1991-1999; the Royal Society of Chemistry of Great Britain, Fellow since 1989.

He has been elected to the Editorial Boards of the following journals: Acta Phys. Chem. Szeged (1977-1979); A Gyógyszerészet Újabb Eredményei (Recent Results in Pharmacy; a series of books) (1986-1996); Acta Pharmaceutica Hungarica (since 1980); Magyar Kémiai Folyóirat (Hungarian Chemical Journal) (since 1984); Organic Preparations and Procedures International (since 1987); Die Pharmazie (1991-2000); J. Heterocyclic Chemistry (since 1995).

Professor Gábor Bernáth has received a number of awards for his activity, *e.g.* Academy Prize (Hungarian Academy of Sciences, 1989); Badge of Sassari University (1991); Badge of Salamanca University (1992); Medal of the town of Kunszentmiklós (birth-place) (1994); Széchenyi Prize (President of the Hungarian Republic, 1994); Albert Szent-Györgyi Prize (Minister of Culture and Education, 1997); Károly Than Prize (Hungarian Chemical Society, 1997); Pro Schola Medal (Sándor Baksay Secondary School, Kunszentmiklós, 1998); Albert Szent-Györgyi Medal (Albert Szent-Györgyi Medical University, 1998); Géza Zemplén Prize (Hungarian Academy of Sciences, 2000).

His biographical references reflect the fact that he is well known in the chemical society. The most important data include the International Directory of Distinguished Leadership, Third Edition, American Biographical Institute, Inc., Raleigh, North Carolina, USA, 1991; Five Thousand Personalities of the World, Fourth Edition, American Biographical Institute, Raleigh, North Carolina, USA, 1994; Five Hundred Leaders of Influence, Second Edition, American Biographical Institute, Raleigh, North Carolina, USA, 1994, p. 29; Magyar és Nemzetközi Ki Kicsoda, 1998 (Hungarian and International Who's Who, 1998), Biográf Kiadó, Budapest, 1997, p. 105; F. Fülöp: Saturated heterocycles and beyond. Professor Gábor Bernáth is 65. *ACH* –

*Models in Chemistry* **135**, pp. 435-437 (1998); Five Thousand Personalities of the World, Edition Two, The American Biographical Institute, Inc., Raleigh, North Carolina, 1998, p. 32; Biográf Ki Kicsoda 2002 ("Who's Who 2002"), Enciklopédia Kiadó (Ed.: P. Hermann), Budapest, 2001, p. 178. G. Stájer: Professor Bernáth receives the Széchenyi Prize, *Gyógyszerészet* **38**, 335 (1884) (in Hungarian); G. Stájer: Prof. Dr. Gábor Bernáth receives the Albert Szent-Györgyi Prize (in Hungarian) in: Stájer Géza: A Kígyó Metamorfózisa, Ed. by Hungarian Pharmaceutical Society, Budapest, 2002. pp. 167-169.

He also carries out his hobbies on a high scientific level. One of his hobbies is philately. He is a member or elected member of five international philatelic societies. His collection on the Hungarian hyperinflation in 1945-46 won gold medals and special prizes at numerous international stamp exhibitions. Collecting modern Hungarian paintings has also given him much pleasure in his leisure time. As a student he swam and played chess on a competitive level. In recent decades he does gardening. He is fond of taking photos, and has a nice collection of photos of chemists, taken at Hungarian and international conferences.

Although Professor Gábor Bernáth has reached the age of 70 (the age for the official retirement of professors), he is not planning to give up his activities. He is continuing his teaching activities as an emeritus professor, and intends to carry on with his research *e.g.* on homoadamantane derivatives. He is also planning to write further philatelic publications relating to his stamp collection.

On behalf of his students, colleagues, research partners and friends, I wish him many further active and successful years, and every continued happiness in his private life.

Prof. Ferenc Fülöp

### [International Publications of Gábor Bernáth](#)

#### **Selected Publications of Gábor Bernáth**

1. G. Bernáth, K. Koczka, Stereochemistry of 14-hydroxycodeinone and 14-hydroxy-dihydrocodeinone. *Chemistry and Industry* (London) **1960**, 1479-1480.
2. G. Bernáth, The specification of asymmetric nitrogen atom. Application of the Cahn-Ingold-Prelog nomenclature to some tertiary amines and quaternary ammonium salts. *Nature* **1961**, 189, 304-305.
3. G. Bernáth, J. Kóbor, K. Koczka, L. Radics, M. Kajtár, Quaternization of 1,2-disubstituted-6,7-dimethoxy-1,2,3,4-tetrahydroisoquinolines. *Tetrahedron Lett.* **1968**, 225-229.
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5. G. Bernáth, K. L. Láng, G. Göndös, P. Márai, K. Kovács, *N*→*O* Acyl migration in the *N*-benzoyl derivatives of *cis*- and *trans*-2-hydroxymethylcyclopentylamine. *Tetrahedron Lett.* **1968**, 4441-4444.

6. G. Bernáth, M. Svoboda, Stereochemical studies, 13. Synthesis of the four 2-amino-4-*t*-butylcyclopentanol isomers. *Tetrahedron* **1972**, 28, 3475-3484.
7. P. Sohár, G. Bernáth, Stereochemical studies, 14. NMR study of the steric structure of *cis*- and *trans*-tetramethylenetetrahydro-1,3-oxazin-2-ones. *Org. Magn. Reson.* **1973**, 5, 159-160.
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10. G. Bernáth, L. Gera, Stereochemical studies, 28. Effect of the *t*-butyl group in 1,2-disubstituted 4-*t*-butylcyclopentanes. *Tetrahedron Lett.* **1976**, 1615-1616.
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12. P. Sohár, L. Gera, G. Bernáth, Stereochemical studies, 37. Configuration and conformation of *Z*- and *E*-*N*-methyl- and -*N*-benzyl-2-*p*-nitrophenyl-4,5- and 5,6-tetramethylenetetrahydro-1,3-oxazines. *Org. Magn. Reson.* **1980**, 14, 204-208.
13. F. Fülöp, G. Bernáth, A new route to *N*-substituted-2-aminomethyl-1-cyclanols. *Synthesis* **1981**, 628-629.
14. G. Bernáth, F. Fülöp, G. Argay, A. Kálmán, P. Sohár, Stereochemical studies, 47. A simple stereospecific synthesis of oxazasteroids. *Tetrahedron Lett.* **1981**, 22, 3797-3800.
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