

**Northwest Nations Education Council (NNEC)** is a school division supporting the K-12 education needs of six bands including the Little Pine and Chief Poundmaker First Nations. **The Department of Physics and Engineering Physics (P&EP)** joined their efforts about four years ago and involved the Innovation Centre for Advanced Sensors and Sensor Systems (INCAS<sup>3</sup>) of Assen, Netherlands (<http://www.incas3.eu>) to enhance science, culture and literacy education among students in the schools.

NNEC decided to address the issue that their students have been under-performing compared to their peers from non-reserve, and especially urban, schools. They approached university departments for collaboration. P&EP believes in capacity-building by: a) engaging and working with school teachers; b) providing access to our laboratories and instructional materials; and (c) acclimatizing youth to a post-secondary atmosphere in an urban setting beyond what they experience on their reserves.

P&EP has prepared hands-on instruction modules with lab components that fit into the curriculum being taught in schools. We offer modules on optics, electricity & magnetism, and nuclear radiation. Sessions can be booked during the regular academic terms although days in December and April-June are preferred. NNEC and several urban schools take advantage of this arrangement.

NNEC conceived and organized a culture/science camp for their students. P&EP and INCAS<sup>3</sup> joined these efforts, with INCAS<sup>3</sup> providing the advanced sensors so that pH, radiation, temperature etc., can be readily measured on laptops and the results graphically displayed instantaneously. Both P&EP and INCAS<sup>3</sup> provided the technical and teaching support for the young technical staff and undergraduate students taking part in these efforts. NNEC organized a 5-day camp where tradition met science. Here, students along with the P&EP undergraduates and INCAS<sup>3</sup> technical staff immersed themselves in the study of nature in a traditional Teepee setting (see photo at left below). The adjoining photo shows Mr. Wes Fineday, the story-teller/medicine man, familiarizing the school students to their natural surroundings in a traditional way.



Moving forward, NNEC and P&EP are engaged in the following activities:

- to access the P&EP practicum outreach program more regularly, involving both the teachers and students for capacity-building in aboriginal schools to enrich the curriculum;
- to establish regular nature/science camps on campus and the surrounding area to familiarize the youth to life outside the reserve;
- to engage in the Science Ambassadors program for the benefit of students/teachers on the reserves and the young scientists of the campus
- to bring students to campus for the annual Nobel symposia, initiated by P&EP.

The above list is not exhaustive. The commitment of NNEC and P&EP towards educating the youth is unwavering.

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### Aboriginal Framework

