

Present Position:

Professor Emeritus

- (7) In the lab of Professor P.O. Bishop, F.R.S., Department of Physiology, John Curtin School for Medical Research, Australian National University, worked with J. Nelson on a study of orientation specific inhibition originating from beyond the classical receptive field in cat visual cortex. (This work was one of the first to examine how the context provided by surrounding areas of visual space influences the firing rate of orientation specific neurons.)

(15) An international collaborative venture to study the navigational behaviour of Sooty Shearwaters and the underlying neural mechanisms was undertaken in New Zealand. This work included (1) first mapping in detail, using the Argos satellite tracking system, the incredible 50,000 Km yearly journey of the Sooty Shearwater, (2) seeing whether or not waved albatross from the Galapagos Island of Espanola uses the earth's magnetic fields to aid their navigation to Peru and back, by using Co-netic (Mu metal) magnetic foil shields and small Neodymium-Iron-Boron magnets attached to their heads, (3) attempting to elucidate

University Administration: Senator 1972-75, University Council, Residences Board, Senate Nominating Committee, Grievance Filter Tribunal, Psychology Headship Committee (1972), Life Sciences Program Counsellor, Advisory Committee for Graduate School Deanship, Graduate School Council, Steering Committee Graduate School Council, Advisory Research Committee (Subcommittee Life Sciences), Psychology Department Headship Advisory Committee (1981), Bank of Montreal Chair Committee, Chairman, Subcommittee I, Advisory Research Committee, School of Graduate Studies and Research. Graduate Council; University Animal Care Committee, Associate Deanship Selection Committee, Physiology Department Headship Committee, Psychology Department Headship Committee (1998), Task force on Animal Care (2000).

Reviewing Referee: Editor, 'Journal of Comparative Physiology (A)'. Editorial Board " Visual Neuroscience", Editorial Board "Canadian Journal of Psychology. Regularly reviews for 'Journal of Neuroscience', 'Vision Research', 'Physiology and Behaviour', 'Canadian Journal of Psychology', 'Science', 'Nature', 'Journal of Comparative Physiology', 'Experimental Brain Research', 'Brain Research', 'Journal of Experimental Biology, Visual Neuroscience', Current Biology, Trends in Neuroscience etc. National Research Council and Medical Research Council of Canada Research Grant Applications. NSERC Psychology Grant Selection Committee 1979-82, Ontario Graduate Scholarship Committee. Grant reviewer for U.S. Office of Naval Research, B.C., Ministry of Health, U.S. National Science Foundation. Human Frontiers Science Program. Marsden Fund, Royal Society of New Zealand. CRESTECH, Ontario Centre of Excellence. Israeli Science Foundation

United States National Academy of Science, Working Group on Research Directions for Development of Tactile Aids for the Deaf.

Group Chairman, Life Sciences, Natural Sciences and Engineering Research Council, 1983-1985. E.R.W. Steacie Memorial Fellowship Selection Committee; Committee on Grants and Scholarships, NSERC, 1983-85. Ex Officio Member Advisory Committee for Life Sciences. Tri-Council Advisory Committee (NSERC, SSHRC, MRC), etc. Consultant to NSERC on Human Frontiers Science Programme. Chairma

Member, College of Reviewers, Canada Research Chairs.

Member, Canadian Institute for Advanced Research Task Force for establishing an “Experience Based Brain Development” program.

Member, Canadian Institute for Advanced Research Task Force for establishing a program of Neural Networks and Machine Learning.

Chairman Advisory Committee, Canadian Institute for Advanced Research program on Neural Computation and Adaptive Perception 2003-2008

Member of NSERC’s Herzberg Gold Medal for Science Selection Committee, 2008, 2009.

Member of NSERC’s Brockhouse Prize Committee, 2008, 2009.

