



## 2000|01 Annual Report

Centre de recherche | Institut universitaire de gériatrie de Montréal



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## Message | from the Director of Research

The year 2000-2001 was a turning point for the planning and consolidation of research activities in health and aging at the Institut universitaire de gériatrie de Montréal. The four-year Research Development Plan for 2001-2005 was submitted to the authorities at the *Fonds de la recherche en santé du Québec* in the fall of 2000. Following an evaluation project with a visit from a committee of experts, the FRSQ Board of Directors approved the plan. It called for pursuing the development of the themes that are now the strongest, accompanied by a major consolidation of the weaker themes and the creation of a new research theme entitled *Aging and society*. The latter theme will enable us to initiate the development of research activities of a social nature, by enabling us to bring together the creative forces in this field at the Université de Montréal. This new four-year development plan will thus enable the Research Centre to be better positioned at a critical time for research in health and aging in our country. The plan will also allow, among others, for the introduction of critical masses of researchers covering all of the pillars of health research; these include fundamental research, clinical research, research on health services and systems and the health of populations, as well as research on the social and cultural aspects of health during aging.

In 2000-2001 we saw a major shift as we increased the critical mass of researchers at our Institute. Several researchers were recognized by the *Fonds de la recherche en santé du Québec* (FRSQ) as researcher-grant recipients. Dr. Francine Ducharme (Faculty of Nursing; researcher-senior grant recipient) will thus be able to continue her excellent contribution to research on nursing care for the elderly and their families. Dr. Ducharme was appointed holder of the Desjardins Chair in Nursing for the Elderly and their families; it enjoyed a financial infusion of one million dollars from the Mouvement Desjardins. Dr. Bryna Shatenstein (Department of Nutrition, Faculty of Medicine) was named *Chercheur-boursier clinicien junior2* and will be able to continue her major contribution to epidemiological research in nutrition and aging. Dr. Louise Demers (School of Rehabilitation, Faculty of Medicine) was named *Chercheur-boursier junior1*. Her arrival represents an important addition to the work of the *Position, mobility and aging* theme. Dr. Demers, who was originally a clinician at the Institute and then trained in research, offers unique expertise in assessment of interventions intended for the elderly. Dr. Mario Beauregard (Department of Radiology, Radio-Oncology and Nuclear Medicine, Faculty of Medicine; *chercheur-*

*boursier junior2*) has been recognized by the FRSQ for the excellence of his contribution in functional neuroimaging as applied to aging. Furthermore, the FRSQ renewed the salary support for Drs. Martin Arguin (Department of Psychology, Faculty of Arts and Science; *chercheur-boursier junior1*) and Hélène Kergoat (School of Optometry; *Chercheur-boursier clinicien junior2*). These appointments and reappointments were complemented by the recruitment of many new researchers, who will allow for the consolidation of certain of the Centre's themes. Thus, Dr. Martin Brochu (Department of Kinesiology) will initiate a research program on physical activity and energy expenditure as a promoting factor during aging. Dr. Jacqueline Rousseau (School of Rehabilitation) also joined the Centre in order to pursue her work on the assessment of conditions for home maintenance of elderly people. Finally, Dr. Éric Fimbel (École de technologie supérieure) will pursue his research on the analysis of motor control during aging as well as in Parkinson's disease. All told, the number of researchers equivalent to full-time hours increased by close to 20% in 2000-2001, reaching more than 26.5.

In the same year, several researchers were recognized for the quality of their scientific contribution. Thus two of the Centre's researchers, Drs. Franco Lepore and Maryse Lassonde, were chosen as recipients of a Research Chair of Canada. Over 14 researchers from the Centre collaborated with their peers from the Lady Davis Institute within the framework of a major research program of \$1.6 million dealing with Cognition and Aging. This project is coordinated by Drs. Yves Joannette and Howard Chertkow (Director of the Bloomfield Research Centre) and it should allow the researchers from the Centre to further strengthen their positioning on the national and international scene. As well, in collaboration with her colleagues from the *Groupe de recherche interdisciplinaire en santé* (GRIS) (Dr. François Béland), and from the Lady Davis Institute and the McGill Chair in Geriatrics, Dr. Paule Lebel received a major grant from the Canadian Health Research Institutes. This interdisciplinary health research group will be able to take on the project: *The challenge of understanding and meeting the needs of the frail elderly in the Canadian primary care system*.

During this time, the Research Centre continued to grow. The total amount of grants and scholarships awarded to researchers at the Institute has reached approximately



Dr. Yves Joannette  
Director of Research  
accompanied by  
Dr. André Davignon  
Special Scientific Adviser

## Message | from the Director of Research

\$4 355 000 for the year 2000-2001, translating into a triennial growth of about 30%. Support from the Foundation of the Institute enabled us to welcome four new post-doctoral fellows and made it possible to inaugurate a brand new evoked potentials laboratory which also received funding from the Canadian Foundation for Innovation.

Finally, the Centre is continuing to make a major contribution to training the next generation of researchers, as we welcome an increasing number of researchers-in-training at the Master's and Ph.D. levels. Together, the researchers, their students and their partners have maintained a remarkable level of research productivity, publishing 17 books and 259 articles and book chapters. Research conducted at the Institute was reported at 309 conferences in held in North and South America, as well as in Europe and the other continents.

The researchers and staff at the Research Centre have thus enabled the Institute to fully realize its research mission by strengthening its role as a leader in Québec and throughout the world in terms of research on health and aging.

## Message | from the Associate Director of Clinical Research

In terms of clinical research the year 2000-2001 was marked by significant development initiatives. First, in partnership with all of the other centres of the *Fonds de la recherche en santé du Québec* (FRSQ), the Research Centre of the Institute was invited to participate in the development of a major grant submitted to the Canadian Foundation for Innovation. The goal of this project is the development of infrastructures to promote clinical research in Québec. Essentially, this request includes the development of a research network intended to promote clinical research on the provincial level by giving researchers access to a centralized infrastructure that will facilitate the management of clinical studies. This project, which has already received \$2.5 million in funding from *Valorisation-Recherche Québec*, is one of the priorities of the FRSQ which has made the promotion of clinical research one of the pillars of its triennial plan.

Several research teams from the Centre participated in the development of an infrastructure project whose goal is the creation of a "Clinical research unit on cognition." This grant request is part of an inter-institutional project led by Dr. Howard Chertkow at the Lady Davis Institute; the project rests, to a large extent, on a structuring grant of \$1.6 million from *Valorisation-Recherche Québec* dealing with cognition and aging (Drs. Yves Joannette and Howard Chertkow, co-principal investigators). The participation of the Institute in this infrastructure project, coordinated by Drs. Sylvie Belleville and Marie-Jeanne Kergoat, would enable teams representing over 13 disciplines to join forces around a single infrastructure allowing for particularly inter-disciplinary research.

The Advisory Board for Clinical Research (CAREC) continued to play the role of facilitator among the Institute's researchers, clinicians and clinician-researchers. The CAREC was the driving force behind an event last November that showcased and disseminated the clinical research of the past year. This initiative, entitled "*La recherche clinique s'affiche*" took place over three days and allowed over 100 people to contact one another. The event was sponsored by the Canadian Dairy Producers.

In other news, a permanent place for the dissemination of research results intended for clinicians and other employees of the Institute was inaugurated in the fall of 2000. A high-traffic passageway in our building has been turned into "the Research Passage," which is now used for the permanent exhibition of posters presented by the Institute's researchers and clinician-researchers at local and international scientific conferences. The posters are rotated on a regular basis and this passage will ensure wide exposure for research with clinical applications.

Another initiative was to increase the links with the concerns and needs of the elderly among us. In fact, the Research Centre has appointed Dr. André Davignon as a special scientific consultant. Dr. Davignon, a retired university professor and researcher, has been mandated to establish a "*Comité de sages*" (whose mission is to identify what it takes to age well) in collaboration with the researchers and clinician-researchers at the Centre. He will also help the Centre develop and consider research related to the theme of health and society.

In closing, I would like to salute the leadership of several researchers and clinician-researchers who, again this year, participated in the organization of many conferences and other continuing education activities largely focusing on clinical aspects, thanks to the outstanding work of Dr. Paule Level, Director of Teaching and Dissemination of Expertise, and of Ms. Michèle Sirois, who is responsible for the organization of scientific events. Thus, in November 2000, close to 400 participants attended a conference entitled "*Bien nourrir les personnes âgées en institution: un défi à relever*" and a second conference dealing with "*Médecins et pharmaciens: un tandem au service des personnes âgées*" was attended by over 150 in March 2001.



