

Before 1988, Professor Shi worked in the Military Electronic Research Academy. Since 1988, he has worked in the Chinese Aerospace Industry. He has been Head of the Telemetry Laboratory, Vice President of Beijing Research Institute of Telemetry and Control Management of Beijing Aerospace Measurement and Control Technology Development Company. He was a member of the Chinese Aerospace enterprise initiative, sponsored Chinese civil measurement, and chief pioneer and director of over 50 years of Chinese telemetry technology.

At the same time as he worked in the Aerospace Industry, Professor Shi served as a professor of both Harbin University and the Beijing Aerospace University, as a judge and member of Chinese Tech Panel, the National Committee of Science and Tech, Vice President of the Military Standard Committee.

Professor Shi is married to Chen J. Jia, who retired in 1988. She had been employed at the Tax of Export & Import Foreign Trade Company for the whole of her working life. Professor and Mrs. Shi have three sons: the 1st who is working in the Chinese Quality Certificate Center, the 2nd is working in a company of IT/MT, and the 3rd who is a Canadian citizen who is now working as an assistant manager of the Japanese Steel Co. in Toronto.

#### List of honours:

1. The 1st and second generation: Won the Chinese National Scientific Meeting Award. (The second generation is the first Chinese semiconductor telemetry system)
2. Won the first generation: was one member of the special class of 1985 Chinese Science and Technology Award. (The third generation is a microwave system)
3. The fourth generation: Won the first class of Chinese National Science and Technology Award in 1995. (It is a data flow processing system)
4. 1988 was the 1st 1st class honoree of Chinese Ministry of Aerospace.
5. Elected Chinese government National Scientist.
6. Won the 1st class Chinese Specialist of 3d Era.

#### PERSONAL EXTRACT

I did not study in primary school, my primary education was completed at home, but the cultural foundation was consolidated. At senior middle school I always got high marks, especially in mathematics, physics and English language. Whilst at school I had a large influence on my classmates and teachers, and my studies at Chinese National Wu Han University were very successful. I won the Engineering Academy Award, and Chinese Railroad awarded the only one student every year.

During my working life, I have had two periods where I have had to study hard. The first period of time was

between 1958 and 1962, when my task was to change the foundation from communication to aerospace telemetry. That is to learn about satellite, missile, telemetry and related mathematics. The second period of great study was 1984-1987, when I worked as a Standing Member of the Scientific and Technology Committee. I had studied the Journals of TC and TTC to learn more detail about telemetry development history and to discuss the development trend. At the time that was determining Chinese Measurement and Control 15-year development plan.

My position is to dedicate my time to the task in hand, working with young engineers at the forefront of our profession. For example, between 1978 and 1981 during the perfection of the first generation system, I worked for nearly three years without taking time-off on Sundays and holidays.

#### PUBLICATION HIGHLIGHTS

"Special Problems in Chinese Development of Telemetry Technology"  
 "Chinese Development of Aerospace Technology Ground Station"  
 "The Factors Influencing the performance of Multiple Processor System for Telemetry Data Acquisition and Processing"  
 "Chinese New Telemetry Ground System"  
 "The Development of Chinese Ground Data Acquisition System (TTC) system"  
 "The 30 decade of world wide level telemetry ground station"  
 "The data processing data flow computer"  
 "International telemetry data acquisition new technology"  
 "The important development of an anti interference measurement and command station technology"  
 "PC computer telemetry station"  
 "Data flow in international CCSDS standard"  
 "Space data storage"  
 "Analysis of American telemetry technology"  
 "The general development of aerospace telemetry"  
 "The system of Chinese measurement and command technology"  
 "The development trend of international telemetry"  
 "Summary of standing 1985 TTC"  
 "Multi-target non-measurement technology equipment"  
 "Several technical problems of telemetry development trend"

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## Dr Dong-Keun Shin

Independent Researcher in Computer Science

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 Korea

#### PERSONAL

Married to Helen Chang, MD  
 2 sons

#### CAREER

Engineer  
 Analyst  
 Programmer

#### HIGHLIGHTS

A Korean-American researcher, who claims world leadership in computer science and related technologies, conducts independent research to complete his theories and practices.

