

Curriculum Vitæ — Titres et Travaux de Vincent Hayward

Hiver 2020

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1 Données personnelles

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Citoyenneté française et canadienne

2 Education

- 1978–81 Thèse de Docteur Ingénieur, Université de Paris XI at Orsay, France
“Langages d’analyse de programmes assemblés pour différentes machines et applications de ces langages”
Encadrant : A. Osorio
- 1978 Diplôme d’études approfondies, Université de Nantes
“Exploitation d’une base de donnée en vue de l’identification”
Encadrant : R. Mezencev
- 1975–78 Diplôme d’Ingénieur, Ecole Centrale de Nantes (then ENSM), Nantes, France
Specialité : automatique.
- 1972–75 Classes Préparatoires aux Grandes Ecoles, Lycée J. B. Say, Paris, France

3 Postes

- 2019– *Professeur*, Sorbonne Université (demi-temps)
- 2017–18 *Professor of Tactile Perception and Technologies*, School of Advanced Study, University of London (demi-temps)
- 2017– *Chief Scientific Officer*, Actronika SAS, Paris (demi-temps)
- 2011– *Professeur* (en détachement 2017–) Inst des Systèmes Intelligents et de Rob, Université Pierre et Marie Curie
- 2008–11 *Professeur* (associé), Institut des Systèmes Intelligents et de Robotique, Université Pierre et Marie Curie
Chaire internationale d’haptique de l’UPMC, Enseignement au niveau license et master : haptique ; commande des systèmes échantillonnés
Recherche en conception et application des interfaces haptiques ; robotique ; commande
- 2006–11 *Professor* (en détachement 2008–11), Dept. of Electrical Engineering, McGill University, Montréal, QC Canada
Enseignements de deuxième et troisième cycle en architecture des systèmes informatiques et commande, Recherche en conception et application des interfaces haptiques ; robotique ; commande. Fonctions administratives au niveau du département, de la faculté et de l’université
- 2006–07 *Professeur Invité*, Université Pierre et Marie Curie
- 2001–04 *Director*, Center for Intelligent Machines, McGill University, Montréal, Qc Canada
Gestion des orientation scientifiques du centre, fonctionnement et représentation
- 2003–10 *Membre*, Centre de Recherche Interdisciplinaire en Réadaptation du Montréal Métropolitain (CRIR)
- 2002– *Associate member*, Center of Interdisciplinary Research in Music Media and Technology (CIRMMT)
- 2000–09 *Scientist*, Employé à temps partiel de Immersion Corporation
- 1994–06 *Associate Professor*, Department of Electrical and Computer Eng., McGill University, Montréal, Qc Canada
- 1989–94 *Assistant Professor*, Department of Electrical Engineering, McGill University, Montréal, Qc Canada
- 1985–89 *Adjunct Professor*, Department of Electrical Engineering, McGill University Montréal, Qc Canada
Recherche en robotique et enseignement d’un cours de troisième cycle
- 1985–10 *Member*, Center for Intelligent Machines, McGill University, Montréal, Qc Canada
- 1985–86 *Visiting Scientist*, Pulp and Paper Research Institute of Canada
Evaluation des méthodes de fabrication avancées appliquées à l’industrie des pâtes et papiers
- 1983–85 *Attaché puis Chargé de Recherche* au Centre National de la Recherche Scientifique (CNRS)
Laboratoire d’Informatique et de Mécanique pour les Sciences de l’Ingénieur (LIMSI), Orsay, France
Recherches en productique et robotique
- 1984 *Consultant*, Hewlett Packard Laboratories, Manufacturing Research Center, Palo Alto, California, USA
Recherche en programmation des robots manipulateurs
- 1982–83 *Visiting Assistant Professor*, Purdue University, School of Electrical Engineering, West Lafayette, Ind., USA
Recherche en commande des robots et enseignement de deuxième cycle
- 1981–82 *Visiting Scholar*, Purdue University, School of Electrical Engineering, West Lafayette, Indiana, USA
Recherche en programmation des robots manipulateurs
- 1978–81 *Doctorant*, Laboratoire d’Informatique et de Mécanique pour les Sciences de l’Ingénieur
- 1977 *Stagiaire*, Institut de Recherche en Automatique et Informatique (IRIA), Domaine de Voluceau
Recherche sur la mesure de la performance des calculateurs

4 Prix et distinctions

2020 Keynote speaker, International Multisensory Research Forum, Ulm, Germany (postponed to 2021).
2019 Élu membre de l'Académie des Sciences, France.
2019 Grand Prix Inria de L'Académie des Sciences, Paris (25,000 €)
2019 Keynote Speaker, International Conference on Virtual Rehabilitation, Tel Aviv, Israel
2019 Keynote, Int. Conference on Robotics and Automation : Workshop on Soft Haptic Interaction, Montréal, Canada
2019 Keynote, Int. Conference on Robotics and Automation : ViTac : Integrating Vision and Touch, Montréal, Canada
2018 Best Demonstration Award, EuroHaptics Conference, Pisa, Italy
2018 Keynote, Workshop on active touch for perception and interaction, ICRA 2018, Brisbane, Australia
2018 Keynote Speaker, Cross-Cutting Challenges, IEEE Haptics Symposium, San Francisco, CA, USA
2018 Best Paper Award for 2017, IEEE Transactions on Haptics
2018 Keynote Speaker, UK & Ireland IEEE Robotics and Automation Conference, London, UK
2017 Plenary Speaker, 43rd International Conference On Micro And Nano-engineering, Braga, Portugal
2017 Keynote Speaker, IEEE/RSJ International Conference on Intelligent Robots and Systems, Vancouver, BC, Canada
2017 Leverhulme Trust Visiting Professorship, University of London
2016 Keynote Speaker, Handicap 2016, Paris, France
2015 Best Paper Award (honorable mention), World Haptics 2015, Chicago, USA.
2014 Invited Speaker, AsiaHaptics 2014, Tsukuba, Japan
2014 Best Paper Award (poster presentation) Eurohaptics 2014, Versailles, France
2014 Best Paper Award (honorable mention, oral presentation) Eurohaptics 2014, Versailles, France
2013 Distinguished Lecture Series, Department of Computing Science, University of British Columbia, Canada
2012 Plenary Speaker 2012 IEEE Int. Conf. on Multisensor Fusion and Information Integration, Hamburg, Germany
2012 Lecturer, Series 'Robotique, les fondations d'une discipline', Collège de France, Paris
2010 Keynote Speaker, Haptic Audio Interaction Design 2010, Copenhagen, Denmark
2010 Plenary Speaker, 32nd Annual Int. Conf. of the IEEE Eng. in Med. and Bio. Society, Buenos Aires, Argentina
2010 Keynote Speaker, Joint European Meeting, EuroVR-EVE, Orsay, France
2010 Best Paper Award, Eurohaptics, Amsterdam, the Netherlands
2010 Top Reviewer for the Journal of Neuroscience Methods in 2009
2009 Lectio Magistralis, University of Verona, Verona, Italy
2008 Elected Fellow of the IEEE
2007 Lecturer, The Cutting Edge : Royal Society Lectures in Science, McGill University
2007 Best Paper Award (applications), World Haptics 2007, Salt Lake City, Utah, USA
2006 Keynote Speaker, 8th International IFAC Symposium on Robot Control, SYROCO 2006, Bologna, Italy
2006 Best Demonstration Award, Eurohaptics 2006, Paris
2006 Opening Lecture, 2nd Enactive Workshop, Montréal, Canada
2006 Invited Lecture, Journées ROBEA, CNRS, Paris, France
2006 Best Paper Award, ACM CHI'06 Conference, Montréal, Canada
2006 Best Paper Award, 14th Symposium on Haptic Interfaces For Virtual Environ. & Teleop. Syst., Arlington, USA
2005 Keynote Lecture, Dutch-Belgium Haptics Society, Brussels, Belgium
2004 Keynote Speaker, Eurohaptics, Munich, Germany
2003 Outstanding Reviewer for Automatica, Journal of the International Federation of Automatic Control
2002 The E. (Ben) & Mary Hochhausen Award for Res. in Adaptive Tech. For Blind and Visually Impaired (10,000 \$)
2001 Plenary Speaker, Workshop On Advances In Interactive Multimodal Telepresencesystems, Munich, Germany
2001 Opening Lecture, IEEE ICMA Conference, Osaka, Japan
2000 Distinguished Lecture Series, Department of Computing Science, University of Alberta, Canada
1995 Best Demonstration Award, 1995 IRIS-PREARN Conference, Ottawa, Canada
1994 Best Paper Award : 8th Canadian Astronautics and Space Institute Annual Conference
1991 NASA Space Act Tech Brief Award (as a result of work on robot programming for JPL)

5 Recherche

5.1 Contributions (le nom des personnes ayant travaillé sous ma direction sont soulignés)

5.1.1 Articles dans des revues

j107 Duvernoy, B., Topp, S., Milroy, J., Hayward, V. 2020. Numerosity Identification Used to Assess Tactile Stimulation Methods for Communication. *IEEE Transactions on Haptics*, in press.

- j106 [Kirsch, L. P., Job, X. E., Auvray, M., Hayward, V. 2020. Harnessing tactile waves to measure skin-to-skin interactions. *Behavior Research Methods*, online DOI 10.3758/s13428-020-01492-3.](#)
- j105 [Shao, Y., Hayward, V., Visell, Y. 2020. Compression of dynamic tactile information in the human hand. *Science Advances*, 6 :eaaz1158.](#)
- j104 [Mohand Ousaid, A., Haliyo, D. S., Régnier, S., Hayward, V. 2020. High Fidelity Force Feedback Facilitates Manual Injection in Biological Samples. *IEEE Robotics and Automation Letters*, 5\(2\) :1758–1763.](#)
- j103 [Miller, L. E., Fabio, C., Ravenda, V., Bahmad, S., Koun, E., Salemme, R., Luauté, J., Bolognini, N., Hayward, V., and A. Farnè. 2019. Somatosensory cortex efficiently processes touch located beyond the body. *Current Biology*, 29\(24\) :4276–4283.e5.](#)
- j102 [Dahiya, R., Yogeswaran, N., Liu, F., Manjakkal, L., Burdet, E., Hayward, V., Jörntell, H. \(2019\). Large-Area Soft e-Skin : The Challenges Beyond Sensor Designs. *Proceedings of the IEEE*, 107\(10\), 2016–2033.](#)
- j101 [Farkhatdinov, I., Michalska, H., Berthoz, A., Hayward, V. 2019. Idiothetic Verticality Estimation through Head Stabilization Strategy. *IEEE Robotics and Automation Letters* 4\(3\) :2677–2682.](#)
- j100 [Farkhatdinov, I., Michalska, H., Berthoz, A., Hayward, V. 2019. Gravitoinertial Ambiguity Resolved through Head Stabilisation. *Proceedings of the Royal Society, A*, 475\(2223\), 20180010.](#)
- j099 [Fairhurst, M. T., Travers, E., Hayward, V., and Deroy, O. 2018. Confidence Is Higher in Touch Than in Vision in Cases of Perceptual Ambiguity. *Scientific Reports*, 8 :15604.](#)
- j098 [Dupin, L., Hayward, V., Wexler, M. 2018. Radial Trunk-Centred Reference Frame in Haptic Perception. *Scientific Reports*, 8 :13550.](#)
- j097 [Miller, L. E., Montroni, L., Koun, E., Salemme, R., Hayward, V., Farnè, A. 2018. Sensing With Tools Extends Somatosensory Processing Beyond The Body. *Nature*, 561\(7722\) :239–242.](#)
- j096 [Bochereau, S., Sinclair, S., and Hayward, V. 2018. Perceptual Constancy in the Reproduction of Virtual Tactile Textures With Surface Displays. *ACM Transactions on Applied Perception*, 15\(2\) :10.](#)
- j095 [Dzidek, B., Bochereau, S., Johnson, S. A., Hayward, V., and Adams, M. J. 2017. Why Pens Have Rubbery Grips. *Proceedings of the National Academy of Sciences*, 114\(41\) :10864–10869.](#)
- j094 [Pacchierotti, C., Sinclair, S., Solazzi, M., Frisoli, A., Hayward, V., and Prattichizzo, D. 2017. Wearable Haptic Systems for the Fingertip and the Hand : Taxonomy, Review, and Perspectives. *IEEE Transactions on Haptics*, 10\(4\) :580–600.](#)
- j093 [Bochereau, S., Dzidek, B., Adams, J. M., and Hayward, V. 2017. Characterizing and imaging gross and real finger contacts under dynamic loading. *IEEE Transactions on Haptics*, 10\(4\) :456–465. \(Best Paper Award for 2017\)](#)
- j092 [Lu, T., Pacoret, C., Hériban, D., Mohand-Ousaid, A., Régnier, S., and Hayward, V. 2017. Kilohertz Bandwidth, Dual-Stage Haptic Device Lets You Touch Brownian Motion. *IEEE Transactions on Haptics*, 10\(3\) :382–390.](#)
- j091 [Dupin, L., Hayward, V., Wexler, M. 2017. Generalized Movement Representation In Haptic Perception. *Journal of Experimental Psychology : Human Perception and Performance*, 43\(3\) :581–595.](#)
- j090 [Cai, D., Bidaud, Ph., Hayward, V., Gosselin, F. 2017. Self-Adjustment Mechanisms And Their Application For Orthosis Design. *Meccanica*, 52\(3\) :713–728.](#)
- j089 [Shao, Y., Hayward, V., Visell, Y. 2016. Spatial Patterns of Cutaneous Vibration During Whole-Hand Haptic Interactions, *Proceedings of the National Academy of Sciences*, 113\(15\) :4188–4193.](#)
- j088 [Gueorguiev, D., Bochereau, S., Mouraux, A., Hayward, V. and Thonnard, J-L. 2016. Touch Uses Frictional Cues To Discriminate Optically Flat Materials. *Scientific Reports*, 6 :25553.](#)
- j087 [Moscatelli, A., Bianchi, M., Serio, A., Terekhov, A., Hayward, V., Ernst, M. O., Bicchi, A. 2016. The Change In Fingertip Contact Area As A Novel Proprioceptive Cue, *Current Biology*, 26\(9\) :1159–1163.](#)
- j086 [Platkiewicz, J., Lipson, H., Hayward, V. 2016. Haptic Edge Detection Through Shear. *Scientific Reports*, 6 :23551.](#)
- j085 [Deroy, O., Fasiello, I., Hayward, V., Auvray, M. 2016. Differentiated Audio-Tactile Correspondences In Sighted And Blind Individuals. *Journal of Experimental Psychology : Human Perception and Performance*, 42\(8\) :1204–1214.](#)
- j084 [Okamoto, S., Wiertelowski, M., Hayward, V. 2016. Anticipatory Vibrotactile Cueing Facilitates Grip Force Adjustment During Perturbative Loading. *IEEE Transactions on Haptics*, 9\(2\) :233–242.](#)
- j083 [Moscatelli, A., Hayward, V., Wexler, M., Ernst, M. O. 2015. Illusory Tactile Motion Perception : An Analog Of The Visual Filehne Illusion. *Scientific Reports*, 5 :14584.](#)
- j082 [Terekhov, A. V., Hayward, V. 2015. The Brain Uses Extra-Somatic Information To Estimate Limb Displacement. *Proceedings of the Royal Society, B*, 282\(1814\) :20151661](#)
- j081 [Hudin, C., Lozada, J., Hayward, V. 2015. Localized Tactile Feedback on a Transparent Surface Through Time-Reversal Wave Focusing. *IEEE Transactions on Haptics*, 8\(2\) :188-198.](#)
- j070 [Mohand-Ousaid, A., Haliyo, S., Régnier, S., Hayward, V. 2015. A Stable and Transparent Microscale Force Feedback Teleoperation System. *IEEE/ASME Transactions on Mechatronics*, 20\(5\) :2593–2603.](#)
- j079 [Dupin, L., Hayward, V. Wexler, M. 2015. Direct Coupling of Haptic Signals Between Hands. *Proceedings of the National Academy of Sciences*, 112\(2\) :619–624.](#)