Industrial Contributions:

Chairman of Advisory Committee, CDO

Publications:

- Frost, B.J. Subjective colors: an objective color artifact. Journal of Psychology, 1965, 60, 251-254.
- Jacobson, J.Z., Frost, B.J., King, W.L. A case of dermo-optical perception. Perception and Motor Skills, 1966, 22, 515-530.
- Frost, B.J. Centrifugal control of avian retinal sensitivity. Royal Society Research Reports, 1966, 57-58.
- Frost, B.J. The effect of light adaptation on the pigeon ERG. Royal Society Research Reports, 1967, 45-51.
- Frost, B.J. Post-inhibitory rebound of the b-waves of the pigeon ERG. Experientia, 1969, 25, 260-261.
- Frost, B.J. The effect of light adaptation on the d-wave of the pigeon ERG. Physiology and Behaviour, 1972, 8, 829-835.
- Annis, R.C. and Frost, B.J. Human visual ecology and orientation anisotropies in acuity. Science, 1973, 182, 729-731.
- Frost, B.J. and Richardson, B.L. A sound localization device for the deaf. Proceedings of the Conference on Engineering Devices in Rehabilitation, 1974, 1, 143-146.
- Frost, B.J. Eye movements in *Daphnia pulex* (de Geer), Journal of Experimental Biology, 1975, 62, 175-187.
- Frost, B. J. and Kaminer, J. J. The orientation anisotropy and orientation constancy: A visual evoked potential study. Perception, 1975, 4, 51-58.
- Frost, B.J. and Richardson, B.L. Tactile localization of sounds: Acuity, tracking moving sources, and selective attention. Journal of the Acoustical Society of America, 1976, 59, 907-914.
- Frost, B.J. and DiFranco, D.E. Motion specific units in the pigeon's optic tectum. Vision Research, 1976, 1229-1234.
- Wood, E.J. and Frost, B.J. Adaptation and habituation characteristics of tectal neurons in the pigeon. Experimental Brain Research, 1977, 27, 347-354.
- Richardson, B.L. and Frost, B.J. Sensory substitution and the design of an artificial ear. Journal of Psychology, 1977, 96, 259-285.
- Nelson, J.I. and Frost, B.J. Orientation-selective inhibition from beyond the classical visual receptive field. Brain Research, 1978, 139, 357-365.
- Frost, B.J. The optokinetic basis of headbobbing in the pigeon. Journal of Experimental Biology, 1978, 74, 187-195.
- Frost, B.J. Moving background patterns alter directionally specific responses of pigeon tectal neurons. Brain Research, 1978, 151, 599-603.

- Frost, B.J., Cavanagh, P. and Morgan, B. Deep tectal cells in pigeons respond to kinematograms. Journal of Comparative Physiology. 1988, 162, 639-647.
- Frost, B.J., Baldwin, J. and Csizy, M. Auditory localization in the Saw-Whet Owl *Aegolius acadicus*, Canadian Journal of Zoology, 1989, 67, 1955-1959.
- Telford, L. and Frost, B.J. Functional activity in accessory optic system during optokinetic, vestibular and visual-vestibular stimulation in the pigeon. Experimental Brain Research, 1989, 77, 391-398.
- Frost, B.J., Wylie, D.R. and Wang, Y-C. The processing of object and self-motion in tectofugal and accessory optic pathways of birds. Vision Research, 1990, 30, 1677-1688.
- Frost, B.J., Wise, L.Z., Morgan, B. and Bird, D. Retinotopic representation of the bifoveate eye of the kestrel, *Falco sparverius*, on the optic tectum. Visual Neuroscience, 1990, 5, 231-239.