Dr. Guylaine Ferland  
Director of Clinical  
Research

# Research Themes

Themes	Research Topics	Research Directors	Functional unit
<b>1</b> <b>Cognitive Neurosciences and aging</b>	1.1 Language, communication and aging 1.2 Cognitive neuropsychology of aging 1.3 Neurobiology and neuroimaging	Dr. Gonja Jarema Dr. Isabelle Peretz Dr. Julien Doyon	U1 - Language and cognition U2 - Neuropsychology U3 - Neurobiology and neuroimaging
<b>2</b> <b>Care and services for the elderly and their families</b>	2.1 Interventions and support programs and services for family caregivers 2.2 Telemonitoring 2.3 Assessment of the quality of geriatric services 2.4 Ethics	Dr. Francine Ducharme	U4 - Care and services
<b>3</b> <b>Nutrition and the elderly</b>	3.1 Biology of nutrition and of aging 3.2 Nutrition and the elderly person 3.3 Nutrition and the elderly population	Dr. Marie-Jeanne Kergoat	U5 - Nutrition and clinical sciences
<b>4</b> <b>Positioning, mobility and aging</b>	4.1 Engineering for rehabilitation applied to technical supports for posture and mobility 4.2 Use and satisfaction with technical supports 4.3 Movement and gesture 4.4 Spatial orientation and finding finding one's way	Dr. Bernadette Ska	U6 - Gesture, way-finding, and spatial orientation
<b>5</b> <b>Sensory impairment and aging</b>	5.1 Visual impairment 5.2 Hearing impairment	Dr. Sylvie Hébert	U7 - Sensory impairment

## Researchers Council | 2000 – 2001



Researchers present at the Annual Photo Session

### Researchers – Laboratory Directors

Dr. Martin Arguin  
Dr. Mario Beauregard  
Dr. Renée Béland  
Dr. Sylvie Belleville  
Dr. Martin Brochu  
Dr. Howard Chertkow  
Dr. Louise Demers  
Dr. Julien Doyon  
Dr. Laurette Dubé  
Dr. Francine Ducharme  
Dr. Guylaine Ferland  
Dr. Eric Fimbel  
Dr. Michel Habib  
Dr. Sylvie Hébert  
Dr. Gonja Jarema  
Dr. Yves Joannette  
Dr. Héléne Kergoat  
Dr. Marie-Jeanne Kergoat  
Dr. Maryse Lassonde  
Dr. Paule Lebel  
Dr. André Roch Lecours  
Dr. Franco Lepore  
Dr. Tony Leroux  
Ms Louise Lévesque

Dr. Sonia Lupien  
Dr. Romedi Passini  
Dr. Isabelle Peretz  
Dr. Jacqueline Rousseau  
Dr. Jocelyne St-Arnaud  
Dr. Bryna Shatenstein  
Dr. Bernadette Ska  
Dr. Lise Talbot  
Dr. Rhoda Weiss-Lambrou  
Dr. Christina Wolfson

### Associate Researchers

Dr. Paulo Caramelli  
Dr. Julie Carrier  
Dr. Nathalie Champoux  
Dr. Jacques Bruno Debruille  
Dr. Pierrette Gaudreau  
Dr. Serge Gauthier  
Dr. Prathibha Karanth  
Dr. Raymonde Labrecque  
Dr. Guylaine LeDorze  
Dr. Gary Libben  
Dr. Isabelle Lussier  
Dr. David McFarland  
Dr. Héléne Masson  
Dr. Fadi Massoud

Dr. Maria Alice De Mattos Pimenta Parente  
Dr. Zohra Mimouni  
Dr. Jacques Montplaisir  
Dr. Laurent Mottron  
Dr. Héléne Pigot  
Dr. Jean-Luc Nespoulous  
Dr. Ugo Nocentini  
Dr. Michel Panisset  
Dr. Carole Paradis  
Dr. Jacinthe Pepin  
Dr. Agnessa Pillon  
Dr. Gilles Plourdes  
Dr. Lucie Richard  
Dr. Luc Rousseau  
Dr. Xavier Seron  
Dr. Brigitte Stemmer  
Dr. Josée Verdon

### Guests

Ms Johanne Dupuis  
Ms Christine Kaegi  
Ms Nathalie Walter  
Dr. Sophie Blanchet

# Research Committee

## Research Committee:

**Yves Joannette**, Research Director and Chairman of the Research Committee  
**Christiane Lepage**, Interim Chairman, Council of Physicians, Dentists and Pharmacists  
**Céline Crowe**, Director of Professional and Hospital Services  
**Guylaine Ferland**, Associate Director of Clinical Research  
**Paule Lebel**, Director of Teaching  
**Johanne Théoret**, Director of Nursing Care  
**Colette Tracyk**, Executive Director

### *Representative(s) elected by the Researchers Council:*

**Francine Ducharme**, Faculty of Nursing  
**Marie-Jeanne Kergoat**, Faculty of Medicine  
**Romedi Passini**, Faculty of Architecture  
**Sylvie Belleville**, Faculty of Arts and Sciences  
**Nathalie Walter**, Graduate student representative

## Advisory Board for Clinical Research(CAREC):

**Guylaine Ferland**, Associate Director of Clinical Services and Chairman of the CAREC  
**Céline Crowe**, Director of Professional and Hospital Services  
**Johanne Dupuis**, Administrative Director and Recording Secretary for the CAREC

### *Representative(s) of the clinical sectors:*

**Sophie Barsetti**, Nursing Care  
**Martine Gaudreault**, Clinical Nutrition  
**Brigitte Gilbert**, Neuropsychology  
**Suzanne Généreux**, Speech Therapy  
**Suzanne Gilbert**, Pharmacy  
**Cristine Kaegi**, Physiotherapy  
**Hélène Kergoat**, Optometry  
**Marie-Jeanne Kergoat**, General Medicine  
**Elaine Laberge**, Social Services  
**Christiane Lepage**, General Medicine  
**Hélène Matteau**, Occupational Therapy, Day Hospital

### *Researcher's Representatives:*

**Francine Ducharme**, Researcher  
**Bernadette Ska**, Researcher

## Nominating Committee

**Yves Joannette**, Chairman of the Nominating Committee  
**Sylvie Belleville**, Researcher  
**Francine Ducharme**, Researcher

## Executive Committee:

**Yves Joannette**, Research Director and Chairman of the Executive Committee  
**Céline Crowe**, Representative of the General Administration  
**Johanne Dupuis**, Administrative Director and Recording Secretary for the Executive Committee  
**Guylaine Ferland**, Associate Director of Clinical Research  
**Paule Lebel**, Director of Teaching

### *Unit Directors:*

**Francine Ducharme**, Care and Services  
**Julien Doyon**, Neuroimaging and Neurobiology  
**Sylvie Hébert**, Sensory Impairment  
**Gonia Jarema**, Language and Cognition  
**Marie-Jeanne Kergoat**, Nutrition and Clinical Science  
**Isabelle Peretz**, Neuropsychology  
**Bernadette Ska**, Mobility/Way-finding

## Scientific Evaluation Committee:

**Bryna Shatenstein**, Chairman  
**Renée Béland**, Researcher  
**Hélène Kergoat**, Researcher  
**Paule Lebel**, Researcher  
**Bernadette Ska**, Researcher  
**Rhoda Weiss-Lambrou**, Researcher

## Research Ethics Committee:

**Louise Francoeur**, Specialized nurse clinician and Chairman of the Ethics Committee  
**Mario Beauregard**, Researcher  
**Céline Crowe**, Director of Professional and Hospital Services  
**Brigitte Damien**, Speech therapist  
**Johane de Champlain**, Lawyer  
**Eric Fimbel**, Researcher  
**Johanne Lévesque**, Research Centre student representative  
**Fadi Massoud**, Geriatrist  
**Monique Normandin**, Representative of the general public  
**Vincent Paquette**, Research Centre student representative  
**Marie-Hélène Parizeau**, Ethicist

## Scholarships Committee

**Francine Ducharme**, Chairman of the Scholarships Committee  
**Sylvie Hébert**, Researcher  
**Bryna Shatenstein**, Researcher

## Theme 1.1 | Neurosciences and Aging

Language, Communication and Aging Unit

The *Language and cognition* unit in the *Cognitive Neurosciences and aging* theme includes researchers from the Faculty of Medicine and the Faculty of Arts and Science. Its interdisciplinary research programming deals with the nature and treatment of language impairment that often accompanies cerebrovascular accidents or certain neurodegenerative diseases.

