

PROF. NGUYEN VAN KHANG: A LIFETIME OF DEDICATION TO MECHANICS AND EDUCATING THE YOUNG GENERATION

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With almost 60 years dedicated to the field of mechanics and the Department of Applied Mechanics, Hanoi University of Science and Technology, Prof. Dr. Sc., People's Teacher Nguyen Van Khang made a vital contribution to educating generations of outstanding students in mechanics and mechatronics, as well as to developing multi-body mechanics in Vietnam. His enthusiasm and passion for mechanical research lasted until the final days of his life. With a burning passion and endless creativity, he always strived hard and became the leading professor in Dynamics and Mechatronics in Vietnam. He also built and maintained close scientific cooperation with many famous professors in other countries. In the bottom of the hearts of colleagues, students and his family members, Prof. Khang remains a symbol of an excellent scientist with practical expertise, extensive knowledge and dedication, as well as a steadfast Party member with unwavering determination. The professor's spirit of dedication to science and teaching will always be a valuable lesson and a motivation for students and successors to follow.



Prof. Dr. Sc. People's Teacher
Nguyen Van Khang

Prof. Dr. Sc. People's Teacher Nguyen Van Khang was born in 1941 in Hanoi, with ancestral roots in Cộng Hòa Commune, Yên Hưng District, Quảng Ninh Province. In 1961, as a young and passionate learner, he was admitted to the Faculty of Mathematics and Mechanics at the University of Hanoi (now Vietnam National University, Hanoi). After graduating, he became a lecturer and dedicated his career to the Department of Applied Mechanics, Faculty of Mechanical Engineering (now the School of Mechanical Engineering at Hanoi University of Science and Technology (HUST)) until his retirement.

As a talented young lecturer, in 1969, he was sent to Germany for research and successfully defended his doctoral dissertation with distinction in 1973. Afterwards, he returned to Vietnam to continue teaching. In 1980, he had the honor of becoming a member of the Communist Party of Vietnam. In 1985, he returned to the Federal Republic of Germany as a senior research fellow and successfully defended his Doctor of Science (Dr. Sc.) dissertation in 1986. With this prestigious academic title, he was entrusted with important professional responsibilities, including serving as Deputy Head and then Head of the Department of Applied Mechanics, as well as Party Secretary of the Faculty of Mechanical Engineering at HUST. He was awarded the title of Associate Professor by the State in 1991 and Professor in 1996.

A DEDICATED EDUCATOR WHO LAID THE FOUNDATION FOR THE MECHATRONICS TRAINING DISCIPLINE IN VIETNAM

As an educator, Prof. Dr. Sc. Nguyen Van Khang dedicated most of his time and effort to university education. He was deeply committed to nurturing young scientists and outstanding students. Throughout his 60-year teaching career, he played a crucial role in training thousands of students, hundreds of masters graduates, and supervising over 20 doctoral candidates. Many of his students have gone on to work at research institutes and universities worldwide.

Prof. Dr. Sc. Nguyen Van Khang was one of the people who promoted the construction of a new training field, Engineering InfoMechanics, at HUST and developed it into the Mechatronics engineering training field today in the system of national universities. Since 2005, under the sponsorship of the German Academic Exchange Service (DAAD), the professor organized seminars with German and Vietnamese colleagues on building Mechatronics training programs. This created the premise for many universities in Vietnam to orient towards building Mechatronics training.

Prof. Nguyen Van Khang always devoted his heart, intellect, and efforts to write textbooks. Generations of HUST's students and many universities across the country have used and will continue to use his scientific books and fundamental textbooks in the field of Mechanics, such as Engineering Mechanics, Engineering Vibration, Applied Nonlinear

Oscillations, Dynamics of Multi-Body Systems, Fundamentals of Industrial Robots and Mechatronics Handbook. Prof. Khang was always concerned about introducing new knowledge into lectures, innovating and modernizing training content. He organized groups to translate many valuable international textbooks, such as Mechatronics and Machine Dynamics. At the same time, Prof. Khang invited many professors from developed countries to share and teach new scientific topics in Vietnam.

A talented scientist with several research projects solving practical problems, Prof. Khang was a genuine scientist who worked until the last days of his life. On the morning before his passing, Prof. Khang still asked a young colleague to find books and scientific materials for him. With 60 years of tireless and relentless scientific research, Prof. Khang created a huge collection of invaluable research works. The professor was the author and co-author of nearly 200 scientific articles, published in domestic and international scientific journals as well as conference proceedings. Additionally, he led numerous national-level research projects on Vibration and Dynamics of Multibody Systems. Even in his seventies, he continued to serve as the principal investigator of a NAFOSTED project on Dynamics and Control of Flexible Multibody Systems. He also co-led an international research project with a renowned German professor, focusing on the vibrations of cable-stayed and suspension bridges.