- Wylie, D.R.W. and Frost, B.J. The pigeon optokinetic system: Visual input in extraocular muscle coordinates. Visual Neuroscience, 1996, 13, 945-953.
- Frost, B.J. and Sun, H.J. Visual motion processing for figure/ground segregation, collision avoidance, and optic flow analysis in the pigeon. Chapter 5. In: M.V. Srinivasan and K. Venkatesh (eds.) From Living Eyes to Seeing Machines, Oxford University Press, London, 1997, 80-103.
- Sun, H.-J. and Frost, B.J. Motion processing in pigeon tectum: Equiluminant chromatic mechanisms. Experimental Brain Research, 1997, 116, 434-444.
- Marlin, S.G., Tong, F., David, S. and Frost., B. Testing Cognitive Maps of Immersive 3D Virtual Reality Environments. Proceedings of the 4th conference of the Australasian Cognitive Science Society, 1997.
- van der Willigen, R.F., Frost, B.J. and Wagner, H. Functionality and limits of disparity based stereopsis in the Owl (*Tyto alba*). In: N. Elsner and R. Wehner (eds.) New Neuroethology on the Move, Thieme, 1998, 9, 3-7.
- Wylie, D.W., Bischof, W.F. and Frost, B.J. Common reference frame for neural coding of translational and rotational optic flow. Nature, 1998, 392, 278-282. (Written up in "News & Views" section 392,

- Xaio, Q. and Frost, B.J. Looming responses of telencephalic neurons in pigeon are modulated by optic flow. Brain Research, 2009, 1305 40-46
- Frost, B.J. Bird head stabilization. Current Biology, 2009, 19 (8) R315-316.
- Frost, B.J. A taxonomy of different forms of motion detection and their underlying neural mechanisms. Brain Behavior and Evolution, 2010, 75(3) 218-235
- Frost, B.J. Animal motion perception, in E. B. Goldstein (ed) Encyclopedia of Perception, Sage. 2010
- Xaio, Q. and Frost B.J. Motion parallax processing in pigeon (*Columba livia*) pretectal neurons, European J. Neuroscience, 2013, 37, 1103-1111.
- Mouritsen,H., Derbyshire, R., Stalleicken, J., Mouristen, ,O., Frost,.B.J., Norris., D.R. An experimental displacement and over 50 years of tag-recoveries show monarch butterflies are o repositum 0612a(0)skPNAS72603BT/F1 112 0 612 792JTJ(L)a0.0.000010, 75
- Mouritsen,H., Derbyshire, R., Stalleicken, J., Mouristen, ,O., Frost,.B.J. Norris., D.R. Reply

Frost, B.J. Demonstration of recording and stimulating techniques for studying the vertebrate visual system. Invited demonstration, Society of Neuroscience Eastern Canadian Chapter Meeting, Kingston, June, 1972.

Ward, R., Frost, B.J. and Thompson, D.E. Visual control of flight in the pigeon. Paper presented to the