The international team led by Dr. Gonia Jarema continued its research on the mental lexicon as part of a vast research project funded by a grant from the Social Sciences and Humanities Research Council of Canada (SSHRC) within its *Major Research Initiatives* program. This research follows an interdisciplinary and cross-linguistic approach; its objective is to study the cognitive processes of the access, representation and organization of words in people with language impairment as well as in normal elderly people. Dr. Jarema's team is composed of many Canadian and foreign researchers, post-doctoral fellows, and students at the Master's and Doctoral levels enrolled in biomedical science, linguistics, and neuropsychology. In the fall of 2000, Dr. Jarema organized the Second International Conference on the Mental Lexicon, which was attended by close to 150 people from all over the world. This meeting enabled researchers to establish new international research partnerships, to bring new renowned foreign collaborators onto the team, and to publish a triple Special Issue of the international journal *Brain and Language* (forthcoming in 2002). The research conducted by Dr. Jarema's team also contributed to the preparation of a Special Issue of *Folia Linguistica* (Guest editors, Dr. G. Libben and Dr. G. Jarema; publication in 2002). In addition, Dr. Jarema's team has initiated research within a Valorisation Recherche Québec project (led by Dr. A.M. Di Sciullo, Université du Québec à Montréal (UQAM) integrating, UQAM, Université de Montréal, McGill University and Université Laval. Finally, in the fall of 2000, the team welcomed a post-doctoral fellow (Dr. S. Mondini, University di Padova, Italy) under the auspices of the Québec *Bourses d'excellence* program.

Dr. Yves Joannette's interdisciplinary team continued its research on the contribution of the right hemisphere (RH) to verbal communication and on the impacts of right lesions in right-handed people. This research, funded by the Canadian Institutes for Health Research (Dr. B. Ska, co-principal investigator) dealt with a set of communication impairments commonly occurring in individuals with right-hemisphere lesions.

Dr. Joannette also initiated research dealing with the nature of inter-hemisphere cooperation underlying recovery from aphasia. This research is now funded by the Canadian Heart and Stroke Foundation (Drs. Y. Joannette,

M. Habib and B. Ska) and had received a Québec-Italy scientific cooperation grant with the group from the San Raffaele Hospital in Milan (Drs. Y. Joannette and M. Beauregard at the Institut de gériatrie de Montréal and Drs. S. Cappa and D. Perani in Milan; A. I. Ansaldo, P. Vityali and N. Walter, student collaborators). Moreover, Dr. Joannette has pursued research on the transfer of knowledge to users (speech therapists) through the development of the first protocol actually intended for the assessment of communication impairment in patients with right-sided brain lesions. The protocol was developed and validated in the clinical settings directly involved in this project (Institut universitaire de gériatrie de Montréal, Hôpital Marie-Clarac, Villa Medica, Jewish Rehabilitation Hospital, Centre de réadaptation Lucie-Bruneau, and the Montreal Rehabilitation Institute). It was then standardized by student researchers during the summer of 2001. Finally, the team welcomed an American student in the winter of 2001 (W. Fassbinder, University of Pittsburgh).

Dr. Michel Habib has pursued his research on the neurobiological bases of oral and written language impairment. Among his many research projects, he focused on the issue of language impairment in primary progressive aphasia. One study even dealt with the assessment of possible pharmacological adjuvants in speech therapy for these individuals. Dr. Habib also pursued his study of the issue of written language impairment from a developmental perspective.

Dr. André Roch Lecours continued his research on speech and language disturbances, reading aloud and writing to dictation. This research focuses on diseases affecting the brain that have sudden onset, as well as degenerative types. The research now in progress deals with deep dyslexia (collaboration with Dr. P. Karanth, India) and pure anarthria (collaboration with Dr. M. A. De Mattos Pimenta Parente, Brazil). Other topics have also been investigated, including written language impairment and the mental lexicon in Alzheimer's disease, and the role of the right hemisphere in recovery from aphasia among right-handed patients.

In October 2000, Dr. Joannette and Dr. Jarema organized the annual meeting of the Academy of Aphasia in Montreal. This is the largest conference in the world in the field of aphasiology. Finally, Dr. Joannette and Dr. Jarema are continuing to contribute to the world of scientific publication, working respectively as Associate Editor and member of the Editorial Board for the journal *Brain and Language*. Dr. Habib continues to act as Co-Editor-in-Chief of the *Revue de neuropsychologie de langue française*.



Dr. André Roch Lecours,  
Dr. Gonia Jarema  
Dr. Yves Joannette

### Researchers theme 1.1

Dr. Michel Habib  
Dr. Gonia Jarema  
Dr. Yves Joannette  
Dr. André Roch Lecours

## Theme 1.2 | Neurosciences and Aging

*Cognitive Neuropsychology and Aging Unit*

The *Cognitive neuropsychology and aging Unit* in the *Neurosciences and aging* theme continued its research on the comprehension of the mechanisms underlying cognitive impairments related to aging and those that characterize neurodegenerative diseases (such as Alzheimer's) that have an impact on memory and other components of cognition. This interdisciplinary team brings together the creative forces of the Université de Montréal in its field. The team is interested in developing diagnostic and intervention tools in clinical neuropsychology and in related fields (such as the neurology of behaviour and geriatrics). It also focuses on the mild cognitive disorders that characterize a sub-set of elderly individuals prone to develop Alzheimer's disease or an associated dementia.

During the year 2000-2001, the cognitive neuropsychology team opened two new laboratories, one specializing in the electrophysiological measurements known as evoked brain potentials. This unit includes three separate recording rooms with 64-channel devices. The other laboratory is intended for innovative research using the transcranial magnetic stimulation technique. Beyond its desire to develop tools that explore the higher cognitive functions, the team is continuing its cognitive neuropsychology research on bilingualism, reading systems, memory systems, emotions and the possible link between cerebral concussion and dementia. The researchers' work can be best illustrated with the following examples:

- Dr. Renée Béland and her team conducted an in-depth study of a bilingual (Arabic-French) aphasic patient and showed that a left brain lesion affects both of the patient's languages. The analysis, based on a connectionist model, allows for detection of cross-linguistic errors, i.e. those errors involving the interrelations—such as translation errors—between the two languages.

- Dr. Martin Arguin and his team have made inroads in the fields of acquired dyslexia following a cerebral accident (in elderly adults). They observe that letter-by-letter dyslexia, which is characterized by a severe difficulty in recognition of written words and appears to occur via a sequential processing of the letters, actually deals with the interface between the visual and orthographic processes (with these two systems actually being intact).
- Dr. Sylvie Belleville and her team probed memory systems among normal elderly patients with slight cognitive difficulties and with dementia of the Alzheimer type, in order to identify tests likely to be specific to dementia of the Alzheimer type and test that are sensitive as early as the first pre-clinical signs (i.e. among patients with slight cognitive impairment). To accomplish this, Dr. Belleville is an active participant in a large multi-centre study involving the majority of memory clinics in Québec; the goal of this process is to create a registry and thus to accumulate clinical, neuropsychological and neurodiological data among patients with slight cognitive impairment, or among those suffering from Lewy body dementia or fronto-temporal dementia.

To summarize, the research conducted by the *Cognitive Neuropsychology and Aging Unit* in the Neurosciences and aging theme is enabling us to forge ahead with knowledge about cognitive impairment in the elderly. Doing so will enable us to foresee practical applications intended to maintain the quality of life of the elderly.



Dr. Renée Béland  
Dr. Sylvie Belleville  
Dr. Martin Arguin

### Researchers theme 1.2

Dr. Martin Arguin  
Dr. Renée Béland  
Dr. Sylvie Belleville  
Dr. Maryse Lassonde  
Dr. Isabelle Peretz

## Theme 1.3 | Cognitive Neurosciences and Aging

*Neurobiology and Neuroimaging Unit*



Dr. Mario Beauregard  
Dr. Julien Doyon

The year 2000-2001 will have been a remarkable year for the researchers in the *Neurobiology and Neuroimaging Unit* in the *Cognitive Neurosciences and Aging* theme. As witnessed by their scientific productivity and their enviable position on the strategic and political levels, they were able to consolidate their role on the national and international scene. During the past year, the researchers in this unit have maintained and even increased the number of publications that have appeared in prestigious scientific journals as well as the dollars brought in through research grants from provincial, federal and American funding sources. In addition, under the scientific direction of Dr. Julien Doyon, the researchers have either sponsored or participated in the design and writing of grant requests totalling close to \$19 million, which will serve to create the material and intellectual infrastructure likely to benefit the entire scientific community in neurosciences at the Université de Montréal and elsewhere in Québec.

