

# JP PINARD CONSULTING ENGINEER

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**Jean-Paul Pinard, PEng, PhD**, 703 Wheeler Street, Whitehorse, Yukon, Y1A 2P6,  
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## **WORK EXPERIENCE:**

**Wind energy prospector since 1996**, I have worked in many communities across northern Canada. My PhD is on the subject of wind climate in the steep mountainous terrain of the Yukon. In my work I have analysed wind data and reported on community wind energy, carried out wind climate modelling. I have installed and maintained over 30 wind monitoring stations, and installed small wind turbines for clients as follows:

Winter 2003 - present: Aurora Research Institute-NWT Government, Inuvik, NWT

- ◇ Pre-feasibility study for wind energy development in Beaufort communities.
- ◇ Organised and installed wind monitoring stations in Paulatuk, Sachs Harbour, Ulukhaktuk, and Tuktoyaktuk and many others.

Summer 2005 – present: Treaty 8 Tribal Association, Ft. St. John, BC

- ◇ Pre-feasibility study for wind energy development in North-eastern BC.

Spring 2005 – 07: Selkirk First Nations, Pelly Crossing, YT

- ◇ Wind energy monitoring.

Winter 2005: Diavik Mine, Lac de Gras, NWT

- ◇ Analysis of wind data for wind pre-feasibility at the mine site.

Spring 2004: Bell Canada/ SNC-Lavalin / Nexacor Realty Management

- ◇ Wind energy feasibility in northern Quebec.

Summer 2002 – present: Northwestel, Whitehorse, YT

- ◇ Planning for and installing two small wind turbines at remote communications sites.

May 1996 - 2004: Yukon Energy Corporation, Whitehorse, Yukon

- ◇ Wind energy assessment of many potential sites in complex terrain
- ◇ Installation and maintenance of wind monitoring stations across the territory

## **REFEREED PUBLICATIONS:**

- ◇ 2009, Mesoscale Wind Climate Modelling in Steep Mountains, (first author)
- ◇ 2008, Wind Climate in Yukon Mountainous Terrain, PhD Thesis.
- ◇ 2008, Stakeholders' perspectives on barriers to remote wind-diesel power plants in Canada, (co-author)
- ◇ 2007, Wind Climate of the Whitehorse Area, *Arctic* (sole author)
- ◇ 2006, Wind Energy Simulation Toolkit (WEST): A Wind Mapping System for Use by the Wind-Energy Industry, *Wind Engineering* (co-author).
- ◇ 2005, Wind Climate of the Mountainous Yukon, in *New Northern Lights* (sole-author).
- ◇ 2005, A WEST Wind Climate Simulation of the Mountainous Yukon, *Atmosphere-Ocean* (first author).
- ◇ 2001, "First- and second-order closure models for Wind in a plant canopy", *J. Applied Meteorology* (first author).
- ◇ 2000, "Numerical simulation of wind in plant canopies", MSc. Thesis, U of Alberta (sole-author).

## **NON-REFEREED PUBLICATIONS:**

- ◇ Executive Progress Report for Wind Energy Monitoring in Six Communities in the NWT, 2007, Aurora Research Institute 53 p.

- ◇ Pre-Feasibility Analysis of Wind Energy for Inuvialuit Region in Northwest Territories, 2003, for Energy Secretariat, Government of NWT
- ◇ 2003, Experience from use of heated wind sensors and rime ice detectors over the past 12 years, BOREAS VI, Pyhatunturi, Finland
- ◇ 1999, "Computer modelling to assess Haeckel Hill for optimum site location for a wind turbine generator", Report to the Yukon Energy Corporation, Whitehorse, Yukon.
- ◇ 1998, "Wind energy assessment tools for complex terrain applied to the Yukon", Report to the Yukon Energy Corporation, Whitehorse, Yukon.
- ◇ 1998, "Ultrasonic instrument for remote monitoring under icing conditions", Proceedings: Wind Energy Production in Cold Climates, BOREAS IV.
- ◇ 1997, "Solar & Wind Energy Potential, Yukon College Northern Research Institute, Progress report on solar-wind hybrid demonstration laboratory", Whitehorse, Yukon, BAEC.
- ◇ With Craig, D.B., 1996, "Wind energy potential, analysis of wind regimes in Haeckel Hill, Flat Mountain, and Sumanik Mountain", Proceedings: Canadian Wind Energy Conference, Kananaskis, Alberta.
- ◇ I have also written several articles in the past three years for the Yukon News, a Yukon-wide newspaper. The articles are on green energy and energy efficiency.

## EDUCATION:

September 2000 – 2008: University of Alberta

- ◇ **PhD** in Wind Energy Assessment for the Yukon
- ◇ Published five peer-reviewed papers on wind climate analysis and modelling

January 1999 – May 2000: University of Alberta

- ◇ **Master's Degree** in computational fluid mechanics applied to atmospheric boundary layer flows

September-December 1998: University of Calgary

- ◇ Four courses related to wind energy studies (two undergraduate and two graduate courses). Term was a qualifier for graduate studies.