- j078 Mohand-Ousaid, A., Millet, G., Haliyo, S., Régnier, S., Hayward, V. 2014. Feeling What An Insect Feels. *Public Library of Science ONE*, 9(10) :e108895.
- j077 Jörntell, H., Bengtsson, F., Geborek, P., Spanne, A., Terekhov, A. V., Hayward, V. 2014. Segregation of Tactile Input Features in Neurons of the Cuneate Nucleus. *Neuron*, 83 :1444–1452.
- j076 Sinclair, S., Wanderley, M. M., Hayward, V. 2014. Velocity Estimation Algorithms For Audio-Haptic Simulations Involving Stick-Slip. *IEEE Transactions on Haptics*, 7(4) :533–544.
- j075 Hayward, V., Terekhov, A. V., Wong, S.-C., Geborek, P., Bengtsson, F., Jörntell, H. 2014. Spatio-Temporal Skin Strain Distributions Evoke Low Variability Spike Responses In Cuneate Neurons. *Journal of the Royal Society Interface*, 11(93) :20131015.
- j074 Platkiewicz, J., Hayward, V. 2014. Perception-Action Dissociation Generalizes to the Size-Inertia Illusion. *Journal of Neurophysiology*, 111(7) :1409–1416.
- j073 Hudin, C., Lozada, J., Hayward V. 2014. Spatial, Temporal, and Thermal Contributions To Focusing Contrast By Time Reversal in a Cavity. *Journal of Sound and Vibration*, 333(6) :1818–1832.
- j072 Klöcker, A., Wiertelwski, M., Théate, V., Hayward, V., Thonnard, J.-L. 2013. Physical Factors Influencing Pleasant Touch During Tactile Exploration. *Public Library of Science ONE*, 8(11) :e79085.
- j071 Castaños, F., Gromov, D., Hayward, V., Michalska, H. 2013. Implicit And Explicit Representations Of Continuous-Time Port-Hamiltonian Systems. *Systems & Control Letters*, 62(4) :324–330.
- j060 Adams, M. J., Johnson, S. A., Lefèvre, Ph., Lévesque, V., Hayward, V., André, T., Thonnard, J.-L. 2013. Finger Pad Friction And Its Role In Grip And Touch. *Journal of the Royal Society Interface*, 10(80) :20120467.
- j069 Frissen, I., Ziat, M., Campion, G., Hayward, V. and Guastavino, C. 2012. Auditory-Haptic and Haptic-Haptic Temporal Order Judgements During Passive and Active Arm Movements, *Acta Psychologica*, 141 :140–148
- j068 Delhaye, B., Hayward, V., Lefèvre, Ph., and Thonnard, J.-L. 2012. Texture-Induced Vibrations In The Forearm During Tactile Exploration. *Frontiers in Behavioral Neuroscience*, 6(7) :1–10.
- j067 Wiertelwski, M., Hayward, V. 2012. Mechanical Behavior of the Fingertip in the Range of Frequencies and Displacements Relevant to Touch, *Journal of Biomechanics*, 45(11) :1869–1874.
- j066 Giordano, B. L., Visell, Y., Yao, H.-Y., Hayward, V., Cooperstock, J., and McAdams, S. 2012. Identification Of Ground Materials In Auditory, Kinesthetic, Haptic And Audiohaptic Conditions. *Journal of the Acoustical Society of America*, 131(5) :4002–4012
- j065 Wiertelwski, M., Hayward, V. 2012. Transducer For Mechanical Impedance Testing Over a Wide Frequency Range Through Active Feedback. *Review of Scientific Instruments*, 83(2) :025001
- j064 Mohand-Ousaid, A., Millet, G., Régnier, S., Haliyo, S., and Hayward, V., 2012. Haptic Interface Transparency Achieved Through Viscous Coupling. *International Journal of Robotics Research*, 31(3) :319–329.
- j063 Wiertelwski, M., Hayward, V. 2011. Les Interfaces Tactiles, *Biofutur*, 30(326) :38–40
- j062 Fasiello, I., Hayward, V. 2011. Un Sens Trompeur, *Biofutur*, 30(326) :42–43.
- j061 Terekhov, A. V., Hayward, V. 2011. Minimal Adhesion Surfaces In Tangentially Loaded Digital Contacts. *Journal of Biomechanics*, 44(13) :2508–2510.
- j050 Hayward, V. 2011. Is There a 'Plenhaptic' Function ? *Philosophical Transactions of the Royal Society B*, 366(1581) :3115–3122.
- j059 Gosline, A. H. C., Hayward, V., Michalska, H. 2011. Ineluctability of Oscillations in Systems With Digital Implementation of Derivative Feedback. *Automatica*, 47(11) :2444–2450.
- j058 André, T., Lévesque, V., Hayward, V., Lefèvre, P., and Thonnard, J.-L. 2011. Effect Of Skin Hydration On The Dynamics Of Fingertip Gripping Contact. *Journal of the Royal Society Interface*, 8(64) :1574–1583.
- j057 Wiertelwski, M., Lozada, J., Hayward, V. 2011. The Spatial Spectrum Of Tangential Skin Displacement Can Encode Tactual Texture. *IEEE Transactions on Robotics*, 27(3) :461–472.
- j056 Ziat, M., Hayward, V., Chapman, C. E., Ernst, M. O., and Lenay, C. 2010. Tactile Suppression of Displacement, *Experimental Brain Research*, 206(3) :299–310.
- j055 Yao, H.-Y. and Hayward V. 2010. Design and Analysis of A Recoil-Type Vibrotactile Transducer. *Journal of the Acoustical Society of America*. 128(2) :619–627.
- j054 Smith, A. M., Basile, G., Theriault-Groom, J., Fortier-Poisson, P., Campion, G., Hayward, V. 2010. Roughness of simulated surfaces examined with a haptic tool ; effects of spatial period, friction, and resistance amplitude. *Experimental Brain Research*, 202(1) :33–43.
- j053 Wang, Q., Hayward, V. 2010. Biomechanically Optimized Distributed Tactile Transducer Based on Lateral Skin Deformation. *International Journal of Robotics Research*, 29(4) :323-335
- j052 Smith, A. M., Chapman, C. E., Donati, F., Fortier-Poisson, P. and Hayward, V. 2009. Perception of simulated local shapes using active and passive touch. *Journal of Neurophysiology*, 102 :3519–3529.
- j051 Konkle, T., Wang, Q., Hayward, V., and Moore, C. I. 2009. Motion after-effects transfer between touch and vision, *Current Biology*, 19(9) :745–750.

- j040 Gosline, A. H. and Hayward, V. 2009. Dual-Channel Haptic Synthesis of Viscoelastic Tissue Properties Using Programmable Eddy Current Brakes. *International Journal of Robotics Research*, 28(10) :1387–1399.
- j049 Campion, G. and Hayward, V. 2009. Fast Calibration Of Haptic Texture Synthesis Algorithms. *IEEE Transactions on Haptics*, 2(2) :85–93.
- j048 Wijntjes, M. W. A., Sato, A., Hayward, V. Kappers, A. M. L. 2009. Local Surface Orientation Dominates During Haptic Curvature Discrimination. *IEEE Transactions on Haptics*, 2(2) :94–102.
- j047 Hayward, V. Armstrong, B. S., Altpeter, F., and Dupont, P. E. 2009. Discrete-Time Elasto-Plastic Friction Estimation. *IEEE Transactions on Control Systems Technology*, 17(3) :688–696.
- j046 Petit, G., Dufresne, A., Lévesque, V., Hayward, V. 2008. Exploration multimodale d’images pour des utilisateurs ayant une déficience visuelle. *Sciences et Technologies pour le Handicap*, 2(2) :175–186.
- j045 Gosline, A. H., Hayward, V. 2008. Eddy Current Brakes for Haptic Interfaces : Design, Identification, and Control. *IEEE/ASME Transactions on Mechatronics*, 13(6) :669–677.
- j044 Carter, O., Konkle, T., Wang, Q., Hayward, V., Moore, C. I. 2008. Tactile Rivalry Demonstrated with an Ambiguous Apparent-Motion Quartet. *Current Biology*, 18(14) :1050–1054.
- j043 Campion, G., Hayward, V. 2008. On The Synthesis of Haptic Textures. *IEEE Transactions on Robotics*, 24(3) :527–536.
- j042 MacLean, K. E. and Hayward, V. 2008. Do It Yourself Haptics, Part-II. *IEEE Robotics and Automation Magazine*, 15(1) :104–114.
- j041 Wang, Q., Hayward, V. 2008. Tactile Synthesis and Perceptual Inverse Problems Seen from the View Point of Contact Mechanics. *ACM Transactions on Applied Perception*, 5(2) :1–19.
- j030 Hayward, V. 2008. A Brief Taxonomy of Tactile Illusions And Demonstrations That Can Be Done In a Hardware Store. *Brain Research Bulletin*, 75 :742–752.
- j039 Hayward, V. et K. E. MacLean, V. 2007. Do It Yourself Haptics, Part-I. *IEEE Robotics and Automation Magazine*, 14(4) :88–104.
- j038 Janabi-Sharifi, F., V. Hayward, V., Wang, Q. Y. 2007. Design and implementation of a graphic-haptic display system. *Displays*, 28 :118–128.
- j037 Pasquero, J., Luk, J., Lévesque, V., Wang, Q., MacLean, K., Hayward, V. 2007. Haptically Enabled Handheld Information Display with Distributed Tactile Transducer. *IEEE Transactions on Multimedia*, 9(4) :746–753.
- j036 Wang, Q., Hayward, V. 2007. In Vivo Biomechanics of the Fingerpad Skin Under Local Tangential Traction. *Journal of Biomechanics*. 40(4) :851–860.
- j035 Yi, D., Hayward, V. 2006. Depth Discrimination with 2D Haptics During Static Viewing of 3D Angiograms. *Haptics-e*, 8(3)
- j034 Yao, H.-Y., Hayward, V. Ellis, R.E. 2005. A Tactile Enhancement Instrument for Minimally Invasive Surgery. *Computer Aided Surgery*, 10(4) : 233–239.
- j033 Cruz-Hernandez, J. M., Hayward. 2005. Position Stability of Phase Control for the Preisach Hysteresis Model. *Transactions of the CSME*, 29(2) :129–142.
- j032 Dostmohamed, H., Hayward, V. 2005. Trajectory of Contact Region On the Fingerpad Gives the Illusion of Haptic Shape. *Experimental Brain Research*, 164(3) :387–394.
- j031 Levesque, V., Pasquero, J., Hayward, V. and Legault, M. 2005. Display of Virtual Braille Dots by Lateral Skin Deformation : Feasibility Study. *ACM Transactions on Applied Perception*. 2(2) :132–149.
- j020 Mahvash, M., Hayward V. 2005. High Fidelity Passive Force Reflecting Virtual Environments. *IEEE Transactions on Robotics and Automation*. 21(1) :38–46.
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- q13 GB-2347199-A, A hand controller for cursor movement, Haptic Technologies Inc, Pedro Gregorio, Vincent Hayward, Christophe Ramstein, 1999-02-22, 1999-02-22, 2000-08-30
- q12 CA-2303629-C, Differential displacement optical sensor, Pedro Gregorio, Vincent Hayward, Danny Grant, Immersion Corporation, Pedro Gregorio, Vincent Hayward, Danny Grant, 1999-03-31, 2000-03-31, 2007-11-20, 2007-11-20
- q11 US-6020967-A, Differential displacement optical sensor, Gregorio Pedro, Hayward Vincent, Grant Danny, Pedro Gregorio, Vincent Hayward, Danny Grant, 1999-03-31, 1999-03-31, 2000-02-01, 2000-02-01
- q10 CA-2260944-C, Hand controller, Immersion Corporation, Pedro Gregorio, Vincent Hayward, Christophe Ramstein, 1999-02-05, 1999-02-05, 2006-11-21, 2006-11-21
- q09 US-5727391-A, Deformable structural arrangement, McGill University, Vincent Hayward, Danny Grant, 1995-10-16, 1995-10-16, 1998-03-17, 1998-03-17
- q08 CA-2176899-C, Mechanism for control of position and orientation in three dimensions, Raymond Chung-Ying Hui, Vincent Hayward, Alain Gerard Ouellet, Walter Peruzzini, Pedro Gregorio, Andrew Wang, George Vukovich, Canadian Space Agency, 1995-05-19, 1996-05-17, 2002-01-01, 2002-01-01
- q07 EP-0830244-A1, Deformable structural arrangement, McGill University, Danny Grant, Vincent Hayward, 1995-05-19, 1996-05-17, 1998-03-25
- q06 CA-2218721-A1, Deformable structural arrangement, McGill University, Danny Grant, Vincent Hayward, 1995-05-19, 1996-05-17, 1996-11-21
- q05 US-6116844-A, Mechanisms for orienting and placing articles, McGill University, The Canadian Space Agency, Vincent Hayward, 1993-10-26, 1994-10-26, 2000-09-12, 2000-09-12

- q04 CA-2109276-A1, Mechanisms for orienting and placing articles, Vincent Hayward, Fabienne Reynier, 1993-10-26, 1993-10-26, 1995-04-27
- q03 CA-2149849-A1, Actuator, Vincent Hayward, Danny Grant, McGill University, 1995-05-19, 1995-05-19, 1996-11-20,
- q02 CA-2175206-A1, Mechanisms for orienting and placing articles, Vincent Hayward, McGill University, Canadian Space Agency, 1993-10-26, 1994-10-26, 1995-05-04
- q01 CA-2121396-A1, Mechanism for positioning articles, Vincent Hayward, Canadian Space Agency, McGill University, 1994-04-15, 1994-04-15, 1995-10-16

