CSULA Emeriti Faculty Biography



Name: Perry S. Ganas

Department: Physics and Astronomy

Academic rank: Professor of Physics

Year appointed: 1970

Year retired: 2001

FERP years: 2001-06

City of residence: Los Angeles

Website: http://www.calstatela.edu/faculty/perry-ganas

Birth Place: Brisbane, Australia

Birth Year: 1937 **Marital status**: Single

Colleges or Universities Attended:	**Year**	**Degree**
University of Queensland (Australia)	1961	B.Sc. (Honors)
University of Sydney (Australia)	1963	M.Sc.
	1967	Ph.D.

Teaching Experience:

Institution	**From**	**To**
Professor, California State University, Los Angeles	1970	2006
Adjunct Faculty, East Los Angeles College	1988	2004
Visiting Professor, UCLA	1987, 1991, 1992, Summer	
Adjunct Faculty, University of Southern California	1985	1986

Courses taught:
Introductory Physics for Science, Mathematics and Engineering majors (4 courses with laboratories), covering such topics as Mechanics, Waves, Optics, Thermodynamics, Electricity and Magnetism. Introductory Physics for Life Science majors (3 courses with laboratories). Astronomy laboratory. Upper division Electricity and Magnetism, and Introductory Quantum Mechanics. Graduate level Classical Physics, Electrodynamics, and Quantum Mechanics.

Scholarly/Creative Activity:
My research is in theoretical physics, with particular concentration in nuclear spectroscopy, atomic spectroscopy, and electron-atom scattering. In my early work at the University of Sydney in the 1960's, I performed shell-model calculations of the energy levels of nuclei having two nucleons outside closed shells, and compared the results to experimental values. The purpose of these calculations was to understand the nature of the nucleon-nucleon interaction, the so-called "nuclear force". This work was the basis of my doctoral thesis, which was entitled "Some Nuclear Shell Model Calculations, 1967."

While doing postdoctoral research at the University of Florida, I began to study the energy levels of atoms using an independent-particle-model (IPM) for the atom. In the IPM, the electrons move independently in an effective potential determined by the nucleus and the other electrons. I used a

simple analytic IPM potential containing two adjustable parameters. The potential is inserted into the Schrodinger equation, and the two parameters are varied until the energy eigenvalues agree with the experimental energies. The corresponding eigenfunctions are used to calculate cross sections for the electron-impact excitation and ionization of atoms and atomic ions. Quite often, experimental or theoretical information on cross sections is unavailable, so my calculations may fill an important need.

Administrative, Business, or Professional Experience (other than teaching):

Agency or Company	**From**	**To**
• Postdoctoral Research Associate at University of Florida (UF)	1968	1970
• Visiting research appointments at UF: (summer), 1979-1980, summers of 1981, 1982.	1972 (9 months), 1978	

Awards, Honors, Professional Recognition:

- In the past I have been a Biographee in : *Who's Who in Science*, *Who's Who in America*, *Who's Who in the World*, and a member of Sigma Xi (the Scientific Research Society)

Citations of Selected Publications, Presentations and/or Creative Activities:

- "Green's Velocity-Dependent Potential in the Shell Model of Po^{210}, Pb^{210}, and Bi^{210} ", with B. H. J. McKellar, Physical Review **175**, 1409 (1968).
- "Modified Born Approximation and Elastic Scattering of Electrons from Helium", with S.K. Dutta and A.E.S. Green, Physical Review **A2,** 111 (1970).
- "Electron Impact Excitation of the Rare Gases", with A.E.S. Green, Physical Review **A4**, 182 (1971).
- "Effective Range Theory for Van der Waals Scattering", Physical Review **A5**, 1684 (1972).
- "Electron Impact Excitation of the Beryllium Isoelectronic Sequence", with A.E.S. Green, Physical Review **A19**, 2197 (1979).
- "Independent-Particle Models for Light Negative Atomic Ions", with J.D. Talman and A.E.S. Green, Physical Review **A22**, 336 (1980).
- "Optical Oscillator Strengths for Isoelectronic Ions of Nitrogen", International Journal of Quantum Chemistry **19**, 729 (1981).
- "Electron Impact Excitation Cross Sections for B III", with M. Aryafar and L.P. Gately, Australian Journal of Physics **36**, 659 (1983).
- "Yukawa Potentials for Atomic Negative Ions", with T. Arakelian, Journal of Applied Physics **60**, 2713 (1986).
- "Oscillator Strengths for As I - III", Astronomy and Astrophysics Supplement Series **143**, 491 (2000).

A full list of research publications may be found on the webpage:
http://www.calstatela.edu/faculty/perry-ganas

University Service:

- Member, Instructional Affairs Committee, Department of Physics
- Member, Faculty Affairs Committee, Department of Physics
- Library Coordinator, Department of Physics
- Colloquium Coordinator, Department of Physics

Personal commentary, including non-academic interests and accomplishments you may wish to share:

In the 1990's, I was a player and a captain in the Los Angeles Pool League for several seasons. This organization maintains two 10-week seasons of 8-ball (Spring and Fall), and a season of 9-ball (Summer). In 1997, I was inducted into the Nine Ball League Hall of Fame.

Date completed: July 16, 2018