

Seasonal Greeting from the AZKEF

Wishing You Merry Christmas and
Happy New Year!

圣诞节愉快、新年好!

News



The 27th Annual Meeting of the National Chekiang University Alumni Association in North America was held in Los Angeles, September 6-9, 2003. Kwang-Chu Chao (B.S. Ch.E. 1948), Z. George Hong (B.S. History 1982) and Cheng Zhu (B.S. Mechanics 1982) attended on behalf of the AZKEF. The following is the news report by *Cheng Zhu, the AZKEF President*:

This was the 27th annual NCUAA meeting; the first annual meeting was held in 1976. Most of the NCUAA members graduated in the 1940s and were students of Dr. Zhu Kezhen when he was the president. For me who has not had such a privilege, it was quite moving to hear them telling stories about President Zhu. For example, Dr. Chiao-Min Hsieh (B.S. Geography 1941), Professor Emeritus of the University of Pittsburgh, told me how President Zhu had helped him to enter Harvard University for graduate studies.

Many alumni attended Zhejiang University (then called National Chekiang University) during the Anti-Japanese War, and I heard of many stories about how tough that time had been. Yet they valued the education their alma mater provided and celebrated their graduation anniversary. One alumnus celebrated his 70th graduation anniversary while seven other alumni celebrated their 60th graduation anniversary.

Many alumni have long been strong supporters of the American Zhu Kezhen Education Foundation. These include several founding members of AZKEF's Board of Directors - Tom Y. C. Tang (B.S. Ch.E. 1940), Kwang-Chu Chao (B.S. Ch.E. 1948), Thomas T. L. Chou (EE 1947) and T. T. Feng (B.S. Ch.E. 1943) - some of whom are still serving. Givings from NCUAA members comprise a major portion of the donations that the foundation receives annually. For example, immediately after my report on behalf of the AZKEF, Dr. Yung-Fang Yu Yao (B.S. Ch.E. 1948) approached Kwang-Chu Chao to pledge a \$4,800 donation to the Foundation for establishing a scholarship in memory and in honor of her late husband, Dr. Hsien-Cheng Yao (B.S. Chemistry 1946).

Several alumni of younger generations also participated. Kevin Ye (EE 1986) made a presentation on behalf of Zhejiang University Alumni Association in Southern California. NCUAA was very pleased to welcome our "middle age" group as new blood participating in its annual conference. George and I have made a lot of friends through a variety of group entertainment, administrative activities, dinners, and one-on-one meetings.

I would like to take this opportunity to invite all of you to join this prestigious alumni association. Together, we would, should and could make our foundation, our alumni networking and our university better, bigger, and stronger.

AZKEF Has Its Logo Now



As shown on the left, the logo represents a flying dove with a book hanging from its beak. The dove can be perceived to be in the same family as the eagle that is the logo of Zhe-Da. This logo symbolizes the mission of AZKEF to promote cultural, scientific and educational exchange. The number '1995' indicates the year of formation of the Foundation.

The designer, Ms. Xuelei Yu, is currently a 2nd year undergraduate student in the Department of Design of the Chinese Fine Arts University. Xuelei started to draw when she was 5. She received the 2nd place of a national fine arts contest for children at age 9. The high school she attended was specifically for students with art talents. Xuelei entered the Chinese Fine Arts University in Hangzhou after she passed an extremely competitive on-site drawing test. She is a top student in her class, and is currently working

on her bachelor degree in design. (by *KC Chao and Cathy Yang*)

New Look and Features of AZKEF Website

Please visit us at <http://www.azkef.org> for information on the organization and its history, events and programs, news reports, making your donation, and how you may register at the Zhejiang University Alumni Database. This website was recently redesigned to better represent the foundation. (by *Elaine Jin*)



Events

AZKEF Fundraising Campaign November 2003 has been launched. Here is a public letter from Cheng Zhu, President and Jianping Gong, Chair of the Fundraising Committee. A Chinese version of this letter is available at AZKEF website <http://www.azkef.org>.

Respected Alumni of the Zhejiang University:

First of all, we would like to express the warmest greetings to you on behalf of the whole AZKEF. And, we would remind you that, as in years before, this year's Zhu Kezhen Education Foundation fundraising campaign has promptly kicked off.