The research topics pursued by Prof. Khang were not only deeply theoretical, but also highly practical, especially his studies on suspension bridge vibration analysis and the design of dynamic absorbers for long-span bridges. Prof. Khang was a pioneer in research on the dynamics of flexible multibody systems and oscillations of fractional damped systems. Not only in Vietnam, Prof. Khang also won respect and has had close cooperation with many famous mechanical scientists in the world. He has directly contacted and sent many students to study and carry out research in developed countries such as Germany, the US, Japan, the UK, Korea, Singapore, etc.

In addition to teaching and scientific research, Prof. Khang also spent time on activities in professional associations. The professor was a member of the Executive Committee of the Vietnam Association for Mechanics. Prof. Nguyen Van Khang was an invaluable member of the Editorial Board since 1998, dedicating his expertise and tireless efforts to the development and success of the Vietnam Journal of Mechanics and the National Olympiad in Mechanics. The professor was a representative of Vietnam in the International Federation of Machines and Mechanisms (IFTToMM), the president of the Vietnam Society of Dynamics and Control, a member of the Standing Committee of the Vietnam Association for Mechanics, a member of the Standing Committee of the Vietnam Society of Occupational Health and Safety and a member of the Executive Committee of the Vietnam Automation Association. As the president of the Society of Dynamics and Control under the Vietnam Association for Mechanics, the professor initiated and

chaired the organization of many international scientific conferences in Vietnam. We cannot forget notable events such as: Conference on Applied Dynamics (1995); Conference on Nonlinear Oscillations (1999); International Conference on Dynamics and Control (2003, 2011); Conference on Nonlinear Dynamics and Material Theory (2007); IFToMM Conference on Robotics and Mechatronics (2009); Asia-Pacific Vibration Conference (2015); IFToMM–Asian Conference on Mechanism and Machine Science (AMMS, 2021).



Prof. Nguyen Van Khang (third from left) with President of the Asian Vibration Society - Prof. Yoshihiro Narita (second from left) at the Asia-Pacific Vibration Conference at HUST, 2015

A number of scientific conferences, after being held for the first time in Hanoi, have become a series of conferences held in other countries. These conferences and seminars have contributed to promoting international cooperation in research, helping young scientists to access the world's advanced research levels early on and, in particular, have built a tight cooperation network between scientists at home and abroad.

A ROLE MODEL OF HUSTER WITH VALUES: RESPONSIBILITY, CREATIVITY, INTEGRITY, AND EXCELLENCE

Prof. Khang has left special impressions and deep affection for many generations of students and colleagues, because of his contributions and achievements to the Department of Applied Mechanics, to Hanoi University of Science and Technology, to the mechanics field of Vietnam and to the country's high education, deserving the most noble title in the teaching profession – People's Teacher.

With rare capacity and intelligence, blazing enthusiasm, a will to strive and tireless dedication, People's Teacher Nguyen Van Khang was one of the outstanding mechanics

researchers and educators, reaching the pinnacle of the profession. Regardless of his position, People's Teacher Nguyen Van Khang was always highly respected by his comrades, colleagues, friends, and students for his expertise, ethics, and lifestyle.

With his great contributions to the cause of training high-quality human resources and achievements in scientific research, Professor Nguyen Van Khang was awarded many noble titles by the Party and the State, the Government, the Ministry of Education and Training, Vietnam Union of Science and Technology Associations, and Hanoi University of Science and Technology, such as: 40-year Party membership badge; Second-class Resistance Medal against America for National Salvation; Certificate of Merit from the Prime Minister; Certificate of Merit from the Minister of Education and Training; Commemorative medal "For the cause of education"; Commemorative medal "For the young generation"; Titles "Excellent Teacher", "People's Teacher"; Title "Outstanding intellectual of science and technology" and many emulation titles at all levels.

His sudden passing is a great and irreparable loss, leaving a void in the nation's mechanics field. With more than 80 years of age and over 40 years of Party membership, the legacy that the Professor Nguyen Van Khang left for the mechanics field and the education of Vietnam will forever be a source of inspiration for generations of students. The Professor's thoughts that "To be a teacher, one must put one's heart first; International integration must be a need for scientists; Scientific research must be applicable" are still relevant and that spirit will continue to be inherited by generations of students.