- Frost, B.J., Scilley, P.L. and Morgan, B. Comparison of visual response characteristics of tectal and ectomamillary nucleus cells in the pigeon. Paper presented to XXVIII International Physiological Conference, Budapest, July, 1980.
- Ramm, P. and Frost, B.J. ^{14}C -Deoxyglucose autoradiography of the raphe nuclei during sleep-wake activity in the rat. Society for Neuroscience Abstracts, 1980, 6, p. 51.
- Scilley, P.L., and Frost, B.J. Evaluation of an auditory prosthetic device for the profoundly deaf. Paper presented to the Acoustical Society of America, August 1981. J. Acoustical Society, 1981, 69, 8123.
- Ramm, P., and Frost, B.J. Functional mapping of regional metabolic activity in the brain of the sleeping or waking rat. Paper presented to Canadian Psychological Association, June, 1981.
- Frost, B.J. and von Grunau, M. Double-opponency of directionally specific units in cats lateral suprasylvian visual area. Paper presented to the Association of Research in Vision and Ophthalmology, Sarasota, April, 1981.
- Thompson, W.R., Frost, B.J., and Cuddy, L. Opponent processes in vowel perception. Paper presented to Canadian Psychological Assoc. Conference, Montreal, June 1982.
- Ramm, P., and Frost, B.J. Metabolic mapping of regional functional activity in the rat brain during arousal states. Paper presented to Canadian Psychological Association, June 1982.
- Scilley, P.L., Chung, K., Mason, J.L., and Frost, B.J. A vibrotactile vocoder for the profoundly deaf. Presentation to the Alexander Graham Bell Conference, Toronto, 1982.
- Scilley, P.L., Frost, B.J., Chung, K., and Mason, J.L. Intelligibility of running speech using a tactile vocoder aided by lipreading. Paper presented to the Acoustical Society of America, August, 1982.
- Ramm, P. and Frost, B.J. Regional functional activity in the rat brain during vigilance states. Society for Neuroscience Abstracts, 1982, 8.
- Brooks, P.L., Frost, B.J., Chung, K. and Mason, J.L. Intelligibility of running speech using a tactile vocoder aided by lipreading. Paper presented to Acoustical Society of America, Florida, 1982.
- Brooks, P.L. and Frost, B.J. Evaluation of running speech on a vibrotactile vocoder. Paper presented to Tactual Communications Conference, Institute of Logopedics, Kansas, October, 1982.
- Frost, B.J. Visual control of posture and locomotion. Invited paper presented to Auckland University Centennial Symposium on Vision, May, 1983.
- Brooks, P.L., Gibson, D.M., Frost, B.J. and Mason, J.L. Evaluation of a tactile vocoder for word recognition and connected speech by normal and profoundly deaf subjects. Paper presented to the World Congress of the World Federation of the Deaf. Rome, Italy, July, 1983.
- Frost, B.J., Goodale, M.A. and Pettigrew, J.D. A search for functional binocularity in the pigeon. Society for Neuroscience Abstracts, 1983, 9.
- Frost, B.J., Ramm, P., Morgan, B. and Chown, P.J. Functional analysis of LMmc and nBOR of pigeon accessory optic system. Society for Neuroscience Abstracts, 1983, 9.

- Frost, B.J. and Morgan, B. Retinotopic mapping and response characteristics of neurons in the Wulst of the Great Horned Owl. Society for Neuroscience Abstracts, 1986, 12, 1366.
- Shaver, S.W., Wise, L.Z. and Frost, B.J. Frequency organization of the auditory midbrain in the Bob-white quail. Society for Neuroscience Abstracts, 1987.
- Wang, Y-C. and Frost, B.J. Visual response characteristics of cells in nucleus isthmi of pigeons. Society for Neuroscience Abstracts, 1987.
- Frost, B.J., Morgan, B., Wise, L.Z. and Bird, D. Retinotopic representation of the bifoveate eye of the Kestrel (*Falco sparverius*) on the optic tectum. Association for Research in Vision and Ophthalmology Abstract, 1987.
- Frost, B.J. Comparative studies of parallel visual pathways in avian species. Invited paper, NATO workshop Bergen, Norway, August 1987.
- Csizy, M., Frost, B.J. Auditory localization in the Saw-Whet Owl. Society for Neuroscience Abstracts, 1988, 14, 1095.
- Wise, L.Z., Frost, B.J., Shaver, S.W. The representation of sound frequency and space in the mid brain of the Saw-Whet Owl. Society for Neuroscience Abstracts, 1988, 14, 1095.
- Telford, L., Wang, Y-C., Frost, B.J. Nucleus isthmi in the pigeon: An HRP study. Society for Neuroscience Abstracts, 1988, 14, 991.
- Wylie, D.R., Frost, B.J. A quantitative analysis of the visual response properties of neurons in the nucleus of the basal optic root of the pigeon. Society for Neuroscience Abstracts, 1988, 14, 990.
- Jiang, S-Y., Wang, Y-C. and B.J. Frost. Visual response properties of nucleus rotundus cells in the pigeon. Society for Neuroscience Abstracts, 15, 460, 1989.
- Telford, L., Frost, B.J. and Boegman, R.J. Acute functional activity after excitotoxic lesions of the nucleus basalis magnocellularis. Society for Neuroscience Abstracts, 15, 1989.
- Frost, B.J., Wang, Y-C. and Jiang, S-Y. Leading edge occlusion specificity in tectal and n. isthmi cells in the pigeon. ARVO Abstracts, 30, 300, 1989.
- Wise, L.Z., Frost, B.J. and Shaver, S. Neurons sensitive to sound locus in the auditory Mid-Brain of the Saw-Whet Owl, *Aegolius acadicus*. Australian Neuroscience Society Abstracts, 1989.
- Wylie, D.R. and Frost, B.J. Binocular interaction in the accessory optic system (AOS) of the pigeon. Society for Neuroscience Abstracts, 15, 459, 1989.
- Frost, B.J. The processing of object and self-motion in tectofugal and AOS pathways of birds. Westheimer Festschrift Symposium Abstracts, 1989.
- Wang, Y.C. and Frost, B.J. Functional organization in the nucleus rotundus of pigeon. Society for Neuroscience Abstracts, 1990, 16, 1314.