5.1.5 Séminaires invités récents

- 11/20 EIT Manufacturing Winter School : Entrepreneurship, Design and Creativity for Advanced Manufacturing, online.
- 11/20 Master Bin 2 Module Sensory Supplementation, Université Paris Descartes, online.
- 10/20 Workshop ANR ChaMaNe, Sorbonne Université, Paris, France.
- 09/20 International School on Touch for Prosthetics (NeuTouch Summer School), online
- 09/20 Workshop on AcTive Haptic hUMans and Robots (THUMB) : Human Active Touch, EuroHaptics 2020, online
- 09/20 Mini-Symposium on Mixed Haptic Interfaces, Experiences and Perception Studies, EuroHaptics 2020, online
- 06/20 Inter-Section, Académie des Sciences, France, online
- 06/20 Cirrus Logic, Tech Talk, online
- 05/20 Actronika, Webinar, Youtube.com
- 01/20 Google Research, Mountain View, USA
- 01/20 LIMSI, CNRS, Orsay, France.
- 11/19 Groupement de recherche (GdR) « Tact », Sorbonne Université.
- 11/19 Master Bin 2 Module Sensory Supplementation, Université Paris Descartes
- 09/19 Huawei Future Sensor Application Workshop, Grenoble, France
- 09/19 Symposium in Honour of Jean-Louis Thonnard, Brussels, Belgium
- 07/19 Workshop on Perception & Engineering Research, 2019 World Haptics Conference, Tokyo, Japan
- 07/19 School of Engineering. Eastern International University, Binh Duong, Vietnam
- 04/19 UK-France Skin To Self Meeting, Institute of Cognitive Neuroscience, UCL, London, UK
- 02/19 Ludwig Maximilian University, Faculty of Biology, Munich, Germany
- 02/19 Human Transformation : Moving and Sensing, Royal Society, London, UK
- 12/18 SmartHaptics Industry Conference, La Jolla, CA, USA
- 12/18 Media Arts and Technology, Graduate Program, University of California Santa Barbara, CA, USA
- 11/18 Department of Psychology, University of Bath, Bath, UK
- 10/18 Departmental Lecture, School of Science and Technology, Nazarbayev University, Kazakhstan
- 10/18 Departmental Lecture, School of Engineering, University of Glasgow, Scotland, UK
- 09/18 Barcelona Cognition, Brain and Technology Summer School, Inst. for Bioeng. of Catalonia, UPC, Barcelona, Spain
- 08/18 Hand, Brain and Technology : the Somatosensory System Conference, Monte Verità, Ascona, Switzerland
- 06/18 Paris-Chicago Conference on Ambiguity of Neural Representations Mediating Perception, Paris, France
- 06/18 Space-Time Geometries and Movement in the Brain and in the Arts, Institut d'Études Avancées De Paris, France
- 03/18 Université Permanente, Université de Nantes, Nantes, France
- 12/17 Department of Physiology, Linköping University, Linköping, Sweden
- 12/17 Whitehead Lectures series, Departments of Psychology & Computing, Goldsmiths University, London, UK
- 11/17 Franco-Scottish Seminar : Robotics, The Royal Society of Edinburgh, Edinburgh, Scotland, UK
- 10/17 School of Electronic Engineering and Computer Science, Queen Mary University of London, London, UK
- 07/17 Imperial College London, Brain and Behaviour Lab, London, UK
- 07/17 Imperial College Centre for Engagement and Simulation Science (ICCESS), London, UK
- 03/17 Departmental Seminar, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil
- 03/17 Trusting Our Senses : Metacognition and Confidence Across Sensory Modalities, ICPS 2017, Vienna, Austria
- 12/16 Departmental Seminar, School of Medical Sciences, University of New South Wales, Sydney, Australia
- 10/16 Bodily sensations and bodily awareness : building blocks of subjectivity, Institut des études Avancées, Paris, France
- 10/16 Brain and Cognition Seminar, Université de Genève, Switzerland
- 09/16 Workshop on Friction — boon or bane for tactile coding ? Bernstein Conference, Berlin, Germany
- 09/16 Institut des Sciences du Mouvement, Etienne Jules Marey Marseille, France
- 09/16 ERC PATCH Closing Workshop on Computational Touch, Paris, France
- 08/16 Radboud Summer School On Maps In The Brain, Nijmegen, The Netherlands
- 07/16 NTT Communication Science Laboratories, Atsugi, Japan
- 07/16 Invited Symposium on Sensory Substitution, 31st International Congress of Psychology, Yokohama, Japan
- 07/16 Workshop on Human-robot Interaction, INRIA, Paris, France
- 07/16 Virtual Prototyping Summer School, Politecnico di Milano, Italy
- 07/16 Haptic illusions : challenge, chance or nuisance for applications ?, Eurohaptics Workshop, London, UK
- 07/16 Musical haptics : use and relevance of haptic feedback in musical practice, Eurohaptics Workshop, London, UK
- 06/16 Current topics in perception and cognition, Department of Psychology Colloquium, Universität Gießen, Germany

06/16 Int. Workshop on Engineering of Bio-Inspired Materials, Leibniz Inst. for New Materials, Saarbrücken, Germany

03/16 Colloque « Sensorialité et handicap », Toucher pour apprendre, toucher pour communiquer, Cité des Sciences, Paris

11/15 Janelia Conference : Mammalian Circuits Underlying Somatosensation, Ashburn, Virginia, USA

11/15 Robotic Systems Laboratory LSRO Ecole Polytechnique Fédérale de lausanne, Switzerland.

10/15 Cences, the Centre for the Study of the Senses, University of London, UK.

05/15 Google Research, Mountain View, CA, USA

05/15 Devices and Networking Summit 2015, MicroSoft Research, Paris, France.

05/15 L'Oréal Research and Innovation, Aulnay sous bois, France.

04/15 Dassault Systèmes. Vélizy Campus, France

10/14 Mini-symposium on touch. Institute of Neuroscience, Université Catholique de Louvain, Belgium.

09/14 Workshop on Active Touch Sensing in Animals and Robots, IROS 2014, Chicago, USA

09/14 Monte Verità Centro Stefano Franscini (CSF) Conference "Hand, Brain and Technology", Switzerland

07/14 Robotics Research Jam Sessions. University of Pisa, Italy

03/14 What role for the distinction between the senses ? Institute of Philosophy, University of London, London, UK

02/14 Robotics Institute, Carnegie Mellon, University, Pittsburgh, PA, USA

02/14 Electrical and Computer Engineering, Drexel University, Philadelphia, PA, USA

02/14 Neuroscience and Robotics Lab at Northwestern University, Evanston, IL, USA

02/14 Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology, Boston, MA, USA

02/14 Department of Biomedical Engineering, Columbia University, New York, NY, USA

11/13 IRIT, Université Paul Sabatier, Toulouse, France

11/13 Workshop on "Bio-inspired sensing for robotics", Inst. des Sciences du Mouvement E.-J. Marey, Marseille, France

11/13 School of Mechanical Engineering, Beihang University, Beijing, China

10/13 Journées Nationales de la Recherche en Robotique, Annecy, France

10/13 Exploratorium : Exploring Your Senses, Bloomsbury Festival 2013, London, UK

07/13 Interaction architecture, Apple Inc., Cupertino, CA, USA

07/13 Early Touch : From Neural Coding to Haptic Space Geometry, CNS*2013, Paris, France

07/13 Virtual Prototyping Summer School, Politecnico di Milano, Italy

06/13 12th Dutch Belgian Haptic Network Meeting, Katholieke Universiteit Leuven, Belgium

05/13 Conference on The World Inside The Brain, School of Psychology, University of Birmingham, UK

05/13 Workshop on Hand synergies — how to tame the complexity of grasping, IEEE ICRA 2013, Karlsruhe, Germany

01/13 Institute of Philosophy, University of London's School of Advanced Study, London, UK

01/13 Service de Psychiatrie de l'enfant et de l'adolescent, CHU Pitié-Salpêtrière, Paris, France

01/13 Integrative, Multisensory, Perception, Action and Cognition Team, INSERM (ImpAct), Lyon, France

11/12 Department of Cognitive Neuroscience & Cognitive Interaction Technology, Bielefeld Universität, Germany

10/12 Nokia Research Center, Espoo, Finland

09/12 Department of Computer Science, University of Bristol, UK

07/12 2012 Virtual Prototyping Summer School, Politecnico di Milano, Milan, Italy

06/12 Multisensory Integration Meeting, University of Birmingham, UK

06/12 ETH Summer School on Soft Robotics, Zurich, Switzerland

05/12 2nd Workshop on Robotics and Neuroscience, University of Siena, Italy

05/12 Next Generation Multimedia Research & Development Workshop, New York University Abu Dhabi Institute, UAE

03/12 Laboratoire Interfaces Sensorielles, Commissariat à l'Energie Atomique, Fontenay-aux-roses, France

03/12 Center for Intelligent Machines, McGill University, Montréal, Canada

02/12 Journée d'étude PraTIC : Jouabilité, interactivité et cognition, l'école de l'image des Gobelins, Paris, France

12/11 Department of Bioengineering, Imperial College London, UK

11/11 Symposium on State of the Art and Future of Haptics, Nagoya Institute of Technology, Japan

09/11 50th anniversary of the Institute of Automatic Control Engineering, Technical University of Munich, Germany

07/11 Workshop on Multimodal and Sensorimotor Bionics Inst. for Adv. Study, Technical University of Munich, Germany

06/11 Workshop on Vibrotactile Haptics for Touch Screens, World Haptics Conference 2011, Istanbul, Turkey

06/11 Workshop on Haptics in Surgical Robotics, World Haptics Conference 2011, Istanbul, Turkey

06/11 Institute for Infocomm Research, A*Star, Singapore

05/11 DeViNT 2011 : Neuvième journée Déficients Visuels et Nouvelles Technologies, Polytech'Nice – Sophia, France

04/11 INM - Leibniz-Institut für Neue Materialien, Saarbrücken, Germany

04/11 Advanced Robotics Group, Italian Institute of Technology, Genova, Italy

03/11 Laboratory of Cognitive Neuroscience, Brain Mind Institute, Ecole Polyt. Fédérale de lausanne, Switzerland

02/11 Theo Murphy Meeting on Active Touch Sensing, Kavli Royal Society International Center, Buckinghamshire, UK

01/11 Institute for Robotics and Cognitive Systems, Department of Computer Science, Universität zu Lübeck, Germany

01/11 European Master on Advanced Robotics (EMARO), Ecole Centrale de Nantes, France

12/10 Department of Psychology, University of Sheffield, UK

11/10 Institut de Recherche en Communications et Cybernétique de Nantes, IRCCyN, France

10/10 Colloquium Polaris, Institut National de Recherche en Automatique et Informatique, INRIA Lille, France

10/10 Int. Symposium "Scientific Computing for the Cognitive Sciences", IWH, University of Heidelberg, Germany
 09/10 2010 Virtual Prototyping Summer School, Politecnico di Milano, Milan, Italy
 04/10 Laval Virtual, Recent Advances In Haptic Interaction, Laval, France
 03/10 Institute for Neuroinformatics, University of Zürich (UZH), Switzerland
 01/10 Computer Vision Laboratory, Eidgenössische Technische Hochschule Zürich (ETHZ), Switzerland
 11/09 Laboratoire des Systèmes Robotiques, Ecole Polytechnique Fédérale de lausanne (EPFL), Switzerland
 11/09 Institute of Robotics & Intelligent Systems, Eidgenössische Technische Hochschule Zürich (ETHZ), Switzerland
 09/09 Laboratoire d'acoustique musicale (LAM), Paris, France
 07/09 2009 Virtual Prototyping summer school, Politecnico di Milano, Milan, Italy
 04/09 Unité de Réadaptation et de Médecine Physique, Université Catholique de Louvain, Brussels, Belgium
 11/07 School of Physical and Occupational Therapy, Research Seminar Series, McGill University
 10/07 Département d'Informatique, Université du Québec à Montréal
 10/07 MCGovern Institute for Brain Research at MIT
 07/07 Institute of Robotics and Mechatronics, German Aerospace Center DLR, Wessling, Germany
 07/07 Laboratoire d'Automatique et d'Analyse des Systèmes, LAAS, Toulouse, France
 07/07 Touch Workshop, Department of Psychology, The University of Edinburgh, UK
 04/07 Department of Neuromotor Physiology, IRCCS Fondazione Santa Lucia, Rome, Italy
 04/07 Laboratoire de Physiologie de la Perception et de l'Action, Collège de France, Paris, France
 03/07 Behavioural Brain Sciences Centre, School of Psychology, University of Birmingham, UK
 03/07 Sonic Arts Research Center, Queen's University Belfast, Belfast, Ireland
 03/07 Department Physics of Man Helmholtz Institute, Utrecht University, The Netherlands
 03/07 Laboratoire « Psychologie et Neurocognition » Université Pierre Mendès France, Grenoble, France
 03/07 Max Plank Institute for Biological Cybernetics, Tübingen, Germany
 01/07 Institut de Recherche en Communications et en Cybernétique de Nantes, Nantes, France
 12/06 Delft Biorobotics Laboratory, University of Delft, The Netherlands
 12/06 Department of Electrical Engineering, University of Twente, The Netherlands
 11/06 Mechanical Engineering and Materials Science, Rice University, Houston, Texas, USA
 11/06 Tactile Research Group meeting. Annual Psychonomic Society Annual Meeting, Houston, Texas, USA
 10/06 COSTECH - Connaissance, Organisation et Systèmes Techniques, Univ. de Technologie de Compiègne, France
 10/06 Séminaire Romand de 3ième cycle d'Informatique, Université de Genève, Suisse
 09/06 Robotics and Systems Laboratory, University of Siena, Italy
 07/06 Workshop on Perception-based Haptic Rendering, Eurohaptics 2006, Paris, France
 05/06 Guest Lecture. Experimental Haptics CS277. Stanford University
 04/06 Montréal Chapter of ACM SIGGRAPH, Canada
 03/06 Département d'Informatique, Université du Québec à Montréal, Canada
 03/06 Guest Lecture. Human Computer Interaction Course, ECE Department, McGill University, Canada
 10/05 Music Department, Brown University, USA
 10/05 Société des Arts Technologiques, Montréal, Canada
 10/05 Department of Mechanical Engineering, Concordia, University, Montreal, Canada
 08/05 Department of Computer Science, University of British Columbia, Vancouver, Canada
 03/05 Centre de Recherche en Neurosciences, Université Catholique de Louvain, Brussels, Belgium
 12/04 Eidgenössische Technische Hochschule Zürich (ETHZ), Switzerland, Mechatronics Seminars
 03/04 The University of British Columbia, Department of Surgery, Grand Rounds, Canada
 03/04 Journée Scientifique Internationale IRCICA, "Stimulateurs tactiles : Technologie et Usages"
 02/03 Visualization and Perceptualization Center, Purdue University, USA
 01/03 2003 Canadian Undergraduate Technology Conference, Toronto, Canada
 11/02 Institut Nazareth & Louis-Braille, Longueuil, Qc, Canada
 10/02 Colloque IMSI, Sherbrooke University, Canada
 09/02 Science Talks, Marianopolis College, Montréal, Qc, Canada
 07/02 Scuola Superiore di Studi Universari e di Perfezionamento Sant'Anna Pisa, Italy (short course)
 05/02 Center for Computer Research in Music and Acoustics (CCRMA) Stanford University, USA
 05/02 Defense R&D Canada-Toronto, Canada
 04/02 Workshop on Multimodal Interactions in Perception. J. K. O'Regan and J. Clark, Paris, France
 02/02 Guest Lecture - Music Technology, McGill University, Canada
 02/02 Université Laval, Québec, Canada
 06/01 Institute for Mathematics and Application Workshop : Haptics, Virtual Reality, and HCI, USA
 03/01 Max-Planck Institute, Tuebingen, Germany
 09/98 IRCAM, Paris, France
 03/98 INRIA Rhones-Alpes, Grenoble, France
 02/98 Ecole des Mines de Paris, February, 1998
 01/98 ARTS Lab., Scuola S. S. Anna, Pisa, Italy

