

## WEI-KAN CHU

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### Education:

B.S. Physics, National Cheng Kung University, Taiwan, 1962  
Ph.D. Physics, Baylor University, Waco, Texas, 1969; Advisor(s): Prof. Darden Powers  
Postdoctoral Fellow, Baylor University, Waco, Texas, 1969-1972  
Research Associate and Sr. Research Associate, CALTECH, Pasadena, CA, 1972-1975

### Employment History:

2010-present Hugh Roy and Lillie Cranz Cullen University Professor  
2002-08 Robert A. Welch Professor, University of Houston  
1989-2010 Distinguished University Professor, Physics Dept.,  
1989-1997 Deputy Director, Texas Center for Superconductivity at University of Houston  
1975-1981 Staff, Advisory, and Senior Engineer at IBM  
1981-1988 Research Professor of Physics, Univ. of North Carolina, (Chapel Hill)

### Honors and Awards:

Fellow of the American Physical Society  
Distinguished Achievement Award from Baylor University, Waco, Texas (1991)  
Distinguished Alumni Award from Cheng Kung University, Tainan, Taiwan Republic of China  
Distinguished Achievement Award from the Association of American-Chinese Professionals (1994)  
Superconductivity Award of Excellence for Outstanding Individual Accomplishment by the World Congress on Superconductivity (1994)  
Recipient of 2018 Festschrift award of REM10. For detail, see: [10th Meeting on Recent Developments in the Study of Radiation Effects in Matter](#).

### Recent Research Highlights:

Ion beam and cluster ion beam nano-fabrication for sensor and biomedical applications; Ion beam interactions with crystalline solids - fundamentals and applications; Channeling, Ion Implantation, Energy loss; Magnet levitation, Flywheel

### Lab Facilities / Expertise:

1.7 MV Tandem Accelerator with RF and SNICS ion sources including an ion beam analysis system, and an ion induced optical emission analysis system, 200 kV, NEC Ion Implanter, 30 keV Gas Cluster Ion System, Rapid Thermal Annealing System, Vacuum Annealing Furnace, Magneto-optic imaging system, Magnetron sputtering system, & AFM. Expertise: Beam Physics, HTS levitation, Material science.

### Five Selected Publications from a total of 400+, and 28 US Patents:

1. W. K. Chu, J. W. Mayer, and M-A Nicolet, [Backscattering Spectrometry](#), (Book), Academy Press (1978).
2. R. P. Sharma, S. B. Ogale, Z. H. Zhang, J. R. Liu, W. K. Chu, Boyoed Veal, A. Paulikas, H. Zheng, and T. Venkatesan, "Phase Transitions in the Incoherent Lattice Fluctuations in  $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ ", *Nature* 404, 736 (2000)
3. K. B. Ma, Y. V. Postrekhin, and W. K. Chu, "Superconductor and Levitation Devices," *Review of Scientific Instruments*, Vol.74, No. 12, pp.4989-5017 (2003)
4. Lin Shao, Jiariu Liu, Quark Chen, and Wei-Kan Chu, "Boron Diffusion in Silicon: The Anomalies and Control by Point Defect Engineering", *Materials Science & Engineering Report*, Vol. R42, No.3-4 (2003)
5. Wei-Kan Chu, and Darden Powers, "Calculation of Mean Excitation Energy for all elements" *Physics Letters* A40, 23-24 (1972)