As far as scientific production, the researchers in this unit have pursued their respective research programs, thus significantly contributing to the advancement of knowledge in the field of normal and pathological aging as well as to other related fields of research. Dr. Mario Beauregard, who holds a research grant from the Fonds de la recherche en santé du Québec (FRSQ), continued his research using functional magnetic resonance imaging (fMRI) to identify cerebral systems associated with primary emotions as well as the conscious and voluntary self-regulation of emotions. Dr. Howard Chertkow continued his work aiming to identify the biological determinants of dementia and slight cognitive impairment. In collaboration with Dr. Yves Joanette, he obtained a major *Valorisation Recherche Québec (VRQ)* grant that allows for a solid alliance between researchers at the Lady Davis Institute and those at the Research Centre. Dr. Doyon and his colleagues published results of studies aiming to identify the distinct contribution of the striatum and cere-

bellum in motor type of learning. Together with researchers from both Harvard University and McGill University, he published a 3-D stereotaxic atlas of the human cerebellum that will serve members of the scientific community who are interested in the precise study of the functional cartography of the cerebellum in PET and fMRI studies. In collaboration with colleagues at the *Institut de réadaptation en déficience physique du Québec*, he also completed a series of experiments on the neurobiological bases of motor learning.

The researchers in the *Neurobiology and Neuroimaging Unit* have played a leading role with regard to the efforts made for the implementation of infrastructures for research in the neurosciences of aging. Thus, Dr. Chertkow directed the Québec Consortium for Alzheimer's disease, which submitted a request to the program for the Canadian Foundation for Innovation (CFI) for a single infrastructure targeting neurodegenerative pathologies. In his capacity as Assistant to the Director for Neuroimaging, Dr. Doyon participated in the preparation and writing of a grant for \$16.6 million to the CFI for the acquisition of a high-power (3.0T) magnetic resonance imager and several optical imaging and high-density evoked potential units. Dr. Doyon also directed a request to the *Regroupement provincial pour la recherche en imagerie cérébrale (REPRIC)* or Provincial Group for Brain Imaging Research to the Network of neurosciences and mental health in Québec for the introduction of an infrastructure able to facilitate the development of multicentre and multidisciplinary research in brain imaging in Québec.

### Researchers theme 1.3

Dr. Mario Beauregard  
Dr. Howard Chertkow  
Dr. Julien Doyon

## Theme 2 | Care and Services for the Elderly and their Families

During the year 2000-2001, the theme *Care and services for the elderly and their families* consolidated and expanded its activities. The research conducted is characterized by its interdisciplinary and intersectoral approach and the partnerships it favours with researchers from different universities and faculties, as well as with many community-based and health network organizations.

Thus, many researchers have joined new interdisciplinary teams. Drs. Paule Lebel, Francine Ducharme, Marie-Jeanne Kergoat and Louise Lévesque are members of a team that received a major grant from the Canadian Institutes for Health Research whose program is entitled "*Understanding and meeting the needs of the frail elderly in the Canadian health system.*" Dr. Lebel is in charge of the section of the program dealing with the development and assessment of innovative models of intervention and services for the elderly. Dr. Ducharme and Mrs. Lévesque are co-investigators on a team that has received a grant from the Canadian Foundation for Research on Health Services whose work deals with optimizing quality of care in home care services and Dr. Ducharme is one of the lead researchers in a team grant from the Fonds pour la Formation de Chercheurs et l'Aide à la Recherche (FCAR) charged with developing family nursing interventions in the context of the shift towards ambulatory care (*virage ambulatoire*). Moreover, the McGill/Université de Montréal research group on integrated services for the elderly, with Dr. Lebel as a co-principal investigator, has completed the evaluation of the experimental SIPA (*Système de soins intégrés pour les personnes âgées en perte d'autonomie*) model. The results are proving to be promising for the organization of care and the follow-up is now being considered with the politicians and those in practical settings.

Researchers have also taken an active role in the activities of the Geronto-Geriatric Research Network which receives funding from the Fonds de la recherche en santé du Québec (FRSQ). Dr. Kergoat has been appointed Assistant Director of the Network, while Dr. Lebel and Mrs. Lévesque are responsible for the themes dealing respectively with the organization and assessment of health services and on family caregivers and professionals. Within the framework of activities on family caregivers and professionals, an evaluative study on an group intervention intended for caregivers of elderly parents suffering from dementia came to a close this year. Mrs. Lévesque and Dr. Ducharme were members of this team, which is developing

a dissemination plan so that the intervention program is implemented in the CLSCs and Alzheimer's Society of Québec.

Among the research currently in progress, Dr. Kergoat and the members of her team are working on the quality of the care and services for the frail elderly through the use of the "fall" as tracer cases and Mrs. Lévesque is completing an epidemiological study on the needs that have not been met for community services among those aged 75 and older. Drs. Lebel and Ducharme recently obtained a grant that will enable them to carry out an evaluative study of stress management intervention for family caregivers living with a frail elderly person at home.

The activities planned in the program for the Research Chair in Nursing Care for the Elderly and their Families are also being pursued. During the year, this Chair received a major donation from the Desjardins movement. The holder of the Chair, Dr. Ducharme, and her team are carrying out two studies with funding from the grant: one deals with the orientation of care and services to be offered to family caregivers of the elderly in light of the "virage ambulatoire" or shift towards ambulatory care, and the second deals with the multi-centre assessment of a program promoting mental health of caregivers of elderly relatives living in nursing homes. Students from Spain, Brazil, and Lebanon have joined the research activities of this Chair. As well, from an international perspective, a project is under way on the health of caregivers in Lebanon, undertaken with a grant from the World Health Organization and the Université St-Joseph de Beyrouth. Mrs. Lévesque and Dr. Ducharme are co-principal investigators in this study.

Finally, the year was particularly significant for Mrs. Lévesque who was recognized for her outstanding contribution to research on the care of the elderly: she received both a Merit Award (the *Insigne du mérite*) from the Québec Order of Nurses, and the *Armand Marquiset des Petits frères des pauvres* Prize. Dr. Ducharme was appointed Associate Editor of a new international periodical, *Dementia, The International Journal of Social Research and Practice*. With the recruitment of Dr. Jocelyne St-Arnaud, an ethicist, the coming year will lead to the opening of a new field of research dealing with decision-making of family members concerning treatments and the last days of their elderly parents' lives.



Dr. Francine Ducharme  
Dr. Jocelyne St-Arnaud

**Researchers theme 2**  
Dr. Francine Ducharme  
Dr. Marie-Jeanne Kergoat  
Dr. Paule Lebel  
Mrs. Louise Lévesque  
Dr. Jocelyne St-Arnaud

## Theme 3 | Nutrition and the Elderly

The researchers in this unit, which corresponds to the *Nutrition and the Elderly* theme, come from several departments in the Faculty of Medicine as well as from the Department of Kinesiology. In 2000-2001 they continued their research programming, focusing on several essential aspects, aiming to analyze the conditions that would allow for treatment and prevention of nutritional problems in the elderly person. This unit is characterized by the broad spectrum of its methodologies and approaches, simultaneously embracing basic animal research, clinical and epidemiological research.

Thus, a colossal amount of information has been collected in the geriatric rehabilitation program in 2000-20001 as part of a project aiming to identify the determinants of dietary intake in geriatric care hospitals. In order to carry out this study, a tool to assess the sensorial quality of the foods first had to be constructed and then validated. Simultaneously, and as part of the same study, a structured plan of the various steps in the process of meal selection, preparation, and distribution had to be developed in order to be able to analyze the organizational factors involved in the nutritional care of this clientele. Particular focus was placed on the role of the emotional and interpersonal aspects in the level of satisfaction among patients and care providers concerning the food and impact on the nutritional state.

Within the framework of the Program for Integrated Care of the Frail Elderly (known by the French acronym SIPA) that is operating in two CLSC territories in the Montreal-Centre Regional Board, and on which researchers in our Centre are collaborating, the researchers in this unit are interested in the application of a screening protocol for nutritional problems and have started the assessment.

The researchers in this unit have published two articles in the year 2000 describing the success of the project to decentralize the portioning of meals in nursing homes for the elderly. The members of this theme and two students enrolled in graduate studies related to this theme actively collaborated on the Symposium Nutrition and the Elderly: "Providing nutritional food for elderly patients in institutional settings: A challenge to be met" organized in November 2000 by the Teaching Department of the Institute. This symposium, with over 400 participants, was a huge success.

The researchers in the *Nutrition and the elderly* theme continued working in collaboration with the *Réseau de recherche québécois en gérontologie-gériatrie* and coordinated one of two experimental sites for a pilot study undertaken to assess the feasibility and to test the tools proposed as part of a submission to the Canadian Health Research Institutes dealing with a longitudinal study focusing on nutrition considered as a determinant in successful aging. As part of these preparatory studies, Dr. Bryna Shatenstein (Fonds de la recherche en santé du Québec (FRSQ) *chercheure boursière-clinicienne*) evaluated the measurement qualities of a diet frequency questionnaire that she developed based on data from the Santé-Québec survey. This tool should allow for assessing the quality of dietary intake among the elderly.

Dre Kergoat's team carried out secondary analyses of the Canadian Study of Health and Aging which allowed researchers to establish the prevalence (ESVC-1, 1991-92) and the incidence (ESVC-2, 1996) of dementia in the Canadian population. We analyzed the changes in weight and certain anthropometric variables in the course of aging in relation to cognitive status. This work led to the publication of three articles and scientific presentations.