- Wylie, D.R. and Frost, B.J. Distinguishing rotation from translation: Neurons in pigeon vestibulo cerebellum specify different patterns of wholefield motion. Society for Neuroscience Abstracts, 1990, 16, 1314.
- Sproule, E. and Frost, B.J. Retinotopic organization and receptive field characteristics of neurons in the visual wulst of the pigeon. Society for Neuroscience Abstracts, 1990, 16, 1221.
- Wild, J.M., Frost, B.J. and Karten, H.J. Some aspects of the auditory forebrain and midbrain in the pigeon. Society for Neuroscience Abstracts, 1990, 16, 717.
- Telford, L. and Frost, B.J. The role of kinetic depth cues in centrally-mediated linear vection. Investigative Ophthalmology and Visual Science Abstracts, 1990, 32, 830.
- Shaver, S.W., Telford, L. and Frost, B.J. The role of stereoscopic depth cues in centrally-mediated linear vection. Investigative Ophthalmology and Visual Science Abstracts, 1990, 32, 696.
- Shaver, S.W. and Frost, B.J. Multisensory neurons in the midbrain of the pigeon. Society for Neuroscience Abstracts, 1991, 17, 1379.
- Wang, Y.C. and Frost, B.J. Some neurons in the nucleus rotundus of pigeon compute time to collision. Society for Neuroscience Abstracts, 1991, 17, 1380.
- Wylie, D.R., Shaver, S.W., and Frost, B.J. Visual responses of neurons in the nucleus of the basal optic root of the northern Saw-whet owl. Society for Neuroscience Abstracts, 1991, 17, 1379.
- Frost, B.J. Neurons that compute Tc (time to collision). Invited paper presented to Special Motion

Frost, B.J. Fundamental processes in human development: Biological, psychological, and social. ISSBD, 1996.

Frost, B.J. Virtual Reality Test-beds for Animal and Human Research. Invited talk to National Centre of Excellence Research Conference, Institute for Robotics and Intelligent Systems, Ottawa(s,)-223

Frost, B.J. Monarch Butterfly Migration. Poster presented to Christchurch Museum, Christchurch, New Zealand, 2006.

Frost, B.J. Tiny Brains but Powerful Computers: Lessons from the birds and bees. Invited talk to "The Saturday Club", Kingston, November 2006.

Garlick, K., & Frost, B.J. Visual & Olfactory Cues used by Monarch Butterflies (*D. Plexippus*) to locate their host plant. Poster presented to Centre for Neuroscience Research Conference, Queen's University, October 2006

Stalleicken, J., Mouritsen, H., Frost, B., Mukhida, M., "Compass orientation and spatiotemporal orientation strategies in monarch butterflies (*Danaus plexippus*)". Comparative Biochemistry and Physiology, 2006

Frost, B.J. Information used by birds and butterflies to navigate during migration. Invited talk to Biological Field Station Research Seminar Series, Queen's University, July 2006.

Frost, B.J. Flight Simulator Studies of Monarch Butterfly Migration. Invited keynote address to Perception and Action Conference, Winnipeg, April 2006.

Frost, B.J. Behavioural and Perceptual Neuroscience: Around the world in 40 years. Invited keynote address to Prairie Honours Conference, Winnipeg, April 2006.