5.1.6 Rappports techniques

- r23 Hayward, V., Levesque, V., Pasquéro, J. 2003 (December). Afficheur Braille Par Étirement Latéral, Phase I, INLB, Visuaide Inc., CRIR and CNIB.
- r22 Cruz-Hernandez, J. M., Hayward, V., Antoniu, E. 1998 (October). Hysteresis Model for the Altair Deformable Mirror, National Research Council Contract LP034-8-4117.
- r21 Hayward, V. 1996 (March). Design and Integration of DSM Force-Reflecting Mechanisms, Phase II Design of Prototype for Shuttle Experiment. Vol. I and II. (Interim), Contract 9F028-5-51128/01-XSD.
- r20 Hayward, V. 1996 (March). Phase IV- Design and Integration of DSM Force-Reflecting Mechanisms. Vol. I and II. Contract 9F028-4-3199/01-XSD. March 1996.
- r19 Hayward, V. 1994 (November). Development and Construction of a Miniature Hand Controller With Force and Tactile Feedback Capability. Vol. I and II. Contract 9F028-3-1476/01-XSD, November 1994.
- r18 Reynier, F., Hayward, V. 1992 (July) Final Report on the Feasibility Study for the Development of a Miniature Hand-Controller with Force and Tactile Feedback Capability. Canadian Space Agency, Space Research and Technology. Contract No. 9F009-1-1441/01-SR
- r17 Reynier, F., Hayward, V. 1992 (July) Feasibility Study for the Development of a Miniature Hand-Controller with Force and Tactile Feedback Capability : Characterization of the Human Upper Extremities. Canadian Space Agency, Space Research and Technology, Contract No. 9F009-1-1441/01-SR
- r16 Foisy, A., Hayward, V. 1992 (July). Final Report for the Development of a Collision-Free Motion Planning Technique for MCPL, the MSS command and programming language. Spar Aerospace Ltd., Remote Manipulator Systems Division, Contract No. 09021TF.
- r15 Hayward, V. 1991 (December). Second International Symposium on Experimental Robotics Final Report. Canadian Space Agency Contract No. 990-645R.
- r14 Daneshmend, L. K., Boyer, M., Hayward, V. 1990 (April). Task analysis decomposition and planning of an operational scenario for MCPL : the Mobile Servicing Station (MSS) Command and Programming Language : The attached payload servicing function. Spar Aerospace Limited.
- r13 Foisy, A., Hayward, V. Daneshmend, L.K. 1989 (December). Final Report on Advanced Collision-Free Motion Planning Methods for MCPL, the MSS Command and Programming Language. Spar Aerospace Limited.
- r12 Hayward, V. 1989 (November). Final Report on the First International Symposium on Experimental Robotics. National Research Council, Space Division.
- r11 Hayward, V. Daneshmend, L., Foisy, A., Demers, L.-P. 1988 (May). Final report on the technology development for the MSS command and programming language. Spar Aerospace Limited.
- r10 Hayward, V., Hayati, S. 1988 (Mars). Kali : An environment for the programming and control of cooperative manipulators. McGill Research Center for Intelligent Machines Technical Report, CIM-88-8, McGill University, Montréal, Canada. Also Jet Propulsion Laboratory Report.
- r09 Hayward, V., Daneshmend, L., Nilakantan, A. 1988 (Mars). Model based trajectory planning using preview. Jet Propulsion Laboratory Report.
- r08 Nilakantan, A., Hayward, V. 1988 (Mars). Synchronizing multiple manipulators. Jet Propulsion Laboratory Report.
- r07 Topper, A., Hayward, V. 1987 (July). Porting RCCL to a multiprocessor environment : requirements specification for hardware and real-time software. Jet Propulsion Laboratory Technical Report.
- r06 Hayward, V., Lloyd, J. E. 1986 (October). RCCL users's guide. McGill Research Center for Intelligent Machines Technical Report, CIM-86-4, McGill University, Montréal, Canada.
- r05 Paul, R., Luh, J., Nof, S. Y., Hayward, V. (1984). Advanced industrial robot control systems. Purdue University. School of Electrical Engineering.
- r04 Hayward, V. 1983 (October). Introduction to RCCL : A robot control 'C' library. Purdue University Technical Report, TR-EE 83-43.
- r03 Hayward, V. 1983 (October). RCCL version 1.0 and related software source code. Purdue University Technical Report, TR-EE 83-47.
- r02 Hayward, V. 1983 (October). RCCL version 1.0 user's manual. Purdue University Technical Report, TR-EE 83-46.
- r01 Hayward, V. 1983 (October). Robot Real-Time Control User's Manual. Purdue University Technical Report, TR-EE 83-42. Paul, R., Luh, J., Nof, S. Y., & Hayward, V. (1979). Advanced industrial robot control systems. Purdue University. School of Electrical Engineering.

5.1.7 Mentions dans la presse (21^e siècle seulement)

- 16/10/15 Le sens du toucher reproduit par un composant électronique — Le Figaro
- 19/03/15 Apple Haptic Tech Makes Way For Tomorrow Touchable UIS — Wired
- 17/02/14 Robotics lecture on fingertips and tactile function — The Tartan

01/01/14 EE Times
 29/06/12 尝试一下！让你的触感产生错觉的七种方法 — China Daily
 26/04/10 Putting the touch into touchscreens — The New Scientist
 03/03/10 Touch Screens that Touch Back — MIT Tech Review
 29/04/09 The touch of technology — McGill Reporter
 12/04/09 How You Feel The World Impacts How You See It — Science Daily
 11/03/09 Seven ways to fool your sense of touch — The New Scientist
 26/10/08 Canadian researchers developing “touch vision” — The Toronto Star
 25/10/08 Pinching display lets you feel the data — The New Scientist
 28/10/08 Searching the frontiers of science — The Star
 21/10/08 Touch Illusions — The Museum of Hoaxes
 16/01/08 That freaky feeling — Science Squirrel Society China
 14/02/08 Illusions of Touch : Some things to try on your valentine. . . — Scienceblogs.com
 19/07/08 Perception : Scientists create touch illusion — A Level Psychology Resources
 04/09/08 Execs predict next Google-like tech — CNET.com
 04/09/08 Big Data : The next Google — Nature, Vol 455
 30/04/04 Sci Tech Radio Canada International
 14/07/07 Touch me, feel me — The Guardian
 09/01/07 Virtual Braille opens employment doors for visually impaired — IT World Canada
 08/03/07 How touching — The Economist
 25/08/06 The Cutting Edge of Haptics — MIT Technological Reviews
 14/07/06 Gadgets get the feel of the tactile world — The New Scientist
 13/06/06 Sensor Has Human Touch, Discovery News
 01/05/03 CBC Radio Interview
 19/04/03 Workplace breakthroughs for the blind — The Toronto Star
 06/03/03 Braille for computers — McGill Reporter
 12/01/02 Sensational Devices — The Globe and Mail
 30/06/01 Science Notebook — Washington Post
 01/06/01 Fingers decipher by force, not topology — The National Post
 26/07/01 Brain : Touchy Feely In A Virtual Hole — Alpha Galileo
 04/10/01 La force au bout des doigts — Pour la Science
 10/03/01 Feel it in your fingers — The New Scientist

5.2 Subventions et contrats de recherche

5.2.1 Actifs

2019–22 *Innovative Network for Training in Touch Interactive Interfaces* (INTUITIVE). H. Jörntell (Coordinator), R. Dahiya, V. Hayward, E. Burdet (PIs), plus 10 industry associates, H2020 Marie Skłodowska-Curie Innovative Training Networks (ITN). 183,000 €/an de 1,384,000 €/an.
 2019–22 *Predictive Haptic Coding Devices in Next Generation Interfaces* (ph-coding). H. Jörntell (Coordinator), E. Burdet, R. Dahiya, V. Hayward (PIs), H2020 Research and Innovation action, FET Open project, 225,000 €/an de 1,000,000 €/an.
 2018–21 *Mixed Haptic Feedback for Mid-Air Interactions in Virtual and Augmented Realities* (H-Reality). M. J. Adams (Coordinator), S. A. Seah, V. Hayward, J. Hartcher-O'Brien, C. Pacchierotti (PIs), H2020 Research and Innovation action, FET Open project, 200,000 €/an de 1,000,000 €/an.

5.2.2 Terminés

2018–19 *Distal Projection of Tactile Sensations from Oculomotor Signals*, Research Contract, Oculus VR, US\$ 117,000.
 2017–18 *Hand-to-Hand Remote Deafblind Tactile Communication*, Google Faculty Research Award, V. Hayward, US\$ 91,000.
 2017–18 *Visiting Professorship*, The Leverhulme Trust, £ 84,400 + £ 84,400.
 2016–20 *Developmental trajectories of sensorimotor control of mechanical tools*, L'Agence nationale de la recherche, (Developmental_Tool_Mastery), A. Farnè (Coordinator), A. Roy, V. Hayward, F. de Vignemont (PIs). 35,100 €/an de 151,000 €/an.
 2016–17 *Software Layers for Deafblind Tactile Communication*, Google Faculty Research Award, V. Hayward, US\$ 63,000.
 2013–17 *Wearable Haptics for Humans and Robots* (WEARHAP), Technological Development Project, Integrated Project (IP), 7th Framework Programme, D. Prattichizzo (Coordinator), M. O. Ernst, S. Hirche, E. P. Scilingo, M. Bergamasco, A. Argyros, M. A. Otaduy, N. Tsagarakis, V. Hayward, B. B. Edin (PIs), 147,394 €/an of 1,925,000 €/an.

- 2013–17 *Virtual Prototyping of Tactile Displays* (PROTOTOUCH), Marie-Curie Action : Initial Training Networks (ITN), 7th Framework Programme, M. Adams (Coordinator), J.-L. Thonnard, J. Wessberg, J. Peric, R. Tomaz, J. Schmidhuber, V. Hayward, B. Lemaire-Semail, C. Chapaz, U. Groz (PIs), 1,014,726 €/an
- 2010–16 *Computational Theory of Haptic Perception* (PATCH), 7th Framework Programme, European Research Council Advanced Grant, V. Hayward (PI), M. Wexler (co-PI). 495,000 €/an.
- 2015–17 *Optimal Person-Machine Sensorimotor Coupler for Application to Micro-Manufacturing* (RELAX), ERC-Proof-of-Concept Project, Horizon 2020 Excellent Science, V. Hayward (PI), S. Régnier (co-PI), 150,000 €.
- 2015–16 *Tactile Communicator for Use by The Deafblind*, Google Faculty Research Award, V. Hayward, US\$ 50,000.
- 2011–12 (Refusée) *Studying ageing-related effects on temporal neural coding of haptic perception : Experimental investigation in humans through an emerging technology for non-invasive electrophysiological recordings*. Subvention Emergence-UPMC. A. Arleo, V. Hayward (co-PIs). 83,000 €
- 2009–14 *The Hand Embodied (the)*, Technological Development Project, Integrated Project (IP), 7th Framework Programme, A. Bicchi (Coordinator), M. Santello, A. Albu Schaeffer, P. van der Smagt, K. Kyriakopoulos, D. Prattichizzo, S. Rossi, A.M.L. Kappers, V. Hayward, M. O. Ernst, H. Jörntell, (PIs). 156,612 €/an de 1,793,923 €/an.
- 2008–11 *Natural Interactive Walking*, Technological Development Project STREP, 7th Framework Programme, F. Fontana (Coordinator), J. Cooperstock, S. Serafin, A. Lécuyer, V. Hayward (PIs). 106,000 €/an de 391,000 €/an.
- 2007–11 *Physically and Perceptually Based Haptics*, Discovery Grant, Natural Sciences and Engineering Research Council of Canada (NSERC), V. Hayward, \$48,200/an.
- 2006–10 *The design of Multi-Modal Information Displays*. Collaborative Research and Development Grant. Natural Sciences and Engineering Research Council of Canada (NSERC), V. Hayward, J. J. Clark & K. E. MacLean, \$57,600/year plus contributions de l'industrie (\$36,225/an financement, \$40,000/an équipement en nature)
- 2006–09 *Informatisation du graphisme tactile à l'usage des personnes aveugles ou handicapées visuelles*. Subvention d'équipe. Fonds québécois de la recherche sur la nature et les technologies (FQRNT), V. Hayward, A. Dufresne, N. Trudeau. \$42,000/year.
- 2006–08 *Sound and Interaction in the Design of Enactive Interfaces*. Special Research Opportunity - Research Project, Natural Sciences and Engineering Research Council of Canada (NSERC) M. Wanderley, V. Hayward, S. McAdams, Ph. Depalle, G. Scavone, and C. Guastavino, \$272,000. \$207,000
- 2005–08 *High Fidelity Surgical Simulation*. Collaborative Research and Development Grant. Natural Sciences and Engineering Research Council of Canada (NSERC), V. Hayward, \$51,000/and plus contributions de l'industrie (\$17,000/an financement ; \$20,000/an équipement en nature).
- 2003–07 *High Fidelity Haptics*, Discovery Grant, Natural Sciences and Engineering Research Council of Canada (NSERC), V. Hayward, \$45,000/an.
- 2002–05 *Foundations of Haptic Interfaces for Virtual Environments and Communications*, Group Grant. IRIS-4, NCE (Institute for Robotics and Intelligent Systems, Canada's Network of Centers of Excellence). V. Hayward (Project Leader), K. E. MacLean, S. J. Lederman, D. K. Pai, S. E. Salcudean, \$204,000, \$202,000, \$192,000.
- 2002–05 *Reality-based Modeling and Simulation of Physical Systems in Virtual Environments*. Group Grant. IRIS-4, NCE. W. Heidrich (Project Leader), U. M. Ascher, V. Hayward, A. K. Mackworth, D. K. Pai, R. J. Woodham, \$200,000, \$200,000, \$200,000.
- 2002–05 *Intelligent Tools for Diagnosis and Intervention*, Group Grant. IRIS-4 NCE. S. E. Salcudean (Project leader), J. Dill, R. Ellis, V. Hayward, P. D. Lawrence, C. MacKenzie, J. McEwen, A. M. Parameswaran, S. Payandeh, T. M. Peters. \$300,000, \$300,000, \$300,000.
- 2002–03 *A Haptic Surgery Simulator (HASS) for Holmium Laser Enucleation of the Prostate*. Grant. IRIS-TGAP. V. Hayward, M. Mahvash, \$99,615 plus \$35,000 de contribution de l'industrie.
- 2003–04 *The Braille Cell Revisited : Achieving an Order-of-Magnitude of Cost Reduction*. FRSQ/Centre de recherche interdisciplinaire en réadaptation (CRIR), \$10,000.
- 1999–03 *Advanced Human-Machine Interfaces*. Operating Grant, Natural Sciences and Engineering Research Council of Canada (NSERC), V. Hayward, \$38,000 then \$39,900/year.
- 1999 *Mass Producible Tactile Displays*. Grant. IRIS-TGAP. M. Cruz-Hernandez and V. Hayward, \$39,000 plus \$20,000 de contribution de l'industrie.
- 1998 *Hysteresis model for Altair Deformable Mirror*. Research Contract, National Research Council, Herzberg Institute for Astrophysics. V. Hayward. \$2,400.
- 1998–02 *Haptic Interfaces for Virtual Environments and Communications*, Group Grant. IRIS-3, NCE. V. Hayward (Project Leader), D. K. Pai, S. J. Lederman, S. E. Salcudean, R. L. Klatzky (Principal Investigators), C. Ramstein, HTI (Industry Participant). \$163,000 ; \$140,000, \$133,000, \$121,000, plus de contribution de l'industrie.
- 1998–02 *Intelligent Tools for Diagnosis, Surgery and Measurement of Resulting Patient Outcomes*. Group Grant. IRIS-3, NCE. S. E. Salcudean (Project Leader), J. Dill, R. Ellis, V. Hayward, P. D. Lawrence, C. MacKenzie, A. M. Parameswaran, S. Payandeh, T. M. Peters. J. McEwen (Industry Participant). \$369,000/year, plus contributions

de l'industrie.