The research project on the role of vitamin K in the control of anticoagulation treatment using Warfarin has been completed and the findings are now being analyzed. This project will have allowed for enhancement of clinical practice by providing nutrition professionals with a detailed listing of the vitamin K content of certain foods. Dr. Guylaine Ferland acted as the Canadian expert on vitamin K on the micronutrients committee (Canada-US harmonization) involved in developing official standard recommended dietary requirements (RDR).

Basic research dealing with the role of vitamin K in breast neoplasia is continuing and a new study is beginning on the role of this vitamin in the synthesis of brain lipids and cognitive functions.

Research is also continuing on the role of calorie intake on endocrine functions of the somatotrophic axe.

In conclusion, this year has been very productive and augurs well for continuing at the same pace in the year 2002.



Dr. Marie-Jeanne Kergoat,  
Dr. Guylaine Ferland,  
Dr. Bryna Shatenstein  
Dr. Martin Brochu

### Researchers theme 3

Dr. Martin Brochu  
Dr. Laurette Dubé  
Dr. Guylaine Ferland  
Dr. Marie-Jeanne Kergoat  
Dr. Bryna Shatenstein  
Dr. Christina Wolfson

## Theme 4 | Position, Mobility and Aging

The unit of researchers responsible for the *Position, Mobility and Aging* theme continued to pursue its research programming dealing with a better understanding of disturbances of mobility and movement of the elderly and the tools required.

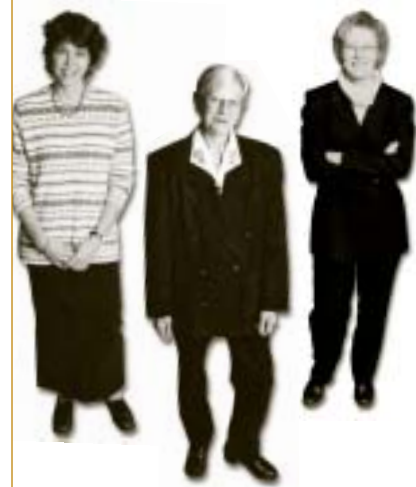
The year 2000-2001 was fruitful both in terms of the quality of the research conducted and in terms of the increase in human and material resources in the unit. In fact, Dr. Romedi Passini's team continued its research on spatial orientation in a natural setting and in a human-sized labyrinth. A post-doctoral fellow, Dr. Isabelle Écuyer-Dab, joined the team thanks to a Governor's grant from the Foundation of the *Institut universitaire de gériatrie de Montréal*. Dr. Bernadette Ska obtained a grant for a sabbatical in France, where she is pursuing research on the cognitive aspects of normal and pathological aging. Dr. Rachid Aissaoui took on a professorship at the *École de technologie supérieure* (Université du Québec à Montréal) and he is continuing his research on the positioning of the elderly.

What made this year special for this unit was the recruitment of three new researchers. The first is Dr. Eric Fimbel, Professor at the *École de technologie supérieure*. Dr. Fimbel has undertaken research on the analysis and modelling of rapid movements. He is developing projects in neuroergonomics and is interested in movement problems that arise in degenerative illnesses. The second recruit is Dr. Jacqueline Rousseau, a professor at the *École de réadaptation* of the Faculty of Medicine. She has developed a model of analysis of the person-environment relationship within the framework of maintaining the elderly at home. In the first phase, her research has focused on elderly people with motor impairments. She will pursue her research, expanding the application of the model and of the resulting analysis tool to people with cognitive impairment and those with sensory impairment. The third recruit

is Dr. Louise Demers, also a professor at the *École de réadaptation* and a junior *Fonds de la recherche en santé du Québec* (FRSQ) researcher-grant recipient. She is focusing on the development of tools to assess the effectiveness of rehabilitation interventions for the elderly, while pursuing her work on satisfaction with technical aids.

It goes without saying that there are numerous real and potential interactions between researchers in this theme. Some examples of these interactions follow. Dr. Fimbel designed a computer program to analyze routes reproduced from memory by subjects who navigated Dr. Passini's labyrinth. Dr. Demers collaborated, with Dr. Passini, on a study on spatial orientation among elderly people in nursing care facilities. Drs. Rousseau and Demers have projects whose goal is to improve rehabilitation services for the elderly. Dr. Rousseau will continue her research with Dr. Rachid Aissaoui on wheel-chair ramp accessibility. Drs. Bernadette Ska and Jacqueline Rousseau are collaborating on the development of a needs assessment tool for elderly people with cognitive disturbances who are living at home. Drs. Ska and Demers have been working together since Dr. Demers was a graduate student under Dr. Ska.

There are numerous interactions among the researchers in the Positioning, mobility and aging theme and they are strictly oriented towards adaptation and rehabilitation of the elderly. The researchers in this theme also collaborate in the programming of other research themes in the Centre, in a spirit of inter-theme collaboration—on themes as diversified as cognition, communication, nutrition, geriatrics, and nursing. Taken as a whole, this body of research is truly multidisciplinary and trans-sectoral.



Dr. Louise Demers  
Dr. Bernadette Ska  
Dr. Jacqueline Rousseau

**Researchers theme 4**  
Dr. Louise Demers  
Dr. Eric Fimbel  
Dr. Romedi Passini  
Dr. Jacqueline Rousseau  
Dr. Bernadette Ska

## Theme 5 | Sensory Impairment and Aging

Introduced in 1998, the unit of researchers corresponding to the Sensory impairment and aging theme includes researchers from the School of Optometry, Dr. Hélène Kergoat, the School of Speech Therapy and Audiology, Drs. Sylvie Hébert (Fonds de la recherche en santé du Québec chercheure-boursière) and Tony Leroux, the Department of Psychology, Dr. Franco Lepore, and from the Department of Medicine/ Geriatrics, Dr. Marie-Jeanne Kergoat. The team constitutes a unique group of researchers from a variety of disciplines working in the science of vision and hearing in the elderly.

In terms of visual impairment, the research team is pursuing its work aiming to evaluate visual functions in dementia of the Alzheimer type (DAT). The research has enabled us to identify the presence of deficits in the primary visual paths of healthy elderly subjects and individuals with dementia of the Alzheimer type. In addition, they have shown that individuals with DAT presented a delay in the transmission of retino-cortical nerve information. During the year 2000-2001, a follow-up study allowed for verifying that the delay in nerve transmission identified in DAT was still present, but had not progressed some 18 months after the initial visit of the subjects evaluated. The goal now is to better define the degenerative changes to the visual pathways of DAT subjects and to compare them with other pathologies in order to find markers for Alzheimer's type disease before its clinical appearance. The research program also deals with macular degeneration linked to age (ALMD): which is the greatest cause of blindness among those aged 65 and over in North America. One of the hypotheses entertained involves a better understanding of the role played by the choroid in ALMD. Thus, the blood flow to the choroid will be assessed in two groups of elderly subjects with different types of ALMD and one group of control subjects. If the results of this study show a link between ALMD and choroid blood flow, then it may become an important clinical tool in the follow up of patients with this disease and in the various treatments used for it.

In terms of hearing, the goal of the research program is a better understanding of the mechanisms underlying hearing impairment, which is the third most frequent chronic disability among the elderly, after arthritis and hypertension. The research team is continuing its studies of the treatment of the temporal dimension of acoustic stimuli. This temporal treatment is at the basis of several auditory skills including the detection of rapid acoustic changes in speech. The research focusing on tinnitus (buzzing) has shown a link between the stress linked to tinnitus and the presence of depression. Thus, the validation of a questionnaire assessing the psychological impact of tinnitus in those with this disorder is in progress. This clinical tool will prove extremely valuable here for health professionals who will be able to identify people who need short-term attention. Another study is also under way to evaluate the possible links between the presence of tinnitus and that of excessive sensitivity to surrounding noises and sounds called hyperacusia.

The researchers in this unit receive funding from public granting bodies, including the Canadian Health Research Institutes and the *Fonds pour la recherche en santé du Québec* (FRSQ). Our researchers have also been invited to present their work at several conferences including the International Association of Logopedics and Phoniatrics which was held in Montreal in the summer of 2001.