Frost, B.J. Monarch Butterfly Migration. Six talks given to Grades 1-6, Appleby School, Nelson, NZ, March 2006.

Frost, B.J. How monarchs find their way from Canada to Mexico. Invited talk to New Zealand Forest and Bird Society, Nelson, New Zealand, March 2006.

Frost, B.J. To be ... or not to be ... Heard. Invited talk. Audition Seminar, Queen's University, Jan 2007.

Frost, B.J. Advice to young researchers. Invited talk to Graduate Student Research Day, Dept. of Psychology, Queen's University, May 2007.

Frost, B.J. Vision for navigation and way-finding in birds or butterflies. Plenary address to Vision Down Under Conference, Palm Cove, Queensland, Australia, 19-22 July 2007.

Garlick, K., & Frost, B.J. Visual & Olfactory Cues used by Monarch Butterflies (*D. Plexippus*) to locate their host plant. Poster presented to International Congress of Neuroethology, Vancouver, B.C., July 2007.

McNeil, J., & Frost, B.J. Heading for Home: A testable hypothesis of how monarch butterflies find over-wintering sites in Mexico. Paper presented to Canadian Entomological Society of Canada, Ottawa, 19-22 October 2008.

McNeil, J., & Frost, B.J. Heading for Home: A testable hypothesis of how monarch butterflies find overwintering sites in Mexico. Paper presented to The International Society of Chemical Ecology, Penn State University, 19-22 August 2008.

Frost, B.J., **Stalleicken, J., Mukhida, M. & Mouritsen, H.** Monarch Butterfly (*Danaus plexippus*) migration: A multi-stage, multi-model process. Paper presented to International Conference on Comparative Physiology & Biochemistry, Masai Mara, Kenya, July 2008.

Frost, B.J. Monarch butterflies. Invited talks. Crystal Springs Primary School, Victoria, B.C., April 2008.

Xiao, Q., and Frost, B.J., “Pigeon pretectal neurons are facilitated by two depth planes of translational flow simulating motion parallax.” 9th International Congress of neuroethology, Salamanca Spain, 2-7 August 2010.

Consultancies:

Consultant and participant for 'The Humane Conspiracy', a B.B.C. Science documentary directed by Nigel Calder. Book of same title and material also.

Consultant for CBC 'Nature of Things' documentary on the Skin.

Consultant and participant 'Vista Science Series' "Perception: More than Meets the Eye".

Consultant and participant, Queen's University "Opportunities: Strategic Alliances in Research and Business at Queen's University".

Appearances on Quirks and Quarks, 1995, 1998

Appearances on Discovery Channel

Consultant to Science North, Sudbury, on Programme called “Brain Magic” 1997-1999

Consultant to Ontario Science Centre on their VR displays, 1997.

Consultant and contributor to Discovery Channel “Birds: Explore your world handbook”.

Invited Addresses and Colloquia:

Ottawa University (Department of Anatomy); Carleton University (2); Dalhousie University (3); University of California, Berkeley; University of Queensland (3); University of Canterbury; Latrobe University; Monash University; Australian National University; Neuroscience Canadian Meeting; NATO Institute for Analysis of Visual Behaviour; McGill University (2); Queen's University (several talks to Biology, Physiology, Life Sciences Group, and Psychology); York University; SUNY at Stony Brook (Anatomy & Bioscience); University of Delaware (Inst. of Neuroscience); Mount Allison University (2); Monash University; Latrobe University; University of Melbourne (2); Natniv2rs0 612 792 792 792 792 792

Queensland. School of Optometry, University of New South Wales. Department of Ophthalmology, University of British Columbia. Max Planck Institute für Biologische Kybernetic, Tübingen (2). Royal Society Meeting, Kingston. McMaster University (Psychology). Harvard University(3). University of Toronto. New York University, Centre for Neural Science. PRECARN/IRIS Conference, Montreal. Keynote Address, Animal Behaviour Society, Queen's University. Terry Anders Memorial Lecture,

Schools:

Bayridge Secondary School, Kingston,. Talk to senior class on Migration in Animals

Nayland Road Secondary School, Nelson New Zealand, 2 Talks to senior Biology classes on Animal migration.