- 1998–02 *Reality-Based Modeling and Simulation of Physical Systems in Virtual Environments*. Group Grant. IRIS-3, NCE. D. K. Pai, (Project Leader), U. Ascher, V. Hayward., A. Mackworth, R. Woodham. \$171,000, \$164,000, \$129,000, \$126,000, plus contributions de l'industrie.
- 1996–98 *A Balanced Haptic Device for Computer/User Interaction*. Technology Partnership (TPP) Grant, NSERC, with MPB Technologies Inc., Montréal, Canada., V. Hayward, L. Lessard, \$224,000, plus \$367,000 plus de contribution de l'industrie.
- 1995 *Development of Demonstration for Stylus Haptic Device*. Research Contract, MPB Technologies Inc., V. Hayward, \$8,500.
- 1995–99 *High Performance Robotic Devices*, Operating Grant, NSERC, V. Hayward, \$32,500/year.
- 1995 *Support System for Control System Design and Simulation*, Equipment Grant, NSERC, P. R. Bélanger, G. Zames, P. E. Caines, M. S. Verma, J. G. Owen, H. Michalska, L. Lin, \$42,000.
- 1995 *Test Station*, Equipment Loan Canadian Microelectronics, N. C. Rumin, G. R. Gao, J. Rajski, G. W. Roberts, T. H. Zsymanski, V. Hayward, M. D. Levine, D. V. Plant. \$125,913.
- 1994–98 *Haptic Interfaces for Teleoperation and Virtual Environments*. Group Grant. IRIS-2, NCE. V. Hayward, (Project Leader), R. Ellis, J. M. Hollerbach, L. Jones, S. Lederman, D. Pai, T. Salcudean, C. Ramstein, R. Hui, J. Ballantyne, M. Boyer (Industrial Collaborators). \$260,000 ; \$246,000 ; \$193,000 ; \$193,000. Plus industry contributions.
- 1994–98 SMART SENSING FOR COMPUTER VISION. Group Grant. IRIS-2, NCE. D. Poussart (Project Leader), S. Gagné, D. Gingras, V. Hayward, N. Benoit, X. Maldague, Y. Savaria, M. Tremblay. \$270,000 ; \$250,000 ; \$200,000 ; \$200,000. Plus industry contributions.
- 1995–96 *Design and construction of Force-Feedback Mechanisms for DSM*. Phase II and III. Research contract, Canadian Space Agency, V. Hayward, \$150,000.
- 1992–94 *Sensor Based Robots*. Operating Grant, Natural Sciences and Engineering Research Council of Canada (NSERC), V. Hayward, \$28,000 per year.
- 1992–94 *Conception, commande et réalisation expérimentale de robots manipulateurs à architecture parallèle et hybride*. Group Grant, FCAR (Fonds Formation des Chercheurs Aide à la Recherche), V. Hayward, L. K. Daneshmend, J. Angeles, C. Gosselin. \$41,000 ; \$35,000 ; \$35,000.
- 1989, 91, 93 *First, Second then Third International Symposium on Experimental Robotics*, Research Contract. CSA (Canadian Space Agency), V. Hayward. \$5,000 ; \$4,000 ; \$7,000.
- 1991, 92, 93 *Development of a Miniature Hand-Controller with Tactile Feedback Capability*, Phase I, II, and III Research Contracts, CSA. V. Hayward, \$49,000 ; \$79,000 ; and \$125,000.
- 1991 *Trajectory Planning and Obstacle Avoidance*, Research contract. International Submarine Engineering, Ltd., CSA STEAR Project #5, V. Hayward, L. K. Daneshmend. \$19,000.
- 1992–94 *Orienting Devices for Dynamic Vision Sensing*. Group Grant. IRIS-1, NCE, D. Poussart, C. Gosselin, V. Hayward, M. D. Levine. \$20,000 ; \$20,000.
- 1990–94 *Simulation, Control, and Planning in Robotics*. Group Grant. IRIS-1, NCE, P. R. Bélanger (Project Leader), J. Angeles, R. Patel, L. Daneshmend, V. Hayward, G. Zames, P. Caines, A. Malowany, \$245,000 ; \$1,067,475 ; \$1,266,983 ; \$537,300 ; \$507,500.
- 1990–94 *High Performance Manipulators : Design and Architecture*, Group Grant. IRIS-1, NCE, I. Hunter, (Project Leader), J. Angeles, J. Hollerbach, V. Hayward., G.R. Gao. \$370,700 ; \$370,700 ; \$281,700 ; 290,300 ; \$252,500.
- 1990–92 *Development of a Collision-Free Motion Planning Technique For MCPL, the MSS Command and Programming Language*. Research Contract, spar Aerospace Ltd., V. Hayward, A. Foisy, \$96,000.
- 1990 *Autonomous Robotics*, Research Contract, Thomson Systems, CSA STEAR Project #3, L. K. Daneshmend, V. Hayward, S.C. Cai, M. D. Levine, F. Ferrie, G.R. Gao, R. De Mori. 1990.
- 1989–91 *Conception, commande et réalisation expérimentale de robots manipulateurs à architecture parallèle*. Group Grant. FCAR. V. Hayward, L. K. Daneshmend, J. Angeles, \$37,000, \$25,000, and \$25,000.
- 1989–92 *Sensor Based Robots*. Operating Grant, NSERC, V. Hayward, \$18,000 per year.
- 1989–92 *Maintenance télérobotique des lignes haute tension*, CRIM collaborative project with Hydro-Québec, L. K. Daneshmend, V. Hayward, \$150,400.
- 1988 *Advanced Collision-Free Motion Planning Methods for MCPL, the MSS Command and Programming Language*. Research Contract, SPAR Aerospace Ltd., V. Hayward, L. K. Daneshmend, \$50,130.
- 1988 *Mobile Servicing Station (MSS) Task Analysis, Decomposition, and Planning, of an Operational Scenario for MCPL, the MSS Command and Programming Language : the Attached Payload Servicing Function*. Research Contract, SPAR Aerospace Ltd. ,L. K. Daneshmend, V. Hayward, \$56,998.
- 1988 *Porting RCCL Under the Harmony Operating System*, Research Contract, National Research Council of Canada, V. Hayward, L. K. Daneshmend, \$68,000.
- 1987 *Technology development for the MSS Command/Programming Language (MCPL)*. Research Contract, SPAR Ae-

- ospace Ltd., V. Hayward, L. Daneshmend, \$50,000.
- 1987–88 *Porting the Robot Control C Library to a Distributed Multiprocessor Computing System*. Research Contract, Jet Propulsion Laboratory (JPL), National Aeronautics and Space Administration (NASA), V. Hayward, L. Daneshmend. \$173,000, \$23,000.
- 1987–90 *Range Understanding for Robotics*. Strategic Grant, NSERC, M. D. Levine, A. S. Malowany, V. Hayward, S. W. Zucker, \$93,467 per year.
- 1987 *Robotic Rangefinder*. Equipment Grant, Natural Sciences and Engineering Research Council of Canada (NSERC) M. D. Levine, A. S. Malowany, V. Hayward, S. W. Zucker, \$136,467.
- 1986–88 *Sensor Based Robots : Implications For Control, Programming, and Off-line Programming*. Operating Grant, (NSERC), V. Hayward, \$15,400 per year.
- 1985–87 *Conception et commande des manipulateurs robotiques*. FCAR actions structurantes, Equipement, McGill Research Centre for Int. Machines. P. R. Bélanger and nine others.
- 1985–87 *McGill Research Center for Intelligent Machines*, Infrastructure Support Grant, P. R. Bélanger and eleven others.
- 1984 *Interface CAO-Robot*. Research Contract. Institut de Recherche en Construction Navale (IRCN), A. Osorio, V. Hayward.
- 1984 *Unix Workstation*, Equipment Loan from Hewlett Packard Laboratories, V. Hayward.
- 1983–84 *Advanced Industrial Robot Control Systems*, Research Grant, National Science Foundation, (NSF), R. P. Paul, J. Y. S. Luh, S. Y. Nof, V. Hayward.
- 1982–83 *VAX Computer*. Computer Integrated Design Manufacturing Automation Center, CIDMAC Program. Purdue University.
- 1982 *Post-doctoral Fellowship*. Automatique et Robotique Avancée (ARA), V. Hayward, 1982.
- 1979–81 *Optimisation Dynamique de Ressources et Reprogrammation*, automatisation, Thème Robotique Industrielle, Action DGRST, A. Osorio, V. Hayward.

6 Enseignement

6.1 Cours enseignés

6.1.1 Université Pierre et Marie Curie

2020–00 *Modélisation des actionneurs en robotique*

2019–20 continuation of *Interfaces et réalité virtuelle*

2009–17 *Interfaces et réalité virtuelle*(niveau M2), nombre d'étudiants : 22, 10, 15, 16, 20, 20 (30 heures)

2019–20 continuation of *Haptics for rehabilitation*

2009–17 *Haptics for rehabilitation* (Master International, 50%), nombre d'étudiants : 14, 15, 18, 18 (18 heures).

2009–16 *Asservissement numérique*, (niveau ROB4) nombre d'étudiants : 25, 22, 24, 22, 25, 22 (20 heures)

6.1.2 Politecnico Di Milano

2014–16 *Haptics* (Master in Mechanical Engineering, School of Industrial and Information Engineering) étudiants : 22, 15

6.1.3 Université McGill

2006–08 *Sampled Data Control* ECSE-504 (graduate), nombre d'étudiants : 8, 8, 12 (Winter).

2004 *Haptics in Humans and Information Systems* (graduate colloquium 681), nombre d'étudiants : 10.

2007 *Haptics*, ECSE-628 , enrollment : 8 (Fall).

1992–97 *Computer Architecture and Organization* 304-425 (senior), 3 credits, nombre d'étudiants : 50 (Fall 92),70 (Fall 93),

1999–08 85 (Fall 94), 85 (Fall 95), 112 (Fall 96), 100 (Winter 99), 100 (Fall 99), 49 (Winter 00) 85 (Fall 00), 55 (Winter 01), 74 (Fall 01), 65 (Winter 02), 68 (Winter 03), 70 (Fall 03), 43 (Fall 04), 45 (Fall 05), 25 (Winter 08).

96,97,99 *Computer Architecture Laboratory* 304-487 (senior), 3 credits, nombre d'étudiants : 35 (Winter 96), 43 (Winter 97),

2000–05 39 (Winter 99), 23 (Winter 00), 48 (Winter 01), 62 (Winter 02), 65 (Winter 03), 60 (Winter 04). 53 (Winter 05).

1991–95 *Robotics and Control Laboratory* 304-493 (senior), 2 credits, nombre d'étudiants : 5 (Winter 91), 8 (Winter 92), 12 (Winter 93), 20 (Winter 94) 8 (Winter 95).

1990–91 *Introduction to Computer Engineering I* 304-221 (undergraduate) 3 credits, nombre d'étudiants : 70 (Fall 90), 96,98 70 (Winter 91), 83 (Fall 96), 150 (Fall 98), 141 (Fall 99).

1991 *Introduction to Computer Engineering II* 304-222 (undergraduate), 3 credits, nombre d'étudiants : 70 (Fall 91).

1990–06 *Electrical Engineering Design Project*, 304-494 (senior), 3 credits, environ 3 projets/an 1990.

1986–93 *Artificial Intelligence*, 304-526 (graduate) 3 credits, nombre d'étudiants 15 to 25.

6.1.4 Université Paris XI

1984 *Conception des robots, modélisation, commande et programmation* (24 heures). Cours de DEA (Diplôme d'études approfondies), Nombre d'étudiants : 15.

6.1.5 Purdue University

1982 *Computer languages : C, APL*. Cours de première année, Nombre d'étudiants : 120.

6.2 Encadrement

6.2.1 Sorbonne Université (Auparavant Université Pierre et Marie Curie)

En cours

2021– Aruna Ramasamy, Doctorante

2021– Yerkebulan Masalim, Doctorant

2020– Karina, Driller, Doctorante co-encadrée avec Jess Hartcher O'Brien

2018– Thomas Daunizeau, Doctorant co-encadrée avec Sinan Haliyo

Encadrement effectué de chercheurs post-doctoraux

2018–20 Louise P. Kirsch, Chercheuse post-doctoral (Developmental_Tool_Mastery), puis Sorbonne Université.

2018–20 Xavier Job, Chercheur post-doctoral (Developmental_Tool_Mastery), puis Research Scientist Sorbonne Université. puis Department of Neuroscience, Karolinska Institutet.

2016–18 Gabriel Arnold, Chercheur post-doctoral, puis Research Scientist Caylar SAS.

2015–16 Jess Hartcher-O'Brien, Chercheuse post-doctoral, puis Assistant Professor, Faculty Industrial Design Engineering, Delft University.

