



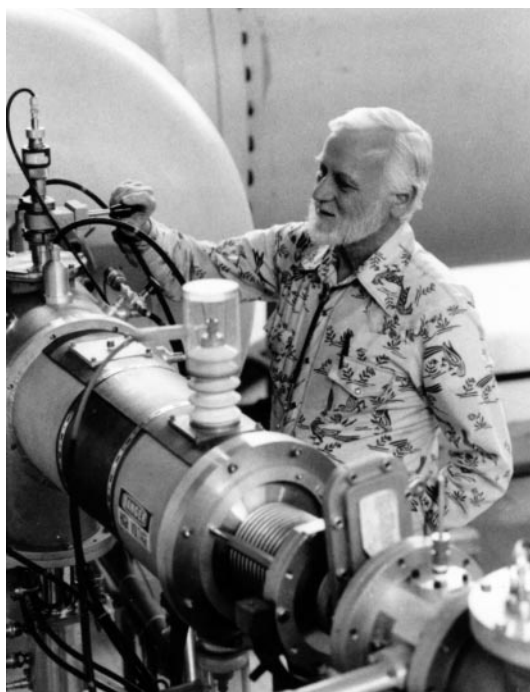
In Memoriam Paul E. Damon 1921–2005

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In Memoriam
PAUL E. DAMON
1921–2005



(Photo credit: University of Arizona)

Paul Damon's death on 14 April this year reminded many of us that he strongly influenced several fields of science, including tree-ring research. When Paul joined the University of Arizona faculty in 1957, he found an existing radiocarbon dating lab in the Anthropology department under the supervision of Prof. Emil Haury. The laboratory determined carbon-14 radioactivity of elementary carbon produced from the sample to be dated, such as wood from an ancient structure or charcoal remains from a prehistoric fire. This technology soon became unusable because the elemental carbon was necessarily exposed to the atmosphere, and adsorbed a few radioactive aerosols from atmospheric nuclear tests, thus contaminating the counting chamber with radioactive particles.

One of Paul's first tasks was to revise the radiocarbon detection technique to one that excluded the aerosols: carbon dioxide gas counting.

This technology not only solved the radioactive aerosol problem, but allowed radiocarbon measurement at significantly higher precision. With high-precision radiocarbon data available, it became generally apparent that radiocarbon dates did not quite match "absolute" ages, such as those available from dendrochronology. Paul, among a few other carbon dating specialists, recognized that this mismatch in ages was not a problem with dendrochronology, but was evidence for variation in radiocarbon production in the earth's atmosphere. Radiocarbon natural production is a complex interplay of variations in the cosmic-ray in-

tensity, and earth's magnetic field strength. The availability of tree-ring wood specimens of exact calendar ages enabled Paul and colleagues to compare calendar ages with radiocarbon 'ages', and based on the differences, infer cosmic-ray variations in the past. In addition to his work on radiocarbon calibration in the late 1970s and early 1980s, Paul subsequently investigated the 11- and 22-year sunspot cycles with tree rings, and most recently he examined solar flare activity as archived in the radiocarbon content of tree rings.

Paul disdained what he called "rock-in-a-

box" geology. Earlier in his scientific career at the University of Arizona, he acquired funding for equipment needed for age determination of rocks and minerals, and with graduate students, set out to assign numerical ages for the geological strata and events in Arizona and nearby states. Not surprisingly, he ruffled a few feathers of the local geological establishment at the time, but now, his publications on Arizona are widely referenced.

Paul is fondly remembered by a large number of us.

—Contributed by Austin Long