Dr. Sylvie Hébert,  
Dr. Franco Lepore  
Dr. Hélène Kergoat

### Researchers theme 5

Dr. Sylvie Hébert  
Dr. Hélène Kergoat  
Dr. Marie-Jeanne Kergoat  
Dr. Franco Lepore  
Dr. Tony Leroux

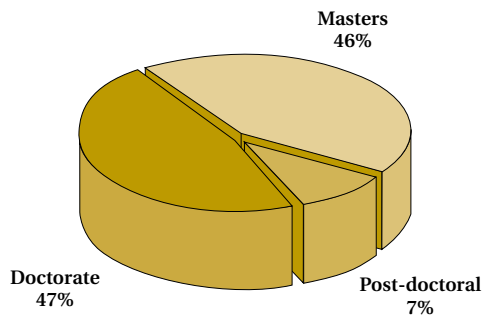
# Researcher Training

## Increasing the research capacity in health and aging

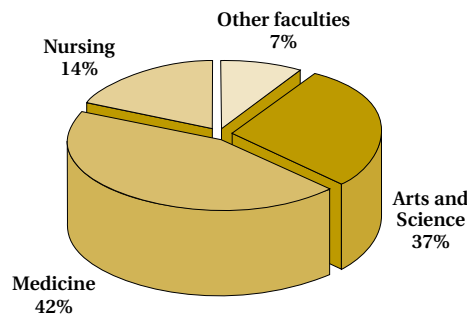
In 2000-2001, the Research Centre of the Institute pursued one of its major objectives which is to increase the research capacity in health and aging. The researchers at the Centre are distinguished by having the highest index of researcher training in Québec (source : FRSQ). Thus, the researchers at the Centre trained 145 graduate students and 11 post-doctoral fellows in 2000-2001. The interdisciplinary nature of the training locale is evident

from the diversity of the students' academic origins : out of the 156 students and post-doctoral fellows, 42% are registered in the Faculty of Medicine, 37%, in the Faculty of Arts and Science and 14% in the Faculty of Nursing. The number of students and post-doctoral fellows who have earned a scholarship (close to 50%) has grown steadily; in fact, this figure doubled as compared to 1999-2000 (25%). The Centre continues to be one of the largest sites for interdisciplinary training in research in health and aging in the country.

### Students



### Faculties



### Students

	students
Postdoctoral	11
Doctorate	73
Masters	72
<b>Total:</b>	<b>156</b>

### Faculties

	students
Arts and Science	57
Medecine	66
Nursing	21
Other faculties	12
<b>Total:</b>	<b>156</b>

## Doctorate

Ansaldo, Ana Ines	Forget, Julie	Leclerc, Chantal
Ayotte, Julie	Gagnon, Louis	Leclerc, Charles
Bayard, Sophie	Giguère, Jean-François	Lecours, Sophie
Beauchemin, Marie-Josée	Gilbert, Brigitte	Legault, Alain
Benoit, Monique	Gold, David	Lemay, Marc
Bergeron, Réjeanne	Gosselin, Nadia	Lemoyne, Marisol
Bherer, Louis	Gosselin, Nathalie	Lévesque, Johanne
Cervellon, Marie-Cécile	Halla, Kunal	Li, Yue
Courcy, André	Hallé, Paul	Lippé, Sarah
Da Silva Machado, Maria	Hamel, Caroline	Ménard, Judith
Dalla Bella, Simone	Hammarrenger, Benoit	Monetta, Laura
Duchesne, Geneviève	Hardy, Patule	Morasse, Karine
Duong, Anh	Karama, Sherif	Morin, Sylvie
Ellenberg, Dave	Lahaie, Annie	Nikolova, Rossitza
Enriquez-Rosas, Adriana	Lalonde, Nadine-Michèle	Paquet, Catherine
Fiset, Daniel	Lavoie, Karyne	Perlak, Danuta
Fiset, Stéphanie	Lebel, Jordan	Précourt, Simon
	Leclaire, Hélène	Provost, Ginette
		Roigt, Delphine

Roy, Hélène
Royle, Phaedra
Sassine, Rima
Savard, Jacinthe
Sayad, Fouad
St-Amour, Dave
St-Arnaud, Danielle
Sylvain, Héléne
Taller, Vanessa
Tétrault, Marie-Hélène
Tremblay, Emmanuel
Tripat, Gill
Tsapkini, Kyrana
Tu, Mai Thanh
Vanasse, Catherine
Villemagne, Jean
Voyer, Philipp
Walter, Nathalie
Zhao, Jianying

## Postdoctoral

Arabi, Hossein	Lavoie, Marc
Blanchet, Sophie	Ozaki, Keiko
Carpentier, Normand	Racette, Amélie
Carrié, Isabelle	Saumier, Daniel
Clément, Juliette	Tremblay, Tania
Khalfia, Stéphanie	Whatmough, Christine
Laizner, Andréa	

## Masters

Archambault, Annie	Crête, Martine	Lachambre, Violaine	Poirier-Soucy, Johanne
Aubé, François	Darveau, Bélise	Laflamme, Nathalie	Potvin, Stéphanie
Babai, Myriam	De Grandmont, Anne	Lamarche, Huguette	Rosignol, Chantal
Baillargeon, Estelle	Deninno, Annie	Lapalme, Gylaine	Roy, Julie
Beauregard, Chantale	Desjardins, Jacinthe	Lapalme, Yannique	Roy, Kathleen
Beausoleil, Natacha	Egurza, Irène	Lavoie, Luce	Savard, Isabelle
Bédard, Daniel	Emond, Stéphanie	Lefebvre, Annie-Claude	Séguin, Marie-Josée
Bégin-Bertrand, Lydia	Garneau-B., Dominique	Lefrançois, Geneviève	St-Germain, Daphney
Belzile, Johanne	Godin, Catherine	Marcil, Julie	St-Pierre, Marie-Catherine
Bertrand, Benoit	Gravel, Caroline	Marcotte, Karine	Sylvestre, Valérie
Bérubé, Sonia	Guénette, Marie-Annick	Marinier, Julie-Andrée	Thibault, Maxime
Bourbonnais, Anne	Heierle-Valero, Christina	Melançon, Geoffroy	Tinjust, David
Briand, Guylaine	Hétu, Marie-Josée	Ménard, Catherine	Trinh Phan, Bao
Brunelle, Julie	Houde, Wendy	Meziane-Bellefquih, Layla	Vaillancourt, Sophie
Cantini, Franca	Huot, Odette	Paiement, Philippe	Vallières, Johanne
Charest, Caroline	Hyde, Krista	Paquette, Vincent	Vico, Mauricette
Copti, Leila	Jacques, Marc-André	Paquin, Stéphanie	
Coron, Anne-Marie	La Haye, Dominique	Pelletier, Alexandrine	

## Post-Doctoral | Fellows

Post-doctoral fellows make a major contribution to research teams. These young researchers, who have just completed their training, join laboratories for a few years. Many have applied for and obtained grants to do post-doctoral research from local or international granting bodies. In addition, through its *Bourse des Gouverneurs*, the Foundation of the Institute provides four scholarships for post-doctoral research. In 2000-2001, the Institute welcomed 11 post-doctoral fellows. Some of their research projects are summarized below.

**Blanchet, Sophie** (Ph.D., Psychology, Université de Caen, France; Dr. Sylvie Belleville's Laboratory). Dr. Blanchet received a grant from the Research Group in Experimental Neuropsychology, Université de Montréal. Dr. Blanchet's research aims to develop neuropsychological and electrophysiological predictors of dementia of the Alzheimer's type. Based on research dealing with memory and higher functions of individuals with slight cognitive impairments, Dr. Blanchet is attempting to identify tools for both assessment and follow up that will be useful for clinicians.

**Carpentier, Normand** (Ph.D., Sociology, Université de Montréal; Dr. Francine Ducharme's Laboratory) Dr. Carpentier received a grant from the Canadian Health Research Institutes. Dr. Carpentier's research deals with the issue of assistance sought by family and friends of people suffering from Alzheimer's disease. Using the social networks approach and the perspective of the care trajectory, Dr. Carpentier is attempting to identify and analyze these behavioural processes in order to provide essential benchmarks for the planning of intervention programs.

**Carrié, Isabelle** (Ph.D., Biology of Aging, Université Paris 7, Denis-Diderot; Dr. Guylaine Ferland's Laboratory) Dr. Carrié received a scholarship for excellence from the government of Québec and the *Prix de l'Institut Danone*, France. Dr. Carrié's work focuses on the definition of the nutritional status of the elderly and her goal is to make specific recommendations to prevent problems of malnutrition in the elderly. Her current work deals with the influence of the nutritional state of vitamin K on cerebral function based on a fundamental (animal research) and clinical approach.

**Clément, Juliette** (Ph.D. Psychology, Université René Descartes, Paris, France; Dr. Isabelle Peretz's Laboratory) Dr. Clément received a scholarship for excellence from the Ministère

de l'Éducation du Québec. Dr. Clément is studying the comparisons between the organization of the brain for natural language and that for musical language. Through its mathematical properties, the study of music skills enables us to uncover the organizing principles that will serve for comprehension of cognitive impairments in the elderly.