You must have never forgotten that you were once enveloped in the nurturing and accommodating environment of Zhejiang University. It is perhaps not presumptuous to say that the university was a second home, second family to all of us because we willingly endowed a part of our youth, our creativity, and our passion on campus. Like many of our alumni have said, "The time in Zhe-Da has changed our lives." The natural bond and atmosphere of the university have often attracted out concern and attention back to the university then and again. Therefore, we have every reason to believe that you, like us, have always found ways to keep in touch with Zhejiang University and have altruistically contributed to the university's

excellence in various ways so that we all can be proud to be a graduate of Zhejiang University no matter where on the globe we are.

In trying to express our gratitude and sentiments we have for our alma mater, American Zhu Kezhen Education Foundation was established in 1995 by Zhejiang University alumni in the United States, with its staff - us - working voluntarily for this organization. We hope that our efforts and your aid and care can help engender new relationships between Zhejiang University and other world-class universities and increase the academic reputation of Zhejiang University in the world. We also pride ourselves in being willing and eager to serve the wishes and needs of the alumni around the globe.

In the past eight years, with the help of generous alumni like you, we have been able to raise funds to serve the university with various programs that include: supporting world leaders in specific scientific and technological fields to present the Zhu Kezhen Annual Distinguished Lectures in Zhejiang University; aiding current Zhe-Da faculty for sabbatical leave in the United States; and providing student scholarships. We believe that all these ventures have actively bolstered Zhejiang University's status as a world-renowned university, and we hope that you can help us continue our efforts. For details about the above stated and other activities and accomplishments of the AZKEF, please go to our website at <http://www.azkef.org>.

If you would like to contribute to the AZKEF, please fill out the "Donation Form," located under 'Donate Now' on the website, attach a check payable to AZKEF, and mail them to us. If you have any suggestions or recommendations for us, please feel free to contact any of the AZKEF staff (contact information on the website). We will do our very best to address your concerns and to meet your needs.

The AZKEF also encourages contributors to ask about "matching funds" at your resident companies. If your employer can and will provide matching funds, they can match each dollar you donate with a dollar donation of their own, effectively doubling the contribution that you make.

This year, we have also added a category for group and organizational donations in addition to the existing individual donations. We can provide necessary information, materials, and funds to start the fundraising process. For details, feel free to contact us.

The AZKEF 2003 fundraising campaign will end at the end of this year. We will greatly appreciate it if you can send out donations promptly so that we may continue our operations on time. Please feel free to relay this information to alumni that you know who may be interested.

AZKEF is a non-profit organization of the United States. As such, your donations will be tax-deductible. After we have received your donations, we will provide you with an official receipt indicating the amount you donated.

We sincerely encourage you to maintain and nurture your bond with our alma mater, so that we all may see Zhejiang University with an even brighter and even more promising future.

Sincerely,

Cheng Zhu, President, and Jianping Gong, Chair of the Fundraising Committee



Profiles of Well-Known Members

Professor Kwang-Chu Chao, Chairman of AZKEF by Yigang Cai



Prof. Kwang-Chu Chao is a distinguished alumnus of Zhejiang University. He graduated from the Department of Chemical Engineering of National Chekiang University in 1948. He moved to US after his graduation (1948), and earned his MS (1952) and Ph.D. (1956) degrees from University of Wisconsin – Madison. He joined the faculty of the Department of Chemical Engineering of Purdue University in 1968. In 1989, he became Harry Creighton Peffer Distinguished Professor of Chemical Engineering of Purdue University.

Prof. K.C. Chao is a nationally and internationally recognized scholar with extraordinary contributions in the field of thermodynamic properties of fluids and polymer melts. He guided 37 Ph.D. students, authored 4 books, 170 journal papers and 55 proceedings papers. Prof. Chao retired in 1994. (*Photo: Prof. Chao*)

An early paper that he authored at the beginning of his professional life rocked his profession. This work was the first to express the vaporization/condensation phenomena of oil and gas in theory-based equations in replacement of volumes of empirical charts. The development made it possible to do engineering of oil refining and gas refining on computers that were just becoming available and made it practical to implement the theoretical calculations. This work was immediately adopted for the engineering design of all oil refining and gas refining in the world. It kept its standing as the method of design of boiling/condensation for more than ten years.

