

CURRICULUM VITAE

John HISCOTT

Istituto Pasteur Italia -Fondazione Cenci Bolognetti
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Italy: Permesso I14253020

PRESENT POSITIONS

2015 – present Research Director, Pasteur Laboratory
Istituto Pasteur Italia -Fondazione Cenci Bolognetti

PREVIOUS POSITIONS HELD

2011 - 2016 Adjunct Professor
Microbiology & Immunology, University of Miami
& Dept. of Medicine, McGill University

2010 - 2015 Director, Viral Pathogenesis & Therapeutics Program
Vaccine & Gene Therapy Institute of Florida

2009 - 2010 Associate Director of Research, Lady Davis Institute, Jewish Gen. Hospital

1996 - 2010 Professor
Departments of Microbiology & Immunology,
Medicine and Oncology, McGill University

1992 - 2010 Director, Molecular Oncology Group

1984 - 2010 Staff Investigator, Lady Davis Institute for Medical Research

1985-1996 Assistant & Associate Professor
Departments of Microbiology and Immunology,
Medicine and Oncology, McGill University

1982 - 1984 Postdoctoral Fellow
Institut für Molekularbiologie, Universität Zürich

1981 Postdoctoral Fellow
Roche Institute for Molecular Biology, Nutley NJ

EDUCATION

1976 - 1980 Ph.D. Basic Medical Sciences
Department of Pathology, New York University Medical Center
(Supervisor: Dr. Vittorio Defendi)

1973 - 1975 M.Sc. Cancer Research Laboratory, University of Western Ontario

1969 - 1973 B.Sc. Bacteriology and Immunology, University of Western Ontario

John HISCOTT

HONOURS AND AWARDS

2012	Beijerinck Visiting Professor in Virology Leiden University Medical Center
2008	Award for Excellence in Medical Research Jewish General Hospital
2006	15 th Allan Granoff Lecturer in Virology St. Jude Children's Research Hospital
2004	Richard Klein Memorial Lecture Dept. of Microbiology, NYU Medical Center
2003	Recipient of the 2003 Milstein Award International Society for Interferon and Cytokine Research (shared with Dr. Tom Maniatis, Harvard University)
2003-2008	Senior Investigator Award Canadian Institutes of Health Research
1998-2003	Senior Scientist Award Medical Research Council of Canada
1999-present	Canadian Who's Who
1993 - 1998	Medical Research Council Scientist Award
1993 – 1998	Senior chercheur boursier (Merit Exceptionnel) Fonds de la Recherche en Sante du Quebec (declined)
1996, 2003	Elliott Osserman Award for Distinguished Service Israel Cancer Research Fund, New York
1990 - 1993	Senior chercheur boursier Fonds de la Recherche en Sante du Quebec
1985 - 1990	Medical Research Council of Canada Scholarship
1982 - 1983	Leukemia Society of America Post-doctoral Fellowship
1981	Hoffmann-LaRoche Postdoctoral Fellowship
1973 - 1975	Medical Research Council of Canada Studentship

SOCIETY MEMBERSHIPS

1984 - present	American Society for Microbiology
1984 - present	International Society for Interferon & Cytokine Research
1991 - present	American Society for Cancer Research
1999 - present	International Cytokine Society
1999 – present	American Association of Immunologists

John HISCOTT

RESEARCH CONTRIBUTIONS

Throughout my scientific career, I have been interested in the pathogenic consequences of virus-cell interactions at the molecular level. At NYU Medical Center with Dr. Vittorio Defendi (1976-80), I examined molecular mechanisms of oncogenic transformation by the DNA tumor virus **SV40 large T antigen** and the examined the structure of viral integration sites in transformed cells (*published in Cell, PNAS, J. Virol. and Cold Spring Harbor Symp., 1979-81*). At the University of Zurich with Dr. Charles Weissmann (1982-84), I investigated virus-cell interactions from a different perspective – the activation of interferon genes as a response to virus infection, using the newly cloned **interferon gene α family** in the first studies to describe the differential IFN gene expression (*published in Proc. Royal Soc. and Nucleic Acids Res.*)

1. At McGill University, Lady Davis Institute (1985-2015), our new laboratory initiated studies to examine the molecular basis of differential regulation of IFN gene expression. A watershed discovery the newly identified **NF- κ B transcription factor** as a regulator of IFN β but not IFN α gene expression, thus providing a molecular basis for differential control of IFN genes (*Mol. Cell Biol., J. Virol., and J. Biol. Chem., 1987-1989*). The fact that NF- κ B factors regulated multiple immune response, and inflammatory genes, including many cytokines, as well as the HIV LTR, prompted study of the coordinate **regulation of HIV-1 and cytokine gene expression** (*reviewed in J. Clin. Investigation, 2001*).

