



10-1-2007

Faculty Focus: Gerhard A. Schad

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Name: Gerhard A. Schad

Birthplace: Brooklyn, New York

Marital status: Married, two children, five stepchildren

Positions: professor of parasitology, Department of Pathobiology, School of Veterinary Medicine; professor, Graduate Group in Parasitology, University of Pennsylvania; professor, member of the Cell and Molecular Biology Graduate Group (CAMB), College of Arts and Sciences, University of Pennsylvania

Degrees:

1. B.S., wildlife biology, Cornell University, 1950
2. M.S., parasitology, McGill University, 1952
3. Ph.D., parasitology, McGill University, Montreal, Canada, 1955

Research interests:

- Developmental biology and neurobiology of parasitic nematodes.
- Ecology and epidemiology of parasitic helminths of man and animals.
- Experimental ancylostomiasis and strongyloidiasis: laboratory models for intestinal nematode parasitism.

Beginnings: “I began my career by working with nematode parasites of cattle and sheep for the U.S. Department of Agriculture in State College, New Mexico, in 1955,” said Dr. Schad. “We were studying the transmission of parasites from wild to domestic ruminants. After three years, I decided that I was not happy working as a civil servant or collecting parasites from desert big horn sheep, pronghorn antelope and other wildlife that were brought in by hunters. I looked into other options and chose to go back to McGill, where I changed my primary area of study from wildlife parasitology to ecological and evolutionary parasitology.

“In the mid-1960s, I accepted an offer from Johns Hopkins to go to Calcutta, India, to run a parasitology program—part of an international center for medical research and training. I studied the population ecology of hookworm parasitism in poor farmers. I did this in two 2-year rotations over a five-year period, until the Indian government, concerned that academics might be covert American government agents, began taxing our income at such a high rate, that we could not stay. I could, however, be there as a tourist—so I returned for four months, worked weekdays and went touring on weekends. My favorite side trip was a trip to Katmandu, Nepal. I stayed with Hopkins until 1974, then came to Penn.”



Photos by John Donges

Life at Penn: “Lawson Soulsby was the chair of Pathobiology when I came. I had recently gotten NIH funding to study arrested development hookworm larvae in dogs as a model for the developmental arrest of hookworms in humans, the latter being one of the main findings of my work in India. Soulsby shared this interest. My present work evolved from these studies. It concerns the developmental biology of intestinal nematodes, including the neurobiology of host-finding behavior. It has been a real pleasure to work here, under both **Alan Kelly**, now Dean Emeritus of the School, and **Phil Scott** as Pathobiology Department chairs. People get along beautifully and work well together.”

Honors: Selected honors include president of American Society of Parasitologists in 1990; Lloyd Rozeboom Memorial Lecturer at Johns Hopkins School of Public Health in 1992; American Society of Parasitologists, Stoll-Stunkard Memorial Lecturer in 2000 and Clark P. Read Mentorship Award from the American Society of Parasitologists in 2005.

The author: *Parasitology: The Biology of Animal Parasites* (with E. R. Noble and G. A. Noble et al.), 1989; *Hookworm Disease: Current Status and New Directions* (with K. S. Warren), and *Hookworm Infection and Anemia: A Public Health Manual* (with Z. S. Pawlowski and G. J. Stott); dozens of book chapters, abstracts and articles, including the *Proceedings of the National Academy of Science*, “Urocanic acid is a major chemoattractant for the skin-penetrating nematode parasite *Strongyloides stercoralis*,” published this year and partially funded by an NIH grant awarded to Dr. Schad.

What’s next: With “**Sparky**” **Lok** as co-principal investigator we are renewing our investigations of the neurobiology of host finding behavior in skin penetrating parasitic nematodes. Incidentally, I just finished sitting for my portrait—**Gayle Joseph**, executive assistant to Associate Dean for Research, is an artist, and she did a beautiful job, complete with the bright red academic regalia of McGill University. I guess I need to decide where to hang it!”