Professor Chao was actively involved in experimental investigations. The most significant work was the experimental simulation of the coal liquefaction process for the understanding of the interaction of gas and liquid phases in the hydrogenation reactor. The development of coal liquid for the supply of the energy needs of the nation was a topic of great national interest in the 1970's. Professor Chao's work was a leader to develop the technology in response to the national need. In this study, the pressure (up to 300 atmospheres) and temperature (up to 400 C) were pushed to high levels surpassing all previous attempts. A systematic series of measurement produced information that was in need also for hydrogenation refining of oil.

A major interest of Professor Chao is writing equations of state (EOS), for the equation that expresses the pressure-volume-temperature relationship is the basic constitutive equation from which all thermodynamic properties, including vaporization and condensing properties, can be obtained upon applying standard mathematical methods. The last EOS that Professor Chao wrote was a unique contribution, for it deals with polymer melts, the molecules of which move in a unique way. Since these molecules are entwined and entangled long chains, they do not move on to go anywhere. There is no translational motion, which is the mode of motion of ordinary molecules; the common EOS' do not apply to polymer melts. The molecular motion of polymer melts is rotation of the atoms about the axis that is the chemical bond between two adjacent chain-backbone forming atoms. The rotating atom is attached to a backbone-forming atom in a direction away from the rotating axis. The rotating atom may itself be a chain-backbone-forming element. The total effect of the atoms rotating is a wiggling motion of the molecule. The solution to the EOS problem is to find the microstructure of a fluid of simple small rotating molecules, and trust that structure to prevail in

the fluid of large molecules with many rotators. Writing EOS has been an absorbing activity for Professor Chao in his later professional years.

Professor Chao has been awarded many honors. He is a fellow of the American Institute of Chemical Engineers (AIChE); an honorary professor of Zhejiang University and Beijing University of Chemical Technology. He was an invited Lecturer and International Scientist of the National Science Council, Taiwan. He was presented the Donald Katz Award of the Gas Processors Association. He served on the editorial board of the AIChE Journal and Industrial and Engineering Chemistry Annual Reviews. He was plenary lecturer at the International Symposium of Thermodynamics in Chemical Engineering and Industry, Beijing 1988.

Prof. Chao is a co-founder and the first secretary of the American Zhu Kezhen Education Foundation (AZKEF) in 1995 to promote academic exchange and joint research between Zhejiang University and universities in the United States. He was elected (1997) and re-elected (2000 and 2003) as Chairman of AZKEF. He has been recognized as the backbone of the Foundation. He has been in charge of the foundation's daily administration work and led several subcommittees for many years. He presented the foundation progress report at every annual meeting of National Chekiang (Zhejiang) University Alumni Association in North America (NUCAA). He advocated the foundation and raised funds using his broad networking and influence within Zhe-Da alumni circles. Prof. Chao and his wife Prof. Su are constant generous donors to the foundation and Zhejiang University. With his extraordinary leadership, diligent work, enthusiasm and devotion, the Foundation has grown to maturity and in strength, and made more and more contributions to both Zhejiang University and alumni in the United States. *(Photo: Prof. Chao and Prof. Su)*



Professor Chao is one of the youngest alumni among those graduated before 1949 but a respected elder to the younger generation of alumni who came to America after the 1970's. He associates and communicates with many younger generation alumni frequently. He is a natural bridge and communication channel between senior and younger alumni in the United States.

Prof. Chao and Prof. Su are also very active alumni members of NCUAA since it was established in 1976. Prof. Chao was chairman of 1997 annual meeting of NCUAA held in Chicago. The Chao couple celebrated their Golden Anniversary (married on May 2, 1953) during this year's NCUAA annual meeting. They are great dancers and singers. Professor Chao is a good piano player despite the fact that he learned piano only in his 40's – at the same time when his children were learning. The Chaos have two grown sons currently residing in the North California Bay Area. *(Photos provided by KC Chao)*