Appleby School New Zealand. Separate talks to grades 2-6 about Monarch Butterfly migration.

Crystal Springs School, Victoria, B.C. Talks to grade 2 and 3 students.

Radio Interviews:

Country Morning CBC. 2 interviews.

Quirks and Quarks. Several times.

Research Grants:

Dalhousie University Faculty of Science Research and Development Grant, 1966. To study centrifugal control of retinal sensitivity in the pigeon.

Queen's University Interim Research Grant, 1969, to study higher visual processing in man.

NRC Interim Research Grant, 1969.

NRC Operational Grant, 1970-1973, to study single cell activity in the tectum of the pigeon.

Ontario Department of University Affairs Multi-Disciplinary Research Grant for the development of artificial seeing and hearing devices, 1970. (with Dr. Neilson MacKay, Department of Electrical Engineering).

NRC Operational Grant, 1973-76, for "Studies in vision."

Canadian Council Fellowship Grant, 1975-76, to study the orientation anisotropy in Australian Aborigines of the Pintubi tribe of the Gibson Desert, NT, Australia.

Australian Institute of Aboriginal Studies, Orientation anisotropies in visual acuity in the Pintubi from Papunya.

NRC Operational Grant, 1976-79, for "Studies in vision."

Queen's University Grant, 1977-78. Experiments in Visual Physiology.

NSERC, Operational Grant, for "Studies in vision", 1979-82.

MRC, Operational Grant, for functional mapping of certain visual and hypnogenic area of the brain using C¹⁴-2-DG autoradiography and single unit recording technique, 1980-82.

Queen's University Grant, 1979-80. Evaluation of an auditory prosthetic device for the deaf.

National Health and Welfare Canada, Grant 1981-83, "The development and evaluation of a portable vibrotactile auditory prosthetic device for the profoundly deaf".

NSERC Equipment Grant, 1981, "An image analyzing/image processing system".

MRC Operating Grant, 1982-84, "CNS sites involved in the control of posture locomotion and sleep".

NSERC Operating Grant, 1982-85, "Studies in Vision".

Queen's University Grant, 1982, "The visual unlocking of Parkinsonian Akinesia".

Parkinson Foundation Grant, 1982, "The visual unlocking of Parkinsonian Akinesia. \$12,974.

NSERC Equipment Grant, 1983. "Cryostatic Microtome and Microscope for Vision Research." \$27, 907.

National Health and Welfare Canada Grant 1983-1986. "Vibrotactile Vocoders for the Deaf." \$35,000 p.a.

NSERC International Scientific Exchange Award, 1984. \$3,000.

MRC Operating Grant. 1984-87, "Visual Control of Posture and locomotion." \$38,000 p.a.

NSERC Operating Grant 1985-88. "Neural Processing of Visual Motion." \$146,249.

NSERC Equipment Grant. 1986, A Sound Synthesis and Analysis System for Auditory Physiological and Psychophysical Experiments. \$21,219.

NSERC Operating Grant, 1988-91. "Neural Processing of Dynamic Visual and Auditory Stimuli." \$150,000.

MRC Operating Grant, 1987-89. "Visual Control of Posture and Locomotion." \$76,000.

NHRDP Operating Grant, 1986-1989. "Vibrotactile Vocoders for the Deaf." \$118,000.

NSERC Equipment Grant 1989-90. Hi-speed Image Processing Computer. \$52,641.

National Centres of Excellence. Institute for Robotics and Intelligent Systems. Principal Investigator. 1990-1994. Total Inst. Grant. \$24,000,000. Frost's grant \$49,000 p.a.

NSERC Operating Grant, 1991-1994. Neural Processing of Visual and Auditory Motion and Space. \$300,000.