2. Research from our laboratory provided major contributions to the paradigm of IFN gene regulation, involving positive stimulation of IFN expression through the combined activities of **IRF-3 and NF- κ B** as primary triggers of IFN production and **IRF-7** as a secondary amplifier of the IFN response (*Mol. Cell Biol.; PNAS; JBC 1998-2000*). A gratifying discovery in 2003 was the identification of a critical missing link in the understanding of interferon signaling - the virus-activated kinase (VAK) activity that targets IRF-3 and IRF-7. We showed for the first time that the IKK-related kinases – **IKKepsilon/TBK-1** - mediate IRF-3 and IRF-7 phosphorylation and thus functionally link the NF- κ B and IRF pathways in the development of the antiviral response (*Science, 2003; J. Virol. 2004*). Since that time, IRF-3 and IRF-7, as well as the IKK-related kinases, are regarded as master regulators of type 1 IFN activation and are firmly integrated within the TLR-dependent and -independent pathways of the innate immune response to viral pathogens (*J. Immunol. 2006; Nature Immunol. 2007; Mol. Cell Biol. 2009; Eur. J. Immunol. 2009; J. Virol. 2019*).

3. As one of the founding member of the Canadian Oncolytic Virus Consortium, we explored the potential of **oncolytic viruses** as a novel biological therapy of cancer. Because of innate immune defects in tumor cells, oncolytic viruses (OV) find a niche in tumor tissue to replicate to high titers, without interruption by the host antiviral response, resulting in high virus production and virus-induced lysis (*Cancer Cell 2003*). Although virotherapy is often effective against a variety of cancer cells, many primary tumor cells are resistant to VSV oncolysis. Our laboratory was the first to demonstrate that cancer cells are sensitized to VSV-mediated killing in combination with **epigenetic modulators, apoptosis triggers and metabolic modulators** (*PNAS USA 2008; Mol. Therapy, 2011 &, 2013; J. Virol. 2014; Mol Ther. 2017; J. Virol. 2019*). The general utility of these combination strategies will have a positive impact on the clinical implementation of oncolytic virus therapeutics by improving the spectra of oncolytic viruses as anti-cancer agents.

4. Recent studies identified **SAMHD1, a host restriction factor** that hydrolyzes endogenous dNTPs to below the levels required for productive reverse transcription of human retroviruses HTLV-1 and HIV-1. Reverse transcription intermediates (RTI) produced in the presence of SAMHD1, induced IRF3-mediated antiviral and apoptotic responses. Viral RTIs complexed with the DNA sensor cGAS-STING to trigger formation of an IRF3-Bax complex leading to apoptosis. This study provides a mechanistic explanation for abortive HTLV-1 infection of myeloid cells and demonstrates a link between SAMHD1 restriction, HTLV-1 RTI sensing by STING, and initiation of IRF3-Bax driven apoptosis (*Cell Host Microbe, 2013; J. Mol. Biol. 2013; CGFR 2014*).

5. At Vaccine & Gene Therapy Institute FL, in collaboration with McGill University (2011-2015), fundamental research on innate sensing of pathogens by the RIG-I pathway lead to the development of a series of **natural and synthetic 5' pppRNA molecules** as prophylactic antiviral agents against influenza, adjuvants in vaccine delivery and anti-cancer agents (*PLoS Pathogens, 2013, 2014; J. Virol. 2014, 2015; Cancer Immunol & Immunotherapy 2019*). These compounds are currently in preclinical testing and are protected by two approved patents, with three other patents pending.

With the transition to the Istituto Pasteur Italia, I continued to pursue these projects, with the long-term objective to utilize knowledge of the immune response against virus infection to develop novel immunotherapeutic approaches for the treatment of cancer and infectious diseases. Our goal is relevant for the translational development of novel antiviral and adjuvant compounds to augment immunity against diverse viral pathogens, including emerging pathogens such as influenza, dengue and corona viruses.