**Guérette, Anne** (Ph.D., Psychology, Université Laval; Dr. Sylvie Belleville's Laboratory) Dr. Guérette was awarded a *Bourse des Gouverneurs* from the Foundation of the Institute and from the *Conseil québécois de la recherche sociale*. Dr. Guérette's work aims to evaluate the functional difficulties related to the presence of slight cognitive impairment and the impact of the personal variables in the presentation of these impairments. She is also interested in the effectiveness of a psychosocial intervention intended for these people. The results of her studies will allow for a better understanding of the needs of people with slight cognitive impairment and for proposing interventions likely to favour their maintenance in the community.

**Khalfa, Stéphanie** (Ph.D., Neuropsychology, Université Claude Bernard Lyon 1, France; Dr. Isabelle Peretz's Laboratory) Dr. Khalfa received a grant from the Canadian Health Research Institutes. Dr. Khalfa is studying certain fundamental aspects of cognitive functioning, and more specifically the physiological mechanisms involved in the processing of musical emotions. She is dealing with the organization of emotions within the central nervous system through evoked brain potentials associated with the physiological measurements related to the autonomous nervous system such as heart and respiratory rhythm, skin temperature and electrodermal activity.

**Lavoie, Marc** (Ph.D., Biomedical Sciences, Université de Montréal; Dr. Isabelle Peretz, Sylvie Belleville and Martin Arguin's Laboratory) Dr. Lavoie was awarded a *Bourse des Gouverneurs* from the Foundation of the Institute. Dr. Lavoie specializes in evoked potentials applied to the study of the mechanisms associated with the execution of motor response in aging as well as in adult populations with motor dysfunction. His work also encompasses the study of motor disturbances characterized in pathological aging, in Parkinson's disease, and in dementia of the Alzheimer type in order to lead to differential diagnosis.

## Post-Doctoral | Fellows

**Massoud, Fahdi** (M.D. Internal Medicine and Geriatrics, Université de Montréal; Dr. Marie-Jeanne Kergoat's Laboratory) Dr. Massoud was awarded a *Bourse des Gouverneurs* from the Foundation of the Institute. Dr. Massoud's work focuses on the characterization of patterns of reference as well as the clinical profile of users of the cognitive clinic. A better knowledge of these aspects will allow for a greater understanding of what those referring know about their patients' cognitive impairments. These results will allow for the establishment of training programs for referring physicians.

**Monchi, Oury** (Ph.D., Neuronal Modelling, Kings College, University of London, United Kingdom; Dr. Julien Doyon's Laboratory) Dr. Monchi was awarded a *Bourse des Gouverneurs* from the Foundation of the Institute. Dr. Monchi's work deals with the consequences of Parkinson's disease on the functioning of the prefrontal cortex through functional neuroimaging. New advances in neuroimaging enable better understanding of the contribution of the different cerebral zones in certain cognitive and learning processes. This work will allow for a better detection of motor and cognitive impairments in Parkinson's disease.

**Ozaki, Keiko** (Ph. D., Linguistics, University of Sussex, Brighton, United Kingdom; Dr. Gonia Jarema's Laboratory) Dr. Ozaki received a grant from the Social Sciences and Humanities Research Council of Canada. Dr. Ozaki's research applies neurolinguistic models to arrive at a better understanding of problems of word comprehension in aphasia. This research will contribute to identifying universal models that will allow for an assessment and treatment of lexical problems in aphasia across languages.

**Saumier, Daniel** (Ph.D., Psychology, Université de Montréal, Dr. Martin Arguin and Dr. Howard Chertkow's Laboratory) Dr. Saumier was awarded a *Bourse des Gouverneurs* from the Foundation of the Institute. Dr. Saumier's research deals with certain mechanisms of cognition that can be affected in Alzheimer's disease. More specifically, Dr. Saumier is interested in the mechanisms associated with the visual recognition of objects and faces according to the cognitive neuropsychology approach. This work will proceed towards the evaluation of a neuro-pharmacological treatment that could slow the progression of these problems in Alzheimer's disease.

**Souchay, Céline** (Ph.D., Psychology, Université de Tours, France; Dr. Sylvie Belleville's Laboratory) Dr. Souchay received a grant from the Canadian Health Research Institutes. Dr. Souchay's objective is to identify the cognitive indicators that will allow for distinguishing normal and pathological aging and to guide the treatment of memory impairments encountered in these populations. Two specific projects are under way: one on the phenomenon of false recognition and the other, on the different processes of control involved in the recovery of information stored in memory.



Dr. Isabelle Carrié, Dr. Isabelle Écuyer-Dab, Dr. Maud Champagne, Dr. Kyrana Tsapkini, Dr. Christine Whatmough, Dr. Cara Tannenbaum, Dr. Anne Guérette, background Dr. Normand Carpentier, Dr. Oury Monchy, Dr. Daniel Saumier, Dr. Sophie Blanchet

# Increase and Diversification of Funding



Mrs. Johanne Dupuis  
Mrs. Cathy Desmarais

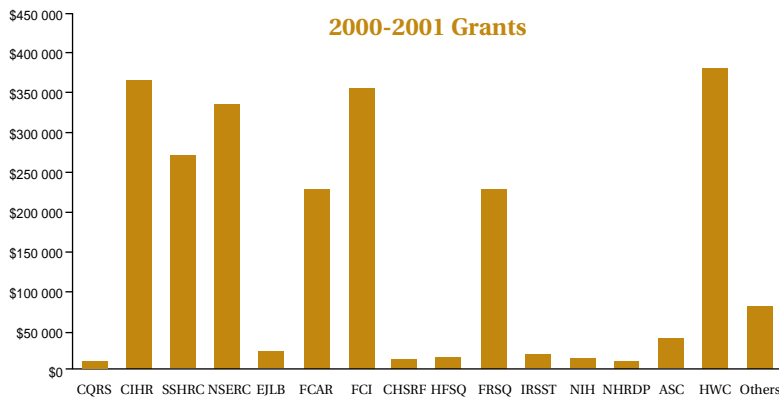
The year 2000-2001 was marked, first and foremost, by a major increase in the total amount of scholarships and grants awarded to the Centre and its research teams. This amount grew to more than \$4.35 million, an increase of close to 30% as compared to the total amount in 1999-2000. Of this total, close to \$1.19 million corresponds to scholarships and support for *chercheurs-boursiers*, while \$3.16 million corresponds in large part to grants from federal (50%) and provincial (50%) granting bodies. This amount includes the \$725 million infrastructure grant awarded to the Centre by the FRSQ (see the table illustrating how the infrastructure grant is being used).

While the Canadian Fund for Health Research is one of the largest sources of scholarships and salary support (40%), the sources of grants are more diversified: *Fonds de la recherche en santé du Québec* (30%), Health and Welfare Canada (12%), the Canadian Health Research Institutes (12%), the Canadian Foundation for Innovation (11%), the Natural Sciences and Engineering Council

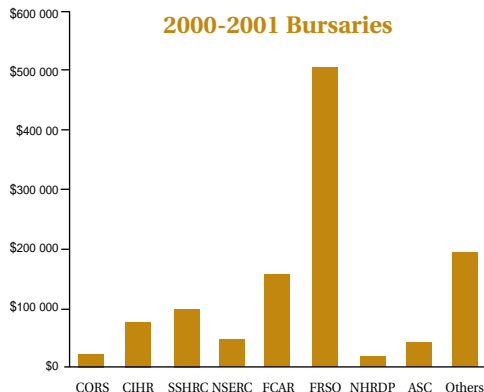
(11%), the Social Science and Humanities Research Council (8%) and several other granting bodies.

The three units in the *Cognitive Neurosciences and aging* theme have been awarded the majority of the scholarship and grant dollars (60%), while the theme *Care and services for the elderly and their families* accounts for 24% of the total amount. The remainder of the amounts obtained is divided relatively evenly among the other research themes.

The growth and diversification of the funding for research at the Centre reflects both the impact of reinvestment in research in the country and a significant increase in the competitiveness of the researchers. It also bears witness to the increasing importance attributed to research in health and aging.