The son of Chul Ho Shin and Yoon Ok Kim, Dr Shin was born on 13 June 1959 in Incheon, South Korea, and he grew up in Seoul. From the time he was very young, he had dreams about creating his own theoretical world. After graduating from Po Sung High School in Seoul, he emigrated to the USA with his family in 1978, for better education. To make his dream come true, he chose to study computer science since the relatively new field provided good opportunities in research and industrial applications. Dr Shin received degrees in computer science from the University of California at Berkeley and the George Washington University. He worked for the former university's EECS Department as academic computing co-ordinator in his undergraduate years, and lectured in computer hardware and software courses at

the latter in his graduate years. As an engineer, analyst or programmer, he has worked at several companies, including BT-Dialcom, Xerox, CBSI, SRA and SECL. His current research interests include computer science theory and database systems.

While surveying hash functions for his doctoral dissertation, Dong-Keun Shin was the first to verify that there is no distinguishable difference between the performance of one relatively good and data-independent hash function and that of another. Dr Shin coined the term "phenomenon of relatively good (RG) solutions" in reference to the verification. Based on the first verification, he developed the hypothesis that the phenomenon of RG solutions is present in each group of polynomial time solutions for complex problems that basically require exponential time algorithms as solutions. He is preparing to verify the hypothesis for other complex problems. He has also contributed significantly to computer science by discovering and proposing best algorithms in the areas of sorting, hash functions, massive cross-referencing or the join database operation, and polygon clipping. His papers show that his algorithm for massive cross-referencing or the join, with its several versions, is best of its kind to date and his (mapping) hash function is the best hash method.

In early 1997, Dr Shin offered a challenge to the world's academic communities and computer scientists to refute the legitimacy of his verification and discoveries, as well as his claim to having made the greatest contribution to computer science. At that time, he sent letters to each nation's one or two highest political leaders, ministers of education or equivalent, and heads of major universities and colleges in about 170 countries. Armed with his accomplishments, he expressed his desire to gain leadership in computer science academia through fair competition. He believes that any computer scientist with only a theory or idea can participate in such competition to win, regardless of racial, educational or social background. He also believes that the competition will create the academic hierarchy's uppermost group which must be very small. Computer scientists, who are examined through the competition and included in the group, will influence present and future students in the world for a greater understanding of computer science. He thought that as the highest achiever in computer science he needed to take the mailing action to verify that his ideas were truly under his ownership and to stop any plagiarism. The schools to which he sent his challenging letters numbered over 4,300, but he has encountered no serious challenge as yet.

Moreover, on 3 July 1998 Dr Shin discovered a new sorting algorithm, Shin sort, which is the best solution to the problem of sorting and searching. This new algorithm secured his victory in the battle for world leadership in computer science. In April 1999 he sent letters to 1,200 press-related organisations worldwide. In his letters to the



press, he proclaimed that he would lead people in computer science from the beginning of the 21st century, if no challenge arose. His letters leave the world's computer scientists two options: to compete with him or to follow him. If he loses, he will send letters to the world to announce the winner of the competition and will support the winner in his new leadership for world's computer science academia.

After designing and implementing a prototype of his sorting and searching software, he will eventually develop it into a Shin sort and search database management system (S<sup>3</sup>DBMS). S<sup>3</sup>DBMS creates Shin's trees in main or local memory for fast text/image/sound data retrievals. His press release in April 1999 shows that his sorting and searching scheme that traverses Shin's tree will replace current sorting and searching algorithms, hashing schemes and hash tables, and most trees including B-trees, due to the Shin sort/search algorithm's theoretical superiority. He believes that Shin sort will be used in most database systems and computer-based systems in future. As discoverer of the best solution for the sorting and searching problem, he may enjoy certain privileges, such as the right to write about sorting and searching theory and the publication of computer science textbooks.

Further details of Dr Shin's achievements can be found in both his website: [www.dkshin.com](http://www.dkshin.com) and his research collection entitled "A Collection of Research Processes for Genealogy and Proofs", thirty volumes of which have currently been submitted to the chairperson of the EECS Department, University of California at Berkeley. In Seoul, Korea, he has once lectured on computer-based systems for an introductory course at the University of Maryland's Asian Division. He is also involved in managing his family-owned Hwa Shin Building in downtown Seoul. Although life at the top in any field usually involves a lot of sacrifice, he is trying to enjoy the situation he is in. He spends time in communicating with the Creator through his prayers and reading the Holy Scripture. Dr Shin will be living proof that the Creator allows a scientist to have what he has dreamed about.

#### PERSONAL EXTRACT

Although I have accomplished my long-held dream of owning a theoretical world, I want to serve mankind further with my creative talent. I plan to continue conducting computer science research and industrial computer applications, and to publish my theories and ideas in the computer science/engineering field.