1988-1991: University of Waterloo, Waterloo, Ontario

- ◇ **Honours Bachelor in Mechanical Engineering**
- ◇ Fourth year project thesis on a software (C-language) controller for robot arm
- ◇ Member of Nordic ski team and Canadian Aeronautics and Space Institute

1984-1987: University of Waterloo, Waterloo, Ontario

- ◇ up to 3rd year geological engineering with focus on numerical modelling.

1983-1984: K.L.C.V.I., Kirkland Lake, Ontario

- ◇ General grade 13 with advanced physics option

1978-1983: Saint Joseph's High School, Val d'Or, Quebec

- ◇ **President** of high school student council (2 terms)

## OTHER WORK EXPERIENCE:

1992-1998: **Software Contractor/technician/instructor for:**

- ◇ Council for Yukon Indians, Whitehorse, Yukon
- ◇ Yukon Government, Whitehorse, Yukon
- ◇ Yukon Engineering Services, Whitehorse, Yukon
- ◇ Raven Recycling Society, Whitehorse, Yukon
- ◇ New Opportunities Inc., Whitehorse, Yukon
- ◇ Yukon College, Whitehorse, Yukon

- ◇ GL Electronics, Whitehorse, Yukon
- ◇ Total North Communications Inc., Whitehorse, Yukon

May-August 1990 and May to Sept. 1991: LYNX Geosystems Inc, Vancouver, BC  
**Software Developer:** in HP-UNIX C, FORTRAN, and AutoCAD

September-December 1989: WESTON'S Bakeries Limited, Kitchener, Ontario  
**Engineering Assistant:** Assembly line designing and troubleshooting

January-August 1988 and January-April 1989: Noranda Research Centre, Montreal, Quebec  
**Mining Software Modelling Technician:** finite element modelling, AutoCAD, C-language

January-April 1986 and May-August 1987: Indian Minerals (East) Dir. (INAC), Hull, Quebec  
**Geologist Assistant:**

- ◇ Assistant in the production of geological maps and reports and field surveying
- ◇ Catalogue of mineral potentials on Eastern Canadian Indian Reserves

September-December 1986: Whiteshell Nuclear Research Est. (AECL), Pinawa, Manitoba  
**Field Technician** (hydro-geology):

- ◇ Field work with drilling rigs and installations of Westbay casings in surface bore holes
- ◇ studied and developed method of sealing leaks in down hole casings

June-August 1985: Sigma Mines (Quebec) Limited, Val d'Or, Quebec  
**Underground Miner-Labourer:** study of rock blasting methods

## **INTERESTS, ACTIVITIES, OTHER INFORMATION:**

- \* Co-chair and organiser of the Yukon International Wind Conference, May 27, 2003.
- \* Organiser of the Canadian Wind-Diesel Workshop Ottawa, June 2009
- \* Member of Canadian Wind Energy Association.
- \* A Big Brother for Big Brothers and Big Sisters of the Yukon 1995-2007.
- \* 2004 - 2007 Board member of Kaushee's Place, a Whitehorse women's shelter.
- \* Board of Director: Yukon Conservation Society/Energy Committee 1997-2008.
- \* Volunteered for the Canada Winter Games 2007.
- \* Volunteer with Skills Canada in Solar Car Challenge 2004-2006.
- \* Interview on wind energy with BBC International Radio: FiveLive, July 13<sup>th</sup>, 2003.
- \* Member of the Association of Professional Engineers of Yukon.
- \* Volunteer for Innovators in the School & Annual Bridge Building Contest, since 1998.
- \* Nordic skiing, telemark skiing, travelling, cycling, hiking, and canoeing.
- \* Competed in bicycle racing for seven years (senior III & II level)
- \* Bilingual in English and French

## **SCHOLARSHIPS, FELLOWSHIPS, AND OTHER AWARDS RECEIVED**

- \* Gold medal in Northern Ontario Science Fair, 1984.
- \* Dawn Parenteau Memorial Award 1982, student & athlete of the year, high school.
- \* Community Development Fund, 1998: \$15500, including from Yukon Energy Corporation, \$6250 and from Champagne and Aishihik First Nations, \$3000. For wind monitoring station and energy feasibility study near Haines Junction, Yukon.
- \* Industrial Research Assistance Programme, 1997: \$3500, including from NORNET, \$500 and from Yukon Energy Corporation, \$500. Funding for supporting travel to Finland to attend and present a paper to the BOREAS IV conference on wind energy and icing in northern climates.
- \* NSERC – \$20,000 IPS for 2000 to 2002 and \$20,000 PGS 2 for 2002 to 2004
- \* NSTP – ~ \$2,000 in 2000 and 2001
- \* Environment Canada grant of \$25,000 to finish PhD and test their wind modelling tools.