Research organisation	
CQRS	Conseil québécois de la recherche sociale
SSHRC	Social Sciences and Humanities Research Council of Canada
NSERC	National Sciences and Engineering Research Council of Canada
EJLB	The EJLB Foundation
FCAR	Fonds pour la Formation de Chercheurs et l'Aide à la Recherche
CFI	Canada Foundation for innovation
FRSQ	Fonds de la recherche en santé du Québec
CHSRF	The Canadian Health Services Research Foundation
HFSQ	Heart and Stroke Foundation of Quebec
CIHR	Canadian Institutes of Health Research
IRSST	Institut de recherche en santé et en sécurité du travail du Québec
NIH	National Institute of Health
NHRDP	National Health Research and Development Program
ASC	Alzheimer Society of Canada
HWC	Health and Welfare Canada



Use of Infrastructure Funds of the Fonds de la recherche en santé au Québec	
<b>INCOME</b>	<b>2000-2001</b>
FRSQ GRANT	723 100 \$
OTHER INCOME	59 844 \$
INTEREST	32 876 \$
<b>TOTAL INCOME</b>	<b>815 820 \$</b>
<b>EXPENSES</b>	
SALARIES AND BENEFITS	621 326 \$
<b>TOTAL SALARIES</b>	<b>621 326 \$</b>
<b>OTHER COSTS</b>	
PERIODICALS AND VOLUMES	24 032 \$
EQUIPMENT	59 468 \$
RENT AND REPAIRS OFFICE EQUIPMENT	12 431 \$
POSTAGE	6 404 \$
COMPUTER HARDWARE AND SOFTWARE	45 220 \$
PROFESSIONAL FEES	2 995 \$
TELEPHONE AND LONG-DISTANCE	6 176 \$
SCIENTIFIC ACTIVITIES	4 036 \$
MISCELLANEOUS	26 281 \$
SEMINARS AND CONFERENCES	7 451 \$
<b>TOTAL OTHER COSTS</b>	<b>194 494 \$</b>
<b>TOTAL EXPENSES</b>	<b>815 820 \$</b>

## Meet the Research Professionals | at the CRIUGM

The research teams at the Centre benefit from the contribution of several research professionals who serve as research assistants or project coordinators. These research professionals constitute a key element in the day-to-day work of the research programming as well as in the analysis of results and the management of databanks. They are also responsible for coordinating meetings with the participants and for facilitating exchanges between the researchers on the various teams. Finally, they often play a major role in the financial management of the projects. Below is a description of some of the professionals working in the Centre, which highlights the valuable contribution that they make towards the research initiatives.

**Alix, Caroline** (B. Sc., Psychology)

**Project** – "Design of a model to assess the effects of geriatric rehabilitation in hospitals" (Dr. L. Demers; grant from the *Réseau provincial de recherche en adaptation-réadaptation du Fonds de la recherche en santé du Québec*)  
**Contributions** – Caroline Alix contributes to the design of a model assessing the effects of geriatric rehabilitation in hospitals by participating in the review of the literature, leading meetings with elderly people and with experts, establishing and maintaining a reference system.

**Eck, Karen** (Ph.D. Psychology)

**Projects** - "Verbal communication deficits following right-hemisphere damage: semantic processing of words, discourse and pragmatic abilities" and "Recovery of language deficits following a CVA" (Dr. Y. Joannette in collaboration with Dr. B. Ska; grant from the Canadian Health Research Institutes and from the Canadian Foundation for Heart Disease)  
**Contributions** – Karen Eck contributes to the coordination of these projects. Among others, she is working on the analysis of the literature, meeting participants, and organizing team meetings with students and with the group of clinicians involved in these projects.

**Goupil, Diane** (M.Sc. Biomedical Science)

**Project** – Provincial registry of dementia for the cognition theme in the *Réseau de recherche en gériatrie du Québec* (Dr. H. Chertkow, coordinator, grant from the *Réseau de recherche en gériatrie du Québec* of the *Fonds de la recherche en santé du Québec*)  
**Contributions** – Diane Goupil contributes to the coordination of the project as she works in close collaboration with the many researchers and others involved in it. She also sees to the development of the protocol, the writing of reports, the development of evaluation forms and the supervision of other professionals involved in the research.

**Ishak, Marcelle**

(Diploma in Political Science and Economics)  
**Project** – "Study of health and aging in Canada" (Drs. M-J. Kergoat and C. Wolfson; Grant from Health and Welfare Canada.

**Contributions** – Marcelle Ishak ensures the smooth operation of this vast study. She is in charge of follow up of the protocol, recruitment of interviewers, as well as links with the Access to Information Commission to obtain certain essential information. In addition, she contributes to budgeting and to maintaining ties with the partners in Ottawa. An important aspect of her work has to do with verification of the data obtained. Finally, she is responsible for keeping the participants motivated.

**Lepage, Émilie** (M.Sc. Psychology)

**Project** – "Working memory and executive functions in normal elderly people and those with impaired memory" (Dr. S. Belleville; grant from the Canadian Health Research Institutes)  
**Contributions** – Émilie Lepage coordinates the laboratory, plans and organizes meetings, identifies and contacts the study participants, carries out evaluations and codes results. In addition, she contributes to managing the funds.

**Raus, Anca** (M.D., General Medicine)

**Project** – Cognition and Aging Consortium: Treatment of cognitive impairment in neurodegenerative diseases (Drs. Y. Joannette and H. Chertkow, co-principal investigators; grant from *Valorisation-Recherche Québec*)  
**Contributions** – Anca Raus coordinates this major project which brings together some thirty researchers from Québec. Among others, she coordinates the Consortium's activities, promotes contacts and collaboration among the researchers and maintains links with the pharmaceutical industry and with community-based associations.

**Trudeau, Denise** (M.Sc. Nursing)

**Projects** – "Shift towards ambulatory care: Perceptions and expectations with regard to services intended for natural caregivers" and "Evaluative study of a health promotion program for caregivers of people living with dementia in a nursing home (CHSLD); (Dr. F. Ducharme; grant from the Social Sciences and Humanities Research Council of Canada, the *Fonds de la recherche en santé du Québec* and the Alzheimers' Society of Canada).  
**Contributions** – Denise Trudeau contributes to the coordination of these research projects. Among others, she is responsible for recruitment of participants and interviewing; she sees to the application of the intervention, then analyzes the data. Denise Trudeau also contributes to the dissemination of the results.



Émilie Lepage  
Marcelle Ishak  
Denise Trudeau  
Diane Goupil  
Anca Raus

## Top-notch expertise | to serve the research teams



Doris Tétréault  
Johane Landry  
Colette Cerny  
Marianne Corre  
Cathy Desmarais  
Monique Brochu  
Paule Samson  
Raymonde Thibault  
Hugo Dilhuydy  
Marc Filaréto  
Francine Giroux

The research teams at the Research Centre rely upon an infrastructure that combines expertise with camaraderie. Thus, a staff of over ten technicians and professionals provide support for the research activities and contribute to making the Centre an efficient workplace with a human face. An infrastructure grant from the *Centre du Fonds de la recherche en santé du Québec* enables the support staff to contribute to the work carried out by the research teams; indeed this support is essential to the smooth operations at the Centre and to maintaining its national and international influence.

### Technical Assistants to the Research

**The 2000-2001 Team: Monique Brochu, Colette Cerny, Paule Samson, Doris Tétréault.** (the following technical assistants left the team during the year 2000-2001: Marie-Claude Charland, Sylvie Faucher and Geneviève Vézina). The technical assistants make an essential contribution teams and to the effectiveness of the researchers' work. The assistants provide day-to-day support to the researchers in both their scientific and administrative tasks. Among others, they contribute to the preparation of research grant proposals, manuscripts and oral and poster presentations.

### Secretary to the Scientific Directors and Administration

#### Raymonde Thibault

The secretary to the scientific directors and administration assists the Director of Research, the Associate Director of Clinical Research, as well as the administrative director in their work. This secretary also provides staffing on a day-to-day basis for the various committees of the Research Centre, making this secretarial office a nerve centre and focal point for the Centre.

### Documentation Support

#### Marianne Corre

Linked with the Documentation Centre of the Institute, this service provides support for all the research teams in the Centre, while also taking responsibility for all the related mandates including rotation of the communications posted in the research passageway and updating the information on the web site.

### Network and Computer Support

#### Marc Filaréto (Network Administrator)

#### Johane Landry (Computer Technician)

The Research Centre boasts over 130 computer stations linked by close to 10 hubs. The network and computer support team is responsible for the planning and operation of this key tool for the researchers; the team also provides logistic support for the research teams computers.

### Mathematical and Statistical Support

#### Francine Giroux (Mathematician-Statistician)

The teams in the Centre can count on a valuable resource in mathematics and statistics when they are planning experimental methods, constructing and managing data banks and seeking advice and support in their statistical analyses, when applicable.

### Biomedical Engineering

#### Hugo Dilhuydy (Biomedical Engineer)

Several research teams at the Centre use technologies that require biomedical engineering support. In 2000-2001, active support was provided to a confocal microscopy unit, a microimagery processing unit, as well as a laboratory of three 64-channel evoked potentials units.

### Administration of Grants and Scholarships

#### Cathy Desmarais (Administrative Assistant)

The Administrative Unit of the Centre provides support for the implementation and control of the Centre's administrative procedures. These include budget management for grants and scholarships, as well as the annual updating of the list that provides the Fonds de recherche en santé du Québec with all of the information required concerning the researchers, the resources and the researcher training.