#### PUBLICATION HIGHLIGHTS

Books and Papers:

"A Comparative Study of Hash Functions for a New Hash based Relational Join Algorithm", 1991

"A Sorting Method by Dong-Keun Shin", 1998

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**Grace Thao-Nien Shin**

Computer Programmer/Chemist

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#### CAREER

1976-77, Part-time chemist/Geological Survey of Korea

#### HIGHLIGHTS

Achievements: computer programming and chemist whose area of interest includes chemistry, mathematics and physics.

Born on 28 June 1951 in Shanghai, China. Mr Shin received university education in Taiwan and the USA, earning a Bachelor of Science in Chemical Engineering at the National Cheng-Kung University in the former country, as well as a Master of Science degree in Transnational Physical Chemistry at Cornell University in the latter country. She subsequently obtained a Master of Science degree in Mathematics at the University of Illinois in Champaign-Urbana.

From 1976-77 Miss Shin worked for Geological Survey of Korea, as a part-time chemist. She also joined the Mathematical Association of America, but later discontinued her membership.

#### PERSONAL EXTRACT

My professional interests consist of chemistry, mathematics and physics, but have wide-ranging other interests, which embrace psychology, philosophy, literature, chemical engineering, Christianity, Buddhism, sociology, chemistry, physics and mathematics. I have

published an extraordinary number of articles and a recognition of my accomplishments. I have been published within the Christian or religious sections of the International Register of Profiles, Topmost Person of the 20th Century, 1999 Outstanding People of the 20th Century and 1999 Founders of the 20th Century.

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**Dr Christopher P Silva**

Electrical Engineer

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#### CAREER

1980, Member of the Technical Staff, The Aerospace Corporation, El Segundo, California.

1980, Senior Member of the Technical Staff, The Aerospace Corporation, El Segundo.

1980, Engineering Specialist, The Aerospace Corporation, El Segundo.

#### HIGHLIGHTS

An American engineer whose expertise lies in the area of electrical and computer engineering.

Dr Christopher Patrick Silva was born on 21 March's Day, 1960, in Fontana, California, to parents of Portuguese descent. Joseph B Silva (pleasant), a lumbermill/industry worker and Maria L Silva, a housewife. He was raised in the Bell where he lived most of his first 20 years. From the beginning, his parents felt that he had a strong set of values, high standards and spiritual faith. As a consequence he has always maintained his understanding of an eternal guide that has been the compass for his many accomplishments and successes. Early on, he

displayed a natural aptitude for mathematics, studying advanced mathematics throughout high school and colleges. He participated in two national mathematics tournaments (at Ohio's Hamilton State University while at Fontana Union High School, his interests turned to technical drawing and illustration as well, where he also won several honors in national industrial art shows (for example, National Show for his junior and senior years).

Given these talents and interests, Dr Silva was encouraged and drawn into the field of electrical engineering (EE) by extensive mathematical basis. He entered the College of the Redwoods to prepare for his transfer to the University of California at Berkeley (UCB) as a junior. Again was prior to other class technical subjects, earning in his second year, for example, an Outstanding Physics Student the Year Award from the American Association of Physics Teachers. He graduated with an Associate of Arts Degree in Engineering Preparation in June, 1980, was accepted for transfer to UCB and immediately began summer school that fall before his first year started.

Although initially hindered by the academic competition found at the prestigious UCB institution, Dr Silva was more applied himself to his studies, and earned several honors during his undergraduate years. These honors began with being selected a UC Honor Scholar for earning a Highest Honors Distinction in his Bachelor of Science Degree in Electrical Engineering (EE) which he earned in June of 1982. He was admitted to graduate studies at UCB, where he earned a Masters of Science Degree in EE in May 1983, and eventually his PhD in May 1985 after having left for The Aerospace Corporation in September 1983. During this time he received local financial support from honorary scholarships, and fellowships, including a three-year National Science Foundation Fellowship, several industrial support awards and a visiting fellowship.

It is during these formative years that he was influenced by his vibrant father and mother, Professor Leon G. Silva - a well-known research pioneer in signal and systems theory - moving towards engineering for his lifelong avocation. This new stage in the development of engineering, which traditionally had been dominated by linear approaches, had since blossomed into a realm of international activity and application, ranging from general communications using chaos and wavelets, to fractal image compression technology found in multimedia (CDs such as Microsoft's Opera). Dr Silva is ever grateful to Professor Silva for his optimism, support and encouragement in adopting the nonlinear world.

With all his academic work completed, Dr Silva left UCB in the summer of 1988 and began a one-year period of intensive research on the analytical detection of chaos.