Former College trustee, Benjamin S. P. Shen '54, '72, recently discussed his memories of Assumption as well as life beyond the campus. A pioneer in applying particle accelerators to astrophysical research, he held for a quarter-century the Reese W. Flower chair in astronomy and astrophysics at the University of Pennsylvania, where he is also a former provost. Outside of academia, he has served as a presidentially appointed member of the National Science Board, chaired a federal task force on science literacy, and sat on various non-profit boards. Dr. Shen was born in China and received his D. Sc. in Physics from the Sorbonne. He and his wife, Lucia, have two children.

PH: What was your major at Assumption?
SHEN: In the 1950s, all students received pretty much the same classical education with a European flavor. Specialization came with the senior thesis. In mine, I tried to show, with sophomoric bravado, that the so-called mathematical induction actually relied upon a hidden rule of inference that was on a par with the Aristotelian laws of thought. Fr. Polycarp Czarska, my favorite and incredibly erudite advisor, was unconvinced. So you might say that I "majored" in the philosophy of mathematics. Even today, I think this kind of independent study and research is unmatched as a way to sharpen an already solid liberal arts curriculum.

PH: Would you relate some memorable experiences from your days at Assumption?
SHEN: The most tragic had to be the tornado that devastated the old campus a few days after the 1953 Commencement and took 94 lives, including several at the College. I remember in the eerie silence immediately following, the normally jovial Brother Armand Godard, the College's administrator and chef, came toward me holding a bottle of vintage French wine from his pantry; but offering only to pour it over my wounds, which fortunately were relatively minor. Richard Dixon '50, brother of Fr. Louis Dixon A. '53 then found some guano and bandaged me up. A truck later took me to a hospital in Holden, itself without electric power, where an exhausted doctor carefully sewed me up by candlelight, as in the movies.

PH: After graduation, where did life lead you?
SHEN: I wanted to teach math, but got only offers to teach French. Then, Assumption Prep asked me to teach math, geography, and mechanical drawing at $700 a year plus room and board. I accepted without another thought. Feeling rich, I bought a beat-up Cherry coupe to tool around campus in, to the great amazement of my prep students, who soon took to pattering pebbles in the hollies. In retrospect, my two years at Assumption Prep were among the most rewarding of my teaching career. After the Prep, I taught at SUNY-Albany and NYU. I joined the University of Pennsylvania in 1966 and have taught there ever since, except for stints in Phinney's administration and in government service.

PH: How do you see the accumulated scientific knowledge connect to your hobbies?
SHEN: One nice thing about being a professor is that your work is often indistinguishable from your hobby, and this goes for teaching as well as for research. Teaching is still the one thing that I miss now that I'm retired. On the other hand, my real-life hobbies usually have nothing to do with science. Right now, I'm having fun restoring vintage bicycles. But I am in a jam because now very person in my family wants one.

PH: Where did you pursue additional schooling?
SHEN: I earned a B. Sc. Etat in Physics from the University of Paris in 1964 under Pierre Auger, discoverer of the Auger electron. My dissertation research was mainly guided by Serge Koff of NYU and by Raymond Davis Jr., now on the Penn faculty, who won the 1995 Nobel Prize in Physics.

PH: Would you discuss some of the research in which you have engaged?
SHEN: As an astronomer and astrophysicist, my research has centered around cosmic rays—those invisible subatomic particles that constantly bombard the Earth, probably from distant supernovas. Over the years, I've used data from high-energy accelerators, giant telescopes, space probes, and supercomputers to study puzzles ranging from rare chemical elements in the universe to exploding cores of active galaxies and quasars. But, despite all the technological paraphernalia, science is still sometimes best done with pencil and paper on a quiet evening.

PH: What do you do professionally now?
SHEN: I occasionally dabble in problems between science and philosophy. Here's one in a nutshell: When an engineer uses mathematics to design, say, an airplane, the resulting product, lo and behold, actually flies. This is something quite amazing if you think about it. How can the mathematical rules of inference, which originate in our minds and apparently have no contact with the natural world around us, help us predict so accurately what would happen in that natural world? This uncanny ability of math and logic to never make mistakes about nature is puzzling and, I think, what makes science and technology possible for humans. This is a seldom explored issue in cognitive science, and it's something to think about.

PH: You were class valedictorian at your graduation. What advice would you give graduating seniors today?
SHEN: I understand that many Assumption students take part in the College's programs in community service, both here and abroad. Such programs teach, among other things, the virtue of helping others with humility and, in some cases, the value of manual labor. There was a time when students everywhere in America took pride in working in manual jobs over the summer almost as part of the ritual of growing up. It's a loss that we don't do that so much anymore. There is more to college than single-minded intellectual and career pursuits. I would encourage students to take advantage of these wonderful opportunities to serve others, and take the Assumptionist spirit with them after they graduate.