2013–15 Stephen Sinclair, Chercheur post-doctoral (WEARHAP), puis Ingénieur de Recherche à INRIA-Chile, Santiago, Chili.

2014–15 Wouter Bergmann Tiest, Chercheur post-doctoral (PATCH), puis, Scientifique Vrije Universiteit Amsterdam.

2011–13 Alexander Terekhov, Chercheur post-doctoral (PATCH), puis, Assistant de Recherche, Laboratoire Psychologie de la Perception, Université Paris Descartes/CNRS.

2009–13 Irene Fasiello, Chercheur post-doctoral (PATCH), maintenant Professeur, Institut des Jeunes Aveugles, Paris

2010–13 Jonathan Platkiewicz, puis Fulbright Fellow at Cornell University, Ithaca, NY, USA, puis Prof. Junior Buzsáki Lab, NYU Neuroscience Institute USA.

2011–12 Yon Visell, Chercheur post-doctoral, (PATCH), puis Assistant Professor, University of California Santa Barbara.

2011–12 Michaël Wiertelwski, Chercheur post-doctoral (PATCH), puis Chargé de Recherches CNRS, Aix-Marseille University.

2009–10 Nizar Ouarti, Chercheur post-doctoral, (CNRS), puis Maître de Conférences, UPMC.

Encadrement effectué de thèses de doctorat

2016– Basil Duvernoy, Doctorant *Devices for Communication with Individuals who are Deafblind*.

2015–17 Özgür Mutlu, Doctorant *Optimizing Tactile Displays through Tribological & Perceptual Analyses during Active Touch*.

2013–17 Séréna Bochereau, Doctorante *Perception, Recording and Reproduction of Physical Invariants during Bare Fingertip Exploration of Tactile Textures*, puis Chercheur post-doctoral à Oculus Research.

2011–16 Bernard Javot, Doctorant (temps partiel) *Conception d'une nouvelle architecture de moteur oscillant à contact permanent*, Professeur de Lycée, then Ingénieur de Recherche à Max Planck Institute for Intelligent Systems.

2010– Amir Berrezag, Doctorant thèse non complétée pour convenance personnelle

2011–14 Charles Hudin, Doctorant *Focalisation par retournement temporel dans les plaques minces : Application à la stimulation tactile* (CEA), puis Chercheur Commissariat à l'Energie Atomique et aux Energies Alternatives.

2009–13 Ildar Farkhatdinov, Doctorant : *Modeling verticality estimation during locomotion*, puis Post-Doctoral Fellow Imperial College London.

2009–13 Abdenbi Mohand-Ousaid, Doctorant : *Conception d'une chaîne de micro téléopération stable et transparente* (co-encadré avec Pr S. Régnier), puis Maître de Conférences, Université de Franche-Comté.

2008–11 Michaël Wiertelwski, Doctorant : *Reproduction des Textures Tactiles : Transducteurs, Mécanique, et Représentation du Signal*, puis Post-doctoral Fellow Université Pierre et Marie Curie.

2006–11 Dung Viet Cai, Doctorant : *Contribution à l'étude d'exosquelettes isostatiques pour la rééducation fonctionnelle, application à la conception d'orthèses pour le genou*. (co-encadré avec Pr Ph. Bidaud et F. Gosselin) puis Assistant Professor, Ho Chi Minh City Univ. of Tech. and Education, Vietnam

2005–09 Guillaume Millet, Doctorat : *Perception et interface haptique pour les nanosciences* (S. Régnier, principal encadrant), puis Patent Examiner, European Patent Office.

Encadrement effectué d'ingénieurs d'études

- 2014–15 Aravindraj Bakthavatchalam, puis Ingénieur d'études à UPMC
- 2013–15 Ramakanth Singal, Ingénieur d'études
- 2010–13 Rafał Pijewski, Ingénieur d'études (THE), puis, entrepreneur.
- 2010–13 Chao Sheng Wong, Ingénieur d'études, puis ingénieur at Octio AS
- 2010–11 Gautier Long, Ingénieur d'études
- 2009–10 Amir Berrezag, Ingénieur d'études, puis Doctorant à UPMC
- 2008–09 George Dietz, Ingénieur d'études, puis étudiant en master, McGill University

Encadrement effectué de masters

- 2020 Inès Lacôte, Master, puis Doctorant INRIA.
- 2016 Basil Duvernoy, Master, puis Doctorant UPMC.
- 2015 Flavien Quijoux, Master, puis Kinésithérapeute.
- 2014 Camille Fradet, puis Doctorant UPMC.
- 2014 Cedric Sepulveda, Master, puis Kinésithérapeute.
- 2012 Alister Fournet, puis Doctorant UPMC.
- 2011 Ryuta Ogazaki (University of Electro-communications), *multimodal perception*
- 2010 Michi Sato (University of Electro-communications), *multimodal device*
- 2010 Guillaume Malatray
- 2010 Romain Meca
- 2010 Gautier Long, Ingénieur d'études, UPMC
- 2008 Amir Berrezag, Master, Ingénieur d'études, UPMC

6.2.2 London University

Encadrement effectué de chercheurs post-doctoraux

- 2018– Antonio Cataldo, Chercheur post-doctoral

6.2.3 McGill University

Encadrement effectué de chercheurs post-doctoraux

- 2007–08 Mounia Ziat, Chercheur post-doctoral, (NSERC-SRO), puis Associate Professor at Northern Michigan University.
- 1999–01 Gabriel Robles de la Torre, (NSERC and IRIS-NCE), scientist, founded the International Society for Haptics, <http://www.isfh.org/>
- 1997–98 Farrokh J. Sharifi, (NSERC fellow), puis Professor at Ryerson University, Toronto
- 1997–98 Luc Joly. (Commissariat à l'Énergie Atomique), Staubli Robotics
- 1992–94 Bertrand Duplat. *Hand Controller Design* (Electricite de France), Founder of Virtools SA
- 1991–92 Fabienne Reynier, (Canadian Space Agency)

Encadrement effectué de thèses de doctorat

- 2004–10 Hsin-Yun Yao, Ph.D. *A vibrotactile transducer and its applications in the study of perception* (NSERC, Immersion, committee : Prof. Ph. Depalle, Prof. M. Popovic). puis Entrepreneur.
- 2003–09 Vincent Levesque, Ph.D. *Virtual Display of Tactile Graphics and Braille by Lateral Skin Deformation* (NSERC, FQRNT, committee : Prof. A. Dufresne, Prof. J. Cooperstock), puis Doctorant Post Doctoral Fellow, University of British Columbia.
- 2004–09 Gianni Campion. Ph.D. *The synthesis of three dimensional haptic textures, geometry, control, and psychophysics* (IRIS-NCE, NSERC, committee : Prof F. P. Ferrie, Prof A. M. Smith, Prof. P. Poulin), Post Doctoral Fellow, Boston University.
- 2004–09 Andrew H. Gosline, Ph.D. *Haptic Synthesis of Dynamically Deformable Materials*. (IRIS-NCE, NSERC, committee : Prof. D. Giannacopoulos, Prof R. Mongrain), Post Doctoral Fellow, McGill University
- 2003–08 Jérôme Pasquero, Ph.D. *Tactile display for mobile interaction*. (IRIS-NCE, NSERC, committee : Prof. J. Cooperstock, Prof. C. E. Chapman), scientist, Research In Motion Inc.
- 2003–07 Qi Wang, Ph.D. Ph.D. *A Biomechanically Optimized Tactile Transducer and Tactile Synthesis*. (IRIS-NCE, NSERC, committee : Prof. A. M. Smith, J. J. Clark). Assistant Professor Columbia University
- 1999–02 Mohsen Mahvash, Ph.D. *Haptic Rendering of Tool Contact And Cutting*. (IRIS-NCE, committee : Profs. B. Boulet and J. Clark), entrepreneur and Post Doctoral Fellow at John Hopkins University
- 1998–02 Dingrong Yi, Ph.D. *Computer Aided Display of 3D Angiograms, Using Graphics and Haptics* (IRIS-NCE, committee : Profs. K. Siddiqi and J. J. Clark), scientist, Sunnybrook and Women's College Health Science Center. Assistant Prof. Chinese University Hong Kong.

- 1995–01 Erick Dupuis, Ph.D. *A General Framework For the Manual Teleoperation of Kinematically Redundant Space-based Manipulators*. (committee : Profs. E. Papadopoulos, J. Angeles), scientist, Canadian Space Agency.
- 1996–00 Oliver R. Astley, Ph.D. *A Software Architecture For surgery Simulation Using Haptics*. (NSERC Fellowship and IRIS-NCE, committee : Profs. Cooperstock, Whitesides, scientist, GE Central Labs.
- 1994– Julie Payette, (Supervisory committee Profs. De-Mori , P. Kabal, M. Buehler) (Ms. Payette is an astronaut, withdrew from the program July 1996 due to space flight training)
- 1994–99 Danny Grant, Ph.D. *Accurate and Rapid Control of Shape Memory Alloy Actuators*. (IRIS-NCE, committee : Prof. Buehler, Prof. Galiana). V.P. Research, Immersion Corp.
- 1995–98 Juan Manuel Cruz-Hernández, Ph.D. *Reduction of Hysteresis : a Phase Control Approach*. (Mexican Gov., then NSERC, supervisory committee : Profs. Bélanger, Zames), scientist, Immersion Canada Inc.
- 1990–94 André Foisy, Ph.D. *Robust Collision Detection*, (Research Contract, SPAR Aerospace, supervisory committee : Profs. S. W. Zucker, L. K. Daneshmend), scientist, SoftImage.
- 1990–92 Louis-Phillippe Demers, Ph.D. *Autonomous Control of the Space Station Manipulator System*, (Research Contract, SPAR Aerospace), never completed, international artist
- 1989–94 John Lloyd, Ph.D. *Robot Trajectory Generation for Paths With Kinematic Singularities*. Dean's Honour List. (IRIS-NCE, Profs. S. W. Zucker and Professor L. K. Daneshmend), scientist, UBC
- 1990–94 Stéphane Aubry, Ph.D. *Three-Dimensional Model Construction From Multiple Sensor Viewpoints*. (FCAR, Profs. M. D. Levine, F. Ferrie, O. Elghindy), Algorithmica Inc.

Encadrement effectué de masters

- 2008–10 Xinjelifu, X. M. Eng. Titre non déterminé. (co-encadré par le Prof H. Michalska)
- 2004–06 Gaurav Sood, M. Eng. *Simulation and Control of a Hip Actuated Robotic Model for the Study of Human Standing Posture*. Tembec Inc.
- 2003–05 Omar Ayoub, M. Eng. *Robotic Model of the Human Standing Posture*. Microsoft.
- 2002–05 Hanifa Dostmohamed. M.Eng. *Presentation of Shape Through Contact Location Trajectory*, Medical school.
- 2003–05 Diana Garoway, M.Eng. *A Haptic Interface for Editing Space Curves with Application to Animation Authoring*. SoftImage.
- 2002–04 Hsin-Yun Yao. M.Eng. *Touch Magnifying Instrument Applied to Minimally Invasive Surgery* (co-supervised with Prof. Ellis, Queen's), PhD Candidate.
- 2000–03 Vincent Levesque, M.Eng. *Measurement Of Skin Deformation Using Fingerprint Feature Tracking* (co-winner best demonstration award, IRIS-PRECARN Conf. '02), PhD Candidate.
- 2000–03 Jérôme Pasquéro, M.Eng. *STReSS : A Tactile Display Using Lateral Skin Stretch* (co-winner best demonstration award, IRIS-PRECARN Conf. '02), PhD Candidate.
- 1997–99 Qing Yuan Wang, M. Eng. *Translation of Graphic to Haptic Boundary Representation*. (IRIS-NCE, co-supervised with Prof. F. Sharifi). Motorola Canada.
- 1996–98 Stephanie Greenish, M.Eng. *Acquisition and Analysis of Cutting Forces of Surgical Instruments for Haptic Simulation*. (NSERC TPP). Matrox.
- 1996–97 Matthew M. Roy, M.Eng. *Design and Fabrication of a Lightweight Robotic Manipulator*. (NSERC TPP, co-supervised with Prof. Lessard)
- 1996–97 John McDougall, M.Eng. *Design of a composite link for the Freedom-7 Haptic Hand Controller*. (NSERC TPP, co-supervised with Prof. Lessard).
- 1995–97 Xuemei Alexandra Lu, M.Eng. *Modelling and Design of High Strain Shape Memory Alloy Actuators*. (IRIS-NCE). Nortel.
- 1994–96 Alain Ouellet, M.Eng. *Control of an Instrumented Haptic Interface*. (Canadian Space Agency, co-supervised with Prof. M. Buehler), Scientist. CSA.
- 1995–96 Oliver Astley, M.Eng. *Autonomous Joint Calibration Using Adaptive Control*. Dean's Honour List, (NSERC Fellowship). Ph.D. Candidate, McGill.
- 1995–96 Pham Tam Loc, M.Eng. *Micro Network Protocol and Hardware Design for Distributed Data Acquisition*. (NCE-IRIS). Memotec Inc.
- 1994–95 Juan Manuel Cruz Hernández, M.Eng. *Modeling, Sensitivity analysis and control design for a tendon transmission*. (Mexican Gov.). Ph.D. Candidate, McGill.
- 1994–95 Jimmy Wang. M.Eng. *Modeling and Control of a Actuator Redundant Hydraulic Shoulder Joint*, (NCE-IRIS).
- 1992–94 Danny Grant, M.Eng. *Shape Memory Alloy Actuator with an Application to a Robotic Eye*. (NSERC). Ph.D. Candidate, McGill.
- 1992–94 Michel Doyon, M.Eng. *Decentralized Impedance Control*, (NSERC and IREQ). Scientist Canadian Space Agency.
- 1992–94 Mehron Vaezi, M.Eng. *Force Balancing in a Parallel Redundantly Actuated Mechanism*, (NCE-IRIS). Entrepreneur.
- 1991–93 Xianze Chen, M.Eng. *Six Degree of Freedom Tactile Stimulator for Psychometric Investigations*. (Space Agency)

Research Contract)

- 1990–92 Benoit Boulet, M.Eng. *Modeling and Control of a Robotic Joint with In-parallel Redundant Actuators*, Dean's Honour List. (NSERC), Prof. at McGill.
- 1989–91 Anthony Topper, M.Eng. *A Computing Architecture For a Multiple Robot Controller*, (FCAR).
- 1988–90 Ronald Kurtz, M.Eng. *Kinematics and Optimization of a Parallel Robotic Wrist Mechanism with Redundancy*, Dean's Honour List, (FCAR).
- 1986–87 Pierre Girouard, M.Eng. *Un système expert pour la gestion en temps réel des alarmes dans un réseau électrique* (FCAR). Entrepreneur.
- 1986–87 Jean Michel Arès, M.Eng. *A knowledge-based model and simulator for alarm and protection of power networks*. (FCAR). Entrepreneur.
- 1987–89 Ajit Nilakantan, M.Eng. *The Design and Implementation of an All Digital Shear Sensitive Tactile Sensor*. (NSERC). Co-Founder Cymmetry Systems Inc.

