



## Montana Section News

**July, 2004**  
**Chair's Message**  
**Ross Snider**

The new computer arrived today from Dell and it is always interesting to look inside to see what the state of the art is. What is immediately apparent is the **HUGE** heat sink that is on top of the processor (3.4 GHz P4 BGA socket). It is ~5.5 inches tall with 6 heat pipes transferring heat to the aluminum fins from the 1/4 in. copper slug on top of the processor. It also has a plastic cowl that fits over the tower that attaches to the back of the computer with a fan inside. Obviously heat transfer is a MAJOR problem these days. This is the largest commercial heat sink that I've seen. The heat problem will continue since Intel's Paolo Gargini (26-year Intel veteran, Intel Fellow and director of technology) said at the opening of this year's Semicon West, that "We see that for at least the next 15 to 20 years, we can continue staying on Moore's Law". My prediction is that in a couple years the heat sink will be the side of the computer case with water circulating from tubes attached to the processor. Will heat problems eventually put an end to Moore's Law?

### August Section Meeting

The meeting will be at the PPL Madison River Power Plant at 6:30 p.m. on August 5. The Madison River Plant was opened in 1905 and is one of the oldest, continually operating, hydro plants in the country. It has "Four 3600 H.P. turbines built by the James Leffel Company and controlled by type N. Lombard Governors and directly connected to four 3,000 H.P. General Electric company, three phase, sixty cycle generators." These are still operating, although some of the peripheral equipment (e.g. bus bars) have been replaced in recent years. Nikola Tesla was involved in the design of the plant. We had a tour of the facility in 1997 that made a big hit with our members. A family picnic will follow the plant tour. **Please call Brett at 585-8892x16, email [brett.swimley@aedinc.net](mailto:brett.swimley@aedinc.net), or go to <http://ewh.ieee.org/r6/montana>, to make reservations by 5 p.m., August 4. See you there!**

**{Directions: West on US191 to Four Corners, continue straight ahead on MT 84 to Norris, turn left onto US287 to McAllister, turn left and proceed to the east side of the Madison River and, finally, proceed north on the road on the east side of the Madison. The road ends at the Power Plant. The picnic will be at the small park near the north end of the "lake".}**

### Did You Know

That there are five Montana Counties named after US Presidents? Who are they? Answer to the last "Did You Know?" – Mt. Wood in southern Sweetgrass County – 12,661' AMSL.

### Did you also know

How we got our moose "mascot"? In the early 1990s John Potter, then the editorial cartoonist for the Billings Gazette, and a colleague wrote a children's book called "Make Me a Moose, With No Fleas Please". The forerunner of our moose was the featured no flea moose. John graciously allowed us to base our moose on his cartoon version

### Editor's Note

For those of you who receive the IEEE History Center bulletin, I hope you read the article on the last page of the March issue about the IEEE Virtual Museum. After reading it I went to the web site [www.ieee.org/museum](http://www.ieee.org/museum) and looked up the exhibit *World War II: How War Impacted Technology; How Technology Impacted War*. It is fantastic! Try it out!

### Section Officers and Executive Committee

<b>Chair</b>	Ross Snider <a href="mailto:rosss@ece.montana.edu">rosss@ece.montana.edu</a> 406-994-1645
<b>Chair-elect &amp; Vice Chair</b>	???
<b>Sec'y/Treas.</b>	Brett Swimley <a href="mailto:brett.swimley@aedinc.net">brett.swimley@aedinc.net</a> 406-585-8892x16
<b>PACE &amp; GOLD Chair</b>	Jason Kay <a href="mailto:jasonkay@aedinc.net">jasonkay@aedinc.net</a> 406-585-8892
<b>Pre-College Education Committee Chair &amp; Student Branch Advisor</b>	Ross Snider <a href="mailto:rosss@ee.montana.edu">rosss@ee.montana.edu</a> 406-994-1645
<b>Membership Development Committee Chair</b>	Jason Daugenbaugh <a href="mailto:jasond@ieee.org">jasond@ieee.org</a> 406-585-8892x15
<b>Section SM Nominating Committee Chair</b>	Don Pierre <a href="mailto:Pierre_Don@ieee.org">Pierre_Don@ieee.org</a> 406-587-4065
<b>Moose Call Editor &amp; SAMIEEE Recipient</b>	Bill Jameson <a href="mailto:b.jameson@ieee.org">b.jameson@ieee.org</a> 406-994-5970/586-0280
<b>Student Branch Chair</b>	Calvin Coopmans <a href="mailto:cal@forg.net">cal@forg.net</a> 406-556-1375