ACADEMIC RESPONSIBILITIES

2015- present	Lectures in Viral Oncology, Pasteur International course Lectures on HTLV-1 Pathogenesis, Molecular Oncology course
1997-2010	Viral Pathogenesis and Immunity 528-466B Dept. of Microbiology and Immunology Lectures on: viral pathogenesis and evasion of the immune response; molecular biology of interferons and induction by viruses; human retroviruses; mechanism of antiviral action of interferons and other cytokines; HTLV-1 pathogenesis (Course Coordinator 1997-2000)
2002	Graduate Readings and Conference Dept. of Microbiology and Immunology Viral Evasion of the Host Immune Response (Course Coordinator)
1995-2010	Fundamental Virology 324A Dept. of Microbiology and Immunology
1993	Graduate Readings and Conference -705 Dept. of Microbiology and Immunology
1985-1996	Infection and Immunity - 466B Dept. of Microbiology and Immunology
1987-2000	Physiology of Blood - 516B Dept. of Physiology
1988-1990	Fundamental Virology - 324A Dept. of Microbiology and Immunology

GRADUATE STUDENTS (SAPIENZA UNIVERSITY)

Magdalini Alexandridi	PhD1 (Immunological & Hematological Disorders)
Matteo Ferrari	PhD 3 (Dept. of Life Sciences) - Graduate 2018
Enrico Palermo	PhD 3 (Dept. of Life Sciences) - Graduate 2018
Dominga Lovecchio	MSc 2 (Dept. of Life Sciences) - Graduate 2018
Shirley Man	MSc 2 (Leiden University Medical Center) - Graduate 2018

POST-DOCTORAL FELLOWS

Luciano Castiello PhD (Sapienza University) – until 2018
Evelyne Tassone PhD (Sapienza University)

CURRENT RESEARCH ASSOCIATES

Michela Muscolini, PhD Research Associate, Cellular & Molecular Immunology
Alessandra Zevini PhD Research Associate, Biochemistry

John HISCOTT

PREVIOUS GRADUATE STUDENTS

1. Steven Xanthoudakis Ph.D. 1990
Regulation of the Human Interferon β Promoter (Dean's Honours List)
2. Deborah Alper M.Sc. 1990
Characterization of mechanisms regulating induction of human IFN alpha and beta gene transcription.
3. Jean-Francois Leblanc M.Sc. 1990
Functional analysis of human interferon beta gene transcriptional regulatory elements
4. Lucie Cohen Ph.D. 1992
Regulation of human interferon beta gene expression: in vitro studies
5. Mario D'Addario M.Sc. 1992
Cytokine gene expression in human immunodeficiency virus infected myeloid cells.
6. Amir Mustafa M.Sc. 1994
Mutational analysis of interferon regulatory factors - IRF-1 and IRF-2.
7. Vanessa McKiel M.Sc. 1994
Cytokine induced alterations in human immunodeficiency virus multiplication.
8. Judith Lacoste Ph.D. 1995
HTLV-I Tax Interactions with the NF- κ B/I κ B Regulators of Transcription (Dean's Honours List)
9. Anne Roulston Ph.D. 1995
Regulation of NF- κ B dependent cytokine gene expression in chronically HIV-1 infected myeloid cells.
10. Richard Bitar M.Sc. 1995
Retrovirus mediated transfer of NF- κ B subunit genes modulates I κ B α and IFN- β expression.
11. Pierre Beauparlant Ph.D. 1996
Control of gene expression and cell growth by the NF- κ B/I κ B family of transcription regulators. (Dean's Honours List)
12. Raymond Lee M.Sc. 1997
Inhibition of NF- κ B activation and HIV-1 gene expression by antioxidants.
13. Hannah Nguyen Ph.D. 1998
Regulation of gene expression and cell growth by transcriptional proteins of the IFN system (Honours List)
14. William Spencer M.Sc. 1998
Phorbol ester mediated NF- κ B transactivation is selectively inhibited by Taxol.
15. Carmela DeLuca Ph.D. 1999
Molecular analysis of NF- κ B activation in HIV-1 infected myeloid cells.
16. Christophe Heylbroeck M.Sc. 1999
Role of IRF-3 in cytokine gene activation.
17. Hakju Kwon Ph.D. 2000
Use of mutants of I κ B to interfere with NF- κ B gene activation and HIV replication
18. