



Richard "Dick" Norman Pugh

March 8, 1940 - June 15, 2020



Two stalwart oaks



Meteoritics in Morocco 2014

Richard "Dick" Pugh, who was inducted into the Columbia-Willamette Chapter of Sigma Xi in 1987, passed peacefully in his sleep Monday afternoon June 15th. Dick was a significant leader of our Sigma Xi chapter, serving in the role of chapter President from 1994-96 and 2001-05, and on the chapter Board for most of his membership until last year. Dick was responsible for establishing an Endowment for the chapter, to which he donated every year, including in the past

month. The Endowment helps to provide grants to students for participation in and research presentations at Sigma Xi and other research meetings. He was instrumental in recruiting current Board members and encouraging them to step up to lead and grow our chapter. His vast range of regional and international contacts allowed the Columbia-Willamette chapter to promote excellent research through speakers and teaching, and to recognize those researchers and teachers wherever they might practice, including the smaller communities and rural areas of the Pacific Northwest. In 2011, the chapter nominated Dick for a Sigma Xi 125th Anniversary Award, "to recognize those more established members who have demonstrated notable achievement in their field or discipline and shown loyalty and dedication to Sigma Xi during their years of membership."

Along with his Chapter activities, Dick himself made significant contributions to science. Educated with BS and MST in physical sciences at Portland State University and Mackay School of Earth Sciences and Engineering, University of Nevada - Reno, Dick's area of specialty was meteoritics. Dick was instrumental in founding the Cascadia Meteorite Laboratory at Portland State University in 2003 (<http://www.meteorites.pdx.edu/>), for which he tracked fireball sightings, identified meteorite samples, and led outreach programs. His investigations resulted in recognition of seven new meteorite finds in Oregon, Idaho, Nevada, and Texas and one new fall from Cambodia (Trapeang Ronoas), for which he has numerous publications co-authored with Smithsonian Institute scientists. Dick was an Invited Speaker at The Meteoritical Society's 1991 Australian Crater Expedition, sponsored by the Columbia Willamette Chapter of Sigma Xi. Sigma Xi colleague Scott Burns reports that Dick is the creative thinker who believed that the Willamette Meteorite (largest found in North America) did not land in West Linn OR from outer space. Dick asked: "Where is the huge hole that should be here from the impact?" and he observed lots of granite gravel and cobbles surrounding the site - but there is no granite in Portland. Dick developed the hypothesis that the meteorite fell on the ice in Canada during the ice ages and was transported to Portland by ice-raft (on an iceberg) in one of the many Missoula Floods - now the accepted understanding.

Dick also worked with researchers to examine the validity of the popular model for the ending of the Pleistocene—a boloid impact. He was part of an investigative team that examined a black matt deposit described by model proponents as containing elements of extra-terrestrial origin. It did not. Dick, of course, pursued it further, and found that the original results used to substantiate the model could not be replicated by any independent investigators. The fact that Dick was one of the first scientists involved in fact checking this model is impressive, and representative of Dick's scientific capabilities.

Dick applied this same open-minded questioning to every field of science in which he worked and played, constantly on the lookout for anomalies and asking why not?- be it geology, forestry, wildlife ecology, mycology, archaeology, or animal husbandry. Colleague Alison Stenger reports that early Oregon potteries were a fascination for him. Those were a very early industry, and 19th century examples of their work are still around. Dick collaborated with other researchers on publishing their findings.

Dick's support for science motivated his establishment of the Mazamas Research Endowment to fund scientific research in the alpine environment, and for many years he participated in photo-

documentation of the Emmons Glacier on Mt. Hood - now invaluable evidence of climate changes. Dick was also an active supporter of Oregon Academy of Sciences and proud member of Society of Miscellaneous Oregon Geoscientists (SMOG).

Dick's abundant curiosity, enthusiasm, and extroverted nature made him a superb science teacher - during 1968-1999 at Cleveland High School, through classes at Oregon Museum of Science and Industry (including as Camp Hancock's geologist), and as an adjunct professor in Portland State University's Department of Geology. Dick inspired many students to enter careers in geology, as well as teachers through Oregon and National Science Teachers Association and Sigma Xi.

Outreach was of particular importance to Dick, who with the assistance of several NASA grants traveled throughout the Pacific Northwest and California exhibiting and explaining meteorite and geological collections (<http://meteorites.pdx.edu/pubs/LPSC2011-EPO.pdf>). He received the 2011 Service Award from the Meteoritical Society for outreach and informal education (Annual Meeting, Greenwich England). His teaching ability extended to every field: he was a climb leader and a Basic School Instructor for the Mazamas, for which he also served on the board and on most of the organization's operating committees between 1978 and 1992. Alison Stenger sums it up: " What comes to mind is TLC, but in [Dick's] case meaning Teacher, yet always Learning, and Coaching".

As a man who believed in sharing his talents for the good of the community, Dick served on the Oregon State Forests Advisory Committee (SFAC) from 2001-2004, the Oregon Visibility Advisory Committee from 2000-2001, and the City of Portland Oregon Urban Forestry Commission until 2012. He donated countless hours and resources with friends and colleagues to his projects of restoring Oaks Bottom, as well as maintaining the grounds of the Mazamas Clubhouse.

Dick loved life like he enjoyed his wine - especially Gewurztraminer from Anne Amie or David Hill Wineries, or a perhaps a Riesling - and he rarely missed a Scott Burns Sigma Xi wine tour. He was always the first to sign up for the SXCW Winter Winetasting Fundraiser, hosted by Chapter President Linda Mantel and supplied by Scott Burns. Sigma Xi colleague Virginia Butler remembers Dick's great passion for science and humanity. Dick's wisdom, wit, and generosity - his friendship and that twinkle in his eye - will be sorely missed by all who have had the good fortune to know him.