Encadrement effectué de stagiaires

- 2005 Yan Zhao, *Investigation of Human Adaptation in the Judgement of Applied Force*, graduate Student Northwestern University.
- 2002 Thimothée Doutriaux, *Design of Fluxgate Magnetometer*, graduate Student, MIT
- 2000 Eric Teodori, *FEM Analysis of Tactile Display*.
- 1997 Christine Desmarais, *Skin Stretch Tactile Display*, Rhodes Scholar at the University of Oxford, CAE Electronics Inc. 1997]
- 1997 Jason C. Chen, *Adaptive Velocity Estimation Techniques with Applications to Haptic Interfaces*, (Winner the Best Canadian IEEE Student Paper), entrepreneur
- 1997 Ming Hua Lim, *Direction Estimation Using Adaptive Windowing Techniques*
- 1993 Martin Becker, *Design and Kinematic Modeling of a Parallel Redundant Wrist*, Dipl. Ing. Thesis (Inst. Mechanics, TU Munich)
- 1993 François Mougenet, *Limit Cycles and Digital Control of a Hydraulic Actuator*, exchange student

Encadrement effectué effectué d'ingénieurs d'études

- 2002–03 Qi Wang. Ph.D. Candidate
- 1996–98 Michel Doyon. Scientist with the Canadian Space Agency
- 1998–99 Pedro Gregorio. Research Engineer (part time), now with Immersion Canada Inc.
- 1994–95 Mathew Mather. Research Engineer (part time) with CITI, Immersion Canada Inc. then Officer with the Office of Technology Transfer, McGill University, now Sci-Fi novelist.
- 1993–95 Ducan Baird. Research Engineer now with Hymark Inc., Ottawa.
- 1996–97 Jason C. Chen. Entrepreneur
- 1995–96 Eric De Silva. Dassault Systèmes
- 1991–93 Chaffye Nemri, V.P. Engineering. Discreet Logic

Visiteurs de l'industrie et sabbaticants

- 2002–03 Dr. Ian Sinclair, MPB Technologies, Montréal.
- 2000–01 Dr. Daniel Sidobre, LAAS CNRS, France.
- 2001–04 Seigo Harashima, Ricoh Company (Japan)

7 Services

7.1 Comités au niveau département, faculté et université

7.1.1 Niveau université à l'UPMC

- 2013– Comité ERC-UPMC
- 2013– Membre de la commission sur promotion de professeurs Groupe IX
- 2012– Membre du comité « congés pour recherches ou conversions thématiques »
- 2012–15 Membre du Directoire de la Recherche de l'UPMC
- 2011 Jury Émergence-UPMC 2011
- 2010 Retour d'expérience : Starting et Advanced Grants Programme 2011

7.1.2 Niveau université à McGill

- 2005–08 Speaker, grantsmanship meetings
- 2004–08 Beatty Memorial Lectures Committee
- 1998–08 Pro-Dean (about twice a year in the past 4 years)

- 1999–02 Academic Policy and Planning Committee
- 1998–02 McGill NSERC/Major Postgraduate Fellowships Evaluation Committee
- 1998–99 Groupe de Travail Conjoint Informatique — Génie informatique INFOGEN, Commission des Universités sur le Programmes (CUP)

7.1.3 Niveau faculté à McGill

- 2004–05 Faculty Space Committee
- 2001–04 Director, Centre for Intelligent Machines (CIM), an internationally recognized centre for the advancement of robotics, automation, artificial intelligence, computer vision, and systems and control theory with members of two faculties : Engineering and Science (\approx 20 faculty, 100 students)
- 1998–02 Dean's Advisory Committee on Reappointment

7.1.4 Niveau département à McGill

- 2007–08 Tenure Committee Dept. of Electrical and Computer Engineering
- 2007–08 Promotion / Re-appointments Committee Dept. of Electrical and Computer Engineering
- 2007–08 Graduate Student Financing Committee Dept. of Electrical and Computer Engineering
- 2005–06 Appointments Committee Dept. of Electrical and Computer Engineering
- 2005–06 Appointments Committee Dept. of Mechanical Engineering
- 2005–06 ECE Issues Committee
- 2002–05 Chairman's Advisory Committee
- 1999–03 Committee on Information Technologies and Undergraduate Laboratory Equipment
- 1990–98 Graduate Program Committee. Department of Electrical Engineering.
- 1995–98 Merit Evaluation Committee (Elected)
- 1996–97 New Faculty Search Committee
- 1994–97 Teaching Assistant Coordinator
- 1991–92 Ad Hoc Search Committee for a Robotics Junior Position
- 1990 Coordinator for Electrical Engineering Open House Events

7.2 Activités professionnelles

7.2.1 Comités de rédaction

- 2010– Editorial Advisory Board Member, *Springer Series on Haptics and Touch Systems*
- 2007–11 Associate Editor, *IEEE Transactions on Haptics*
- 2007–14 Associate Editor, *ACM Transactions on Applied Perception*
- 1998– Member of Governing Board, *Haptics-e*
- 1994–98 Associate Editor, *IEEE Transactions on Robotics and Automation*

7.2.2 Conseil privé

- 2013 Apple Inc., Cupertino, CA, USA
- 2012 Expert in litigation case, Rouse Legal, UK
- 2012 Expert in litigation case, Steptoe & Johnson LLP, Chicago, USA
- 2011 Immersion Corporation, California, USA
- 2011 Institute for Infocomm Research, A*Star, Singapore
- 2011 Mesa Imaging AG, Switzerland
- 2006–07 Intuitive Surgical, Sunnyvale, California, USA
- 1999 Engineering design consultant, l'OEUF's entry to maquette exhibit for the 10th anniversary gala dinner of the Canadian Centre for Architecture CCA, Montréal
- 1998 Interval Research, Palo Alto, California, USA
- 1997 MPB Technologies Inc., Montréal, Québec, Canada
- 1994–95 Center for Information Technology Information, Montréal, Québec, Canada
- 1993 International Submarine Engineering, Vancouver, BC, Canada
- 1993 Aqua Vision Systems, Montréal, Québec, Canada
- 1992 Hydro-Québec, Varennes, Québec, Canada
- 1992 Scientific advisor to the Montreal based theater and dance company Carbone 14
- 1991 Electricité de France, Paris, France
- 1990–92 Member of the Board of Advisors, Robotics Abstracts, Bowker A&I Publishing
- 1987 Jet Propulsion Laboratory, Pasadena, California, USA

- 1987 Lord Corporation, Raleigh, South Carolina, USA
- 1986–88 RCA Advanced Technology Laboratories, New Jersey, USA
- 1986 UFA Associates, Massachusetts, USA

7.2.3 Service pour les agences et organismes

- 2018–19 Member of evaluation panel, Horizon 2020, SUITCEYES FET project.
- 2016– Chair of the IEEE Transactions on Haptics Management Committee (Representative to the Robotics and Automation Society)
- 2013– Member of the IEEE Transactions on Haptics Management Committee
- 2013–15 Member of the IEEE Fellow Evaluation Committee, Robotics and Automation Society
- 2012–18 Member of the EuroHaptics Society PhD award committee
- 2012–13 Member of the IEEE Fellow Nomination Committee, Robotics and Automation Society
- 2009–10 Member of the International Advisory Committee of the *Centre of Excellence for Information, Communication and Perception Engineering (CEICCP)*
- 2007–08 Grant selection panel member European Commission Program *Information Society and Media Directorate, Cognitive Systems and Robotics*
- 2005–08 Member of *Conseil Scientifique, Direction des recherches technologiques du Commissariat à l'énergie atomique (CEA), France*
- 1994–05 Three time leader of national projects of the *Institute for Robotics and Intelligent Systems (IRIS a federal Network of Centres of Excellence)* : 02-05 : Foundations of Haptic Interfaces for Virtual Environments and Communications ; 98-02 : Haptic Interfaces for Virtual Environments and Communications ; 94-98 : Haptic Interfaces for Teleoperation and Virtual Environments
- 2004–07 Member of NSERC Grant Selection Committee GS-21 (Interdisciplinary)
- 2003–08 Member of the College of Reviewers, Natural Sciences and Engineering Council of Canada (NSERC), Special Opportunity Program
- 2000–08 Member College of Reviewers, *Canada Research Chairs Program*
- 1999–02 Elected member *PRECARN-IRIS (NCE) Research Management Committee.*
- 1995, 00 Three times panel member of the Robotics Program, *National Science Foundation*, Washington DC, U.S.A.
- 1989–92 Member of Comité de Programme Nouveaux Chercheurs Fonds pour la *Formation de Chercheurs et l'Aide à la Recherche*
- 1997,93 Member of Comité de Programme Equipes de Recherche Fonds pour la *Formation de Chercheurs et l'Aide à la Recherche*
- 1992–95 Co-Chair of the *IEEE Robotics and Automation Society Technical Committee on Programming Environments in Robotics and Automation*
- 1991–96 Member of Constitution Committee of IFToMM, *International Federation of Theory of Machines and Mechanisms*
- 1990–93 Member of the AIAA *Technical Committee on Space Automation and Robotics (SARTC).*
- 1989 Member of review committee the Mobile Robot for Health Care at the National Research Council of Canada, 1989

7.2.4 Sociétés

- Eurohaptics Society
- Institute of Electrical and Electronic Engineers (IEEE), IEEE Robotics Society
- Former member of the Association for Computing Machinery (ACM)
- Former member of the American Institute of Aeronautics and Astronautics

7.2.5 Entreprises start-up

- Co-founder of VIR Solutions SAS/Actronika SAS ® (2014)
- Co-founder and Honorary Director, Tactile Labs Inc., Montréal, Canada (2008)
- Co-fondateur RealContact Inc. Montréal, Canada, (November 2002)
- Haptic Technologies Inc. fut acquise par Immersion Corp, March 2000 (US\$ 7 MM) pour devenir Immersion Canada Inc.
- Co-fondateur Haptic Technologies Inc., Montréal, Canada, (May 1995)

7.2.6 Evaluation d'articles pour revues et conférences

- | | |
|---|--|
| <i>ACM Transactions on Applied Perception</i> | 1 (2016), 1 (2008), 4 (2007), 1 (2006), 3 (2005), 2 (2004) |
| <i>ACM Transactions on Human-Computer Interaction</i> | 1 (2004) |
| <i>ACM CHI Conference</i> | 2 (2012), 1 (2011), 2 (2010) |
| <i>ACM Computing Surveys</i> | 1 (1990) |
| <i>Advanced Robotics</i> | 1 (2005) |
| <i>Advanced Materials</i> | 1 (2020) |

<i>ASME J. of Biomechanical Engineering</i>	1 (2008), 1 (2006)
<i>ASME J. of Dynamics, Measurement and Control</i>	1 (2012), 1 (2005), 1 (2003), 3 (2002), 1 (1997)
<i>ASME J. Mech Design</i>	1 (2008), 1 (2007), 1 (2006), 3 (1994), 1 (1993)
<i>Attention, Perception and Psychophysics</i>	1 (2016), 1 (2014), 1 (2013), 1 (2010), 3 (2009), 1 (2008), 1 (2007)
<i>Automatica</i>	2 (2003)
<i>ASME J. of Computing and Inf. Sci. In Eng.</i>	1 (2008)
<i>Autonomous Robots</i>	1 (1996)
<i>Biological Cybernetics</i>	1 (2013)
<i>Cerebral Cortex</i>	1 (2012)
<i>Cognition</i>	1 (2017)
<i>Control Engineering Practice</i>	1 (2005)
<i>Current Biology</i>	1 (2013)
<i>eNeuro</i>	1 (2017)
<i>Disability and Rehabilitation</i>	1 (2018)
<i>Experimental Brain Research</i>	1 (2015), 1 (2014), 1 (2012), 1 (2011), 1 (2010), 2 (2009), 2 (2007), 1 (2020)
<i>Frontiers in Robotics and AI</i>	1 (2017)
<i>Frontiers in Integrative Neuroscience</i>	1 (2019)
<i>Frontiers in Neurorobotics</i>	1 (2019)
<i>Haptics-e</i>	1 (2008), 1 (2003), 1 (2002), 1 (2001), 1 (2000)
<i>IEEE Computer Magazine</i>	1 (1990)
<i>IEEE T. on Automatic Control</i>	1 (2003)
<i>IEEE T. on Automation Sci. and Eng.</i>	1 (2008)
<i>IEEE T. on Aerospace and Electrical Systems</i>	1 (1994), 1 (1991)
<i>IEEE T. on Control System Technology</i>	1 (2010), 2 (2008), 1 (2007), 2 (2003), 1 (1999)
<i>IEEE Computer Graphics and Applications</i>	2 (2003)
<i>IEEE T. on Computer Graphics and Visualization</i>	1 (2006), 1 (2005), 1 (2002), 1 (2001)
<i>IEEE T. on Haptics</i>	1 (2019), 2 (2016), 2 (2015), 2 (2014), 4 (2013), 5 (2010), 1 (2009)
<i>IEEE/ASME T. on Mechatronics</i>	1 (2014), 1 (2013), 1 (2011), 1 (2010), 2 (2009), 5 (2008), 3 (2007), 1 (2005), 1 (2003), 1 (2002), 1 (2000), 1 (1999)
<i>IEEE T. on Neural Syst and Rehab. Eng.</i>	1 (2016), 1 (2010), 1 (2007)
<i>IEEE T. on Robotics [and Automation]</i>	1 (2018), 1 (2016), 1 (2010), 2 (2007), 4 (2006), 3 (2005), 2 (2004), 3 (2003), 2 (2002), 1 (2001), 2 (1998), 2 (1997), 2 (1996), 5 (1995), 4 (1994), 5 (1993), 5 (1992), 3 (1991), 2 (1990), 1 (1989)
<i>IEEE T. on Speech and Audio Processing</i>	1 (2003)
<i>IEEE T. on Pattern Analysis and Machine Intelligence</i>	2 (1990)
<i>IEEE Trans. on Systems, Man, and Cybernetics</i>	1 (2006), 1 (2004), 1 (2003), 1 (2002), 1 (2001), 1 (1993), 1 (1991), 3 (1990)
<i>IEEE T. on Biomedical Engineering</i>	1 (2010), 1 (2005)
<i>IEEE T. on Ultras., Ferroelectrics, and Freq. Control</i>	1 (2008), 1 (2007)
<i>IEEE T. on Visualization and Computer Graphics</i>	1 (2009)
<i>International J. of Control</i>	1 (2007)
<i>International J. Robotic Research</i>	1 (2013), 1 (2012), 1 (2009), 3 (2008), 1 (2007), 1 (2006), 1 (2004), 1 (2003), 1 (1998), 2 (1997), 1 (1996), 2 (1995), 1 (1993)
<i>J. Européen des Systèmes Automatisés</i>	1 (2003)
<i>J. of the Acoustic Society of America</i>	1 (2010), 1 (2009)
<i>J. of Biomechanics</i>	1 (2009)
<i>J. of Canadian Aeronautics and Space Institute</i>	1 (1994), 1 (1991)
<i>J. of Computing & Information Science In Engineering</i>	1 (2008)
<i>J. of Computer Science and Technology</i>	1 (2008)
<i>J. of Experimental Biology</i>	1 (2009)
<i>J. of Experimental Psychology : Human Perc. and Perf.</i>	1 (2015)
<i>J. of Field Robotics</i>	1 (2013)
<i>J. of Neurophysiology</i>	1 (2017), 1 (2015), 1 (2012)
<i>J. of Neuroscience</i>	2 (2018), 1 (2014), 1 (2013)
<i>J. of Neuroscience (Methods)</i>	1 (2014) 2 (2013), 3 (2009)
<i>J. of Robotics Systems</i>	1 (1995), 1 (1994), 1 (1992), (1991), 1 (1990), (évaluation du journal)
<i>J. of the Royal Society Interface</i>	1 (2012), 1 (2009)
<i>J. of Systems and Control Engineering</i>	1 (2007)
<i>J. of Urology</i>	1 (2011)
<i>Mechanisms and Machine Theory</i>	1 (2001), 1 (2000), 1 (1994), 1 (1991)
<i>Medical Image Analysis</i>	1 (2003)