NSERC International Scientific Exchange Award, 1991. (Dr. Wang-Shurong). \$9,000.

NSERC Equipment Grant, 1991. Optotrak system for measuring 3D motion (with S. Lederman, R. Ellis, D. Muir, and K. Munhall). \$70,890.

NSERC International Scientific Exchange Award, 1992. (Dr. Ole Larsen). \$6,500.

MRCO, 1993-1995. "Enhanced display and control techniques for intelligent automation and manufacturing." \$150,000 p.a. With Browne, Lederman, Munhall and Glasgow. Frost's share \$18,000 p.a.

NSERC Operating Grant, 1994-1999. "Neural mechanisms for processing visual and auditory motion and space". \$465,000

Former and Current Post-Doctoral Fellows:

Name	Current Position
Michael von Grunnau, Ph.D.	Professor, Dept. Psychology, Concordia University, Principal of Science College (deceased).
Peter Ramm, Ph.D.	Associate Professor, Dept. Psychology, Brock University, CEO Imaging Research Inc, St Catharines, Ont.
Stuart Marlin, Ph.D.	Senior Lecturer, Dept. Psychology, Univ. Newcastle, Australia
Colin Ellard, Ph.D.	Professor, Dept. Psychology, University of Waterloo
Liang Li, Ph.D.	Professor, Department of Psychology, Peking University, Beijing.
Siham Nassif-Caudarella	Translator, Customer Relations, Head Start Technologies, Guelph, Ont.
Jiang, Shiyong	Professor of Biology, Guangxi University, Guilin, P.R. China
Lisa Wise, Ph.D.	Senior Lecturer, Dept. Psychology, Monash University, Australia
Henrik Mouritsen, Ph.D.,	Lichtenberg Professor, and Director of the Institute of Biology and Environmental Sciences, University of Oldenburg, Germany.
Niko Troje, Ph.D.,	Canada Research Chair and Professor of Psychology.
Qian Xiao, Ph.D.,	Researcher, Institute of Biophysics Academia Sinica, Beijing.
Partha Bhagavatuva, Ph.D.,	Post-Doctoral Fellow, Concord Field Station, Harvard University.

Technicia

[REDACTED]	Title	Current Position	[REDACTED]
Gordon Goodchild, B.Sc.	Programmer	Programmer, Denver, Colorado	
Jon Ruttan	Programmer	[REDACTED]	
Dave Gibson, M.Sc.	Electrical Engineer	Advisor, NORTEL, Ottawa	
Kim Chung, M.Sc./M.D.	Electrical Engineer	Medical Practitioner, Toronto.	
Jim Rodgers, Ph.D.	Computer Consulting	CIS, Queen's University, Kingston.	
Chris Bethune	Programmer	NORTEL, Ottawa, Ontario.	
Geoff Barrett	Programmer	Software Engineer, Nevers Optics Inc. San	
Sarah Packowski	Programmer	MA Student, CIS, Queen's Univ., Kingston.	
Shawn Leclaire	Programmer	[REDACTED]	
Anna Cheviakova	Research Assistant	Res. Assistant, Dept. Psychology, Queen's U.	
Frederic Poirier, M.A.	[REDACTED]	PDF, Centre for Visi /P AMCID [REDACTED]-3(D)-	[REDACTED]

M. von Grunau	Professor of Psychology, Head College of Science,, Concordia University
Yong-Tian Wang	Professor of Optics, Beijing Institute of Technology, P.R. China
Nikolaus Troje	Wolkswagen Research Fellow, Ruhr-Universität-Bochum, Germany
Henrik Mouritsen	Wolkswagen Research Fellow, University of Oldenburg, Germany
Lincoln Brower	Emeritus Distinguished Service Professor, University of Florida, USA
Jeremy McNeil	Professor of Biology, University of Western Ontario, London, Ontario
Whittko Franke	Professor of Chemistry, University of Hamburg, Germany

Professional Societies:

Fellow, Royal Society of Canada
Fellow, Canadian Psychological Association