



**MILLENNIUM DIGGERS  
ASSOCIATION  
Keizer, Oregon**



Secretary/Editor: Penny Esplin

**\*PRESIDENT: Ken Orndorff\***

**\*VICE PRESIDENT: Terrie Fox\***

**\*TREASURER/MEMBERSHIP: Joe Greene\***

**\*Claims Officer: Claudia Wise\***

**Meeting Minutes from October 25th, 2018**

**IMPORTANT INFO:** *Following Mr. Pugh's presentation, we held a short meeting. We will be having our **Christmas Party/Potluck** at the **Rec. Hall at George's place on Saturday Dec. 1st** setting up at 1:00, and eating around 2:00.*

Invitations have been emailed. *Please RSVP to our email address or to [pennysn2rox@yahoo.com](mailto:pennysn2rox@yahoo.com) (or call 503-508-6582).*

We will **NOT** be holding our regular meetings in Nov. or Dec. But we **WILL** have a short meeting at the Christmas Party to elect officers. Members should please send nominations to the digger email address ([milleniumdiggers@yahoo.com](mailto:milleniumdiggers@yahoo.com)). This is your chance to help keep our association moving forward.

Nominations already received:

President- Ken Orndorff  
Vice President- Terrie Fox  
Secretary- Penny Esplin  
Treasurer- Yvette Burkette

Newly elected officers become "official" on our first meeting of the New Year **Jan 24th 2019.**

*So, wishing everyone a Holiday Season of Good Cheer! That includes Thanksgiving, Christmas and the New Year! ❄️❄️*

-We discussed the ongoing "ideas" about purchasing (or building) a canopy for our outings (mainly Miner's Meadow) to provide us cover from inclement weather. To date, I'm not sure

if we made an official decision one way or another. (Sorry, I didn't take notes, so I don't recall what was said).

-We took the time to check out the great collection of meteorites Mr. Pugh brought; worth thousands of dollars and most were exceedingly heavy.

-And we concluded with our table raffle.

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**So, prior all that:**

**Call to Order:** We all stood and recited the Pledge of Allegiance. Ken called the meeting to order and welcomed everyone.

**Attendance:** 30 (20 members and 10 guests)

**Guest Speaker Dick Pugh** gave us an illuminating and in-depth power point presentation on **Meteorites.**

*Here is a short bio, quoted from Alex Ruzicka  
Cascadia Meteorite Laboratory Portland State University:*

Richard (Dick) Pugh was the recipient of the Meteoritical Society's Service Award for 2011 in the Pacific Northwest; it is no exaggeration to say that no one has done more than Dick to increase education and public awareness of meteorites and the fireballs that produce them. Dick has inspired people of all ages, from first graders to retirees, to look for and identify meteorites. He also helped uncover the story of how the 1981 Salem meteorite was found by an off-duty policeman.

Although Dick's passion for the last 40 years has been meteorites, his bread-and-butter day job for 31 years before retiring in 1999 was being a science teacher at Cleveland High School in Portland. There he taught physical science and introduced courses in astronomy, geology, and meteorology. As a result of this training, one of his charges later found a new meteorite—the Study Butte Texas chondrite.

After retirement Dick was free to become even more active in public outreach and education, and in 2003 he helped to establish the Cascadia Meteorite Laboratory (CML) at Portland State University. Ever since, Dick has been the CML's main outreach person; traveling to schools, libraries, grange halls, science fairs, and education workshops across the state, interacting with people, helping them to identify their "strange rocks" that mostly were not meteorites, letting them handle real ones, and teaching people how to find new meteorites. Although retired, Dick thinks nothing of traveling to remote regions across

Oregon, Washington, and (lately) Idaho on multiday road trips with his “teaching collection” of meteorites. No town is too small. Thanks largely to Dick’s hard work; his program has reached thousands of school kids and adults alike.

Dick also has made scientific contributions to meteoritics, including reports on fireballs and meteorites. One of these contributions includes the controversial— but perhaps increasingly accepted—idea first made by Dick and geologist John Allen in 1986 that the largest recovered meteorite in the USA, the 14,107 kg Willamette iron found in Oregon, was transplanted from Canada on an ice raft during the Bretz floods that coursed through the Pacific Northwest at the end of the last ice age.

**Characteristics of Meteorites:** *(taken from the pamphlet Mr. Pugh provided)*

- 1) Meteorites are irregular in shape, but sometimes cone shaped.
- 2) Most meteorites are heavier or denser than most rocks found on the Earth’s surface.
- 3) Newly fallen meteorites will have a fusion crust that is a thin black or brown coating with shallow pits resembling thumb prints. The coating is usually thin; rarely thicker than your fingernail. Where the fusion crust is missing, many meteorites have small bumps or spherules, resembling beads of tapioca in pudding.
- 4) Many, but not all meteorites are attracted to a magnet. This attraction will be strong for metallic meteorites, and weak or non-existent for stones.

**Cascadia Meteorite Laboratory**

<http://meteorites.pdx.edu>

Here are a few of the specimens he brought:



Iron meteorite (with magnet attached)



Nickel/Iron meteorite showing "Widmanstätten" pattern on polished surface after etched in acid.



We really had a nice turnout! Dick's presentation was so well prepared and so thorough. Plus, we all enjoyed coffee and some great snacks right from the beginning and throughout

his presentation (instead of just at break time)! Thank you, Mr. Pugh, for coming. And thanks to Tammy for the referral and providing his name and phone number!



Rice Museum's Meteorite Display is "out of this world"!



We should plan a trip to the **Rice Museum** and see the **Meteorite display**, prepared by the **Cascadia Meteorite Laboratory of Portland State University**. It is "**out of this world**"! The display is full of amazing facts and specimens. There are several great pieces of space matter on display, including iron and stone meteorites. You'll have a chance to touch their amazing Gibeon Meteorite from Africa (so much iron in it, it feels cold to the touch!), and learn all about these intriguing, permanent "visitors from space".

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***Our next meeting will be on Thursday January 24<sup>th</sup> 2019 @ 7:00***

Visit our website at <http://www.millenniumdiggers.com/>

Clear Lake United Methodist Church

**920 Marks Drive**

**Keizer, OR 97303**

We meet in the church's Fellowship Hall; a real a nice meeting place complete with tables, chairs and a kitchen. The church is located across the street from the Clear Lake Fire Station.