<i>Medical Engineering & Physics</i>	1 (2013), 1 (2010), 1 (2006)
<i>Measurement Science and Technology</i>	1 (2007), 2 (2005)
<i>Meas., Instr. and Sensor Handbook, CRC Press</i>	1 chapter (1996)
<i>Multisensory Research</i>	1 (2014)
<i>Nature Biomedical Engineering</i>	1 (2016)
<i>National Science Review</i>	1 (2018)
<i>Pattern Recognition Letters</i>	1 (2009)
<i>Perception</i>	1 (2018), 1 (2017), 1 (2014), 1 (2012), 2 (2007)
<i>PloS Computational Biology</i>	1 (2014)
<i>PLoS ONE</i>	1 (2016), 1 (2014), 1 (2011)
<i>Presence</i>	1 (2016), 1 (2008), 1 (2003), 1(2002)
<i>Proceedings of the IEEE</i>	1 (2018)
<i>Proceedings of the National Academy of Sciences</i>	1, (2020), 1 (2012)
<i>Quarterly Journal of Experimental Psychology</i>	1 (2013)
<i>Revue canadienne de génie électr. et de génie infor.</i>	1 (2007)
<i>Robotica</i>	1 (2008), 1 (2007), 1 (1998)
<i>Robotics and Autonomous Systems</i>	1 (2014)
<i>Royal Society Open Science</i>	1 (2020)
<i>Science</i>	1 (2020)
<i>Scientific Reports</i>	2 (2020), 1 (2019), 1, (2018), 1 (2014), 1 (2013)
<i>Sensors</i>	1 (2012)
<i>Sensors and Actuators A (Physical)</i>	1 (2000)
<i>Scholarpedia</i>	1 (2015)
<i>Scientific Reports</i>	1 (2016)
<i>SIGGRAPH</i>	1 (2006)
<i>Springer Verlag Publications</i>	1 book (2009), 1 chapter (2006), 1 book (1991)
<i>Springer Virtual Reality Journal</i>	1 (2005)
<i>Technique Et Science Informatiques</i>	1 (2008)
<i>T. on Industrial Electronics</i>	1 (2003)
<i>Virtual Reality</i>	1 (2006)

Relecture de nombreux articles pour conférences nationales et internationales

7.2.7 Evaluations de demandes de subventions

Agence Nationale de la Recherche, France	1 (2013), 1 (2011), 2 (2009), 1 (2008), 4 (2007), 5 (2006), 1 (2005)
Belgium Research Council	1 (1997)
Canada Council for the Arts, Killam Program	1 (2015), 1 (1999)
Canadian Foundation for Innovation	Site visit Committee (1999)
Canadian Institutes for Health Research	1 (2006), 1 (2002)
CSS Strategic Initiatives	1 (1991), 1 (1992)
CUNY Collaborative Incentive Res. Grant Program	1 (2006)
Deutsche Forschungsgemeinschaft (DFG) Clusters of Excellence	1 (2019), 2 (2018)
European Research Council	2 (2016)
ETH Zurich Research Commission	1 (2012)
Fonds québécois de la recherche nature et technologies	1 (2004), 1(2003), 2 (1995), 1 (1994), 2 (1993)
Fonds national suisse de la recherche scientifique	1 (2004), 1 (1995)
Hasler Foundation, Switzerland	1 (2012)
Hong Kong Research Grant Council	1 (2004), 1 (1995)
Human Frontier Science Program	1 (2015), 1 (2007)
Indo-US Science & Technology Forum (IUSSTF)	1 (2009)
Institut National de la Recherche en Informatique et Automatique	1 (2010)
Israel Science Foundation	1 (2018)
Japanese Society for the Promotion of Science (JSPS)	1 (2016)
Materials and Manufacturing Ontario	1 (2003)
Michael Smith Foundation for Health Research	1 (2001)
Ministry of Science and Techn., Republic of Slovenia	1 (1992)
National Research Foundation, Singapore	2 (2007)
National Science Foundation, USA	1 (2019), 1 (2018), 1 (2012) 1 (1997), 1 (1995), 2 (1992), 2 (1991), 1 (1990)
Natural Sciences and Engineering Council of Canada	1 (2020) 1 (2018), 1 (2016), 1 (2012), 3 (2011), 2 (2010), 1 (2009), 2 (2008), 3 (2007), 2 (2006), 1 (2005), 3 (2004), 3 (2003), 7 (2001), 4 (2000), 4 (1998), 4 (1997), 3 (1996), 4 (1995), 1 (1990), 5 (1994), 4 (1993), 4 (1992), 3 (1991), 2 (1990), 2 (1989)
Netherlands Organisation for Scientific Research	1 (2009)
Netherlands ICT Research and Innovation Authority	1 (2010)
Research Foundation - Flanders	1 (2009), 1 (2008)
Swiss National Science Foundation	2 (2010)
Wellcome Trust	1 (2011)

7.2.8 Comités de programme

11	Program committee <i>WorldHaptics Conference</i>
11	Member of the <i>Virtual Reality International Conference (VRIC) 2011</i> reviewer committee
10	Scientific Committee of the <i>ASME 2011 World Conference on Innovative Virtual Reality</i>
10	Program Committee of <i>Eurohaptics</i>
05,07,09,	
08,10	Program Committe of the <i>IEEE International Symposium in Robot and Human Interactive Communication (Ro-Man)</i>
06,10	Area Chair 2006 <i>Robotics : Science and Systems Conference</i>
06,08,10	Program Committee of the 3rd, 4th, 5th <i>Symposium on Computational Models for Biomedical Simulation (ISBMS)</i> .
05,06,07,	
08	Program Committee of the <i>Symposium on Haptic interfaces for virtual environment and teleoperator systems</i>
06	Program Committee of the <i>SICE-ICASE International Joint Conference</i>
06	Program Committee of the <i>IEEE Int. Workshop on Haptic Audio Visual Environments and Applications</i>
91,92,94,	
95,97,99,	
00,01,02,	
03,05,06	Program Committee of the <i>IEEE International Conference on Robotics and Automation</i>
04,05,06	Program Committee of the <i>IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)</i>
05	Program Committee of the <i>2nd International Conference on Enactive Interfaces ENACTIVE05</i>
05	Program Committee of the <i>First International Conference on Complex Medical Engineering (CME 05)</i>

- 04 Program Committee of the *5th International Conference on Machine Automation (ICMA04)*
- 04 Program Committee *Sixth International Conference on Multimodal Interfaces (ICMI'04)*
- 04 Program Committee *International Symposium on Non-visual & Multimodal Visualization*
- 04 Program Committee *Second International Symposium on Medical Simulation*
- 00 Program Co-Chair *International Symposium on Robotics ISR00*, Montréal
- 98 Program Vice-Chair (North-America) of *IEEE International Conference on Robotics and Automation*
- 94,97,09 Program Committee of the *IFAC Symposium on Robot Control*
- 93 Program Committee of the *International Joint Conference on Artificial Intelligence, IJCAI'93*
- 92,94,96 Scientific Committee of the 3rd, 4th, and 5th *International Workshop on Advances in Robot Kinematics*
- 91,93,97 Program Committee of the Fifth, Seventh and Eighth *International Conference on Advanced Robotics (ICAR)*
- 92 Program Committee, I-SAIRAS *Artificial Intelligence, Robotics and Automation in Space*
- 91 Program Committee ORIA-91, 4th Int. *Symposium on Offshore, Robotics and Artificial Intelligence*
- 91,92 Program Committee of the *IEEE/RSJ International Workshop on Intelligent Robots and Systems*
- 90 Program Committee of the *Fifth IEEE International Symposium on Intelligent Control*
- 90 Program Committee of the *Third International Symposium on Robotics and Manufacturing*

7.2.9 Organisation d'activités

- 2016 Organisation avec Jess Hartcher-O'Brien du ERC PATCH « Closing Workshop on Computational Touch », Paris, France. Les intervenants ont été Vincent Hayward, Université Pierre et Marie Curie ; Jess Hartcher-O'Brien, Université Pierre et Marie Curie ; Alexander Terekhov, Université Paris Descartes ; Michael Wiertlewski, Université Aix-Marseille ; Alessandro Moscatelli, Università degli Studi di Roma Tor Vergata ; Lucile Dupin, Université Paris Descartes ; Ildar Farkhatdinov, Imperial College of London ; Jonathan Platkiewicz, The City College of New York ; Masashi Nakatani, Hokkaido University in Sapporo ; Hsin-Ni Ho, NTT Communication Science Laboratory ; Mark Wexler, Université Paris Descartes ; Hannah Michalska, McGill University ; Malika Auvray, Université Pierre et Marie Curie ; Alessandro Farné, University Lyon 1 ; Henrik Jörntell, Lund University ; Benoni Edin, Umeå University ; Sliman Bensmaia, University of Chicago ; Junji Watanabe, NTT Communication Science Laboratory ; Patrick Haggard, University College London ; Amir Amedi, Hebrew University Jerusalem ; Ophelia Deroy, University of London.
- 2016 Co-éditeur avec Y. Visell, M. Hartmann, and N. Lepora une édition spéciale sur sur « Active Touch Sensing in Robots, Humans and Other Animals » dans la revue *IEEE Transactions on Haptics*.
- 2014 Co-éditeur avec N. G. Bourbakis, J. A. Gardner, N. Giudice, M. A. Heller, D. Pawluk, une édition spéciale sur « Haptic Assistive Technology for Individuals who are Visually Impaired » and la revue *IEEE Transactions on Haptics*.
- 2014 « General Chair » de Eurohaptics 2014, 24–27 juin 2014, Versailles, France. Eurohaptics est une conférence internationale majeure. C'est le lieu de rencontre Européen principal dans le domaine de l'haptique et de ses applications technologiques. Ce domaine de recherche multi-disciplinaire inclut l'étude de la perception humaine, des dispositifs et matériels de stimulation, et des applications telles que la simulation chirurgicale, la réhabilitation, la robotique, la communication, le design et les arts appliqués. Eurohaptics est une composante importante des activités de la Société savante « Eurohaptics Society ». Cet événement a attiré 270 participants d'Australie (12), Autriche (2), Belgique (2), Brésil (1), Canada (9), Chine (3), République Czech (1), Danemark (2), Finlande (3), France (47), Allemagne (25), Inde (3), Israël (1), Italie (18), Japon (47), Corée (13), Pays-Bas (20), Espagne (4), Suisse (5), Turquie (3), Royaume-Uni (17), Etats-Unis (23), ainsi que onze contributeurs industriels.
- 2013 Co-organisé avec Jonathan Platkiewicz le premier « Workshop on Early Touch » au « Computational Neuroscience Meeting », 17 Juillet, 2013, Université Paris Descartes, Paris, France. Les présentateurs ont été Ehud Ahissar (Weizmann Institute of Science, Israel), Angelo Arleo (Université Pierre et Marie Curie, France), Sliman Bensmaia (University of Chicago, USA), Vincent Hayward (Université Pierre et Marie Curie, France), Jan Koenderink (Katholieke Universiteit Leuven, Belgium), Masashi Nakatani (Columbia University Medical Center, USA / Keio University, Japan). Tony Prescott (University of Sheffield, UK), Elie Wandersman (Université Pierre et Marie Curie, France), Junji Watanabe (NTT Communication Science Laboratories / Tokyo Institute of Technology, Japan).
- 2009 Co-éditeur avec Kanav Kahol and Stephen Brewster d'un numéro spécial dans les *IEEE Transactions on Haptics* qui est apparue comme le numéro 3 du volume 2 de la revue. Ce numéro spécial a attiré un nombre considérable de soumissions dont six furent incluses dans le numéro spécial et six autres furent acceptées comme articles ordinaires.
- 2006 Co-organisateur avec le Pr J. M. Hollerbach (Univ. Utah) de l'*IEEE-RAS/IFRR School of Robotics Science on Haptic Interaction*. Ce fut la troisième école d'été offerte en co-tutelle par la IEEE Robotics and Automation Society (RAS) et la International Foundation of Robotics Research (IFRR). L'école a reçu 35 étudiants Ph.D./Post-docs du monde entier, en particulier de la Belgique, du Canada, d'Italie, du Japon, de la France, de l'Allemagne, de la Grèce, du Mexique, des Pays-Bas, de l'Espagne, de la Suisse, de la Turquie, du Royaume-Uni, des Etats-Unis qui furent instruits par dix professeurs de renommée internationale, d'Europe, des USA, et du Japon.
- 2006 Organisateur d'un colloque, *Informatisation du graphisme tactile à l'usage des personnes aveugles ou handicapées visuelles* au Congrès de l'Association francophone pour le savoir, Montréal.

- 1989 Organisateur une session invitée, *Biological Models in Robotics*. 12th Annual Conference of the IEEE Engineering in Medicine and Biology Society.
- 1989 Initiateur avec Pr O. Khatib (Stanford) de la série de *International Symposium on Experimental Robotics (ISER)*. Cette série se poursuit à un rythme bienale : Montréal, Canada, 1989 ; Toulouse, France ; 1991, Kyoto, Japan 1993 ; Stanford, 1995 ; Barcelona, Spain, 1997 ; Sidney, Australia, 1999 ; Hawai, USA, 2001 ; Sant'Angelo, Ischia, Italy, 2002 ; Singapour, 2004 ; Rio de Janeiro, 2006 ; Athens, 2008.
- 1989 Organisateur d'un atelier sur Integration of AI and Robotics. *IEEE International Conference on Robotics and Automation*.
- 1988 Co-organisateur d'un atelier sur le Shared Autonomous and Teleoperated Manipulator Control. *IEEE International Conference on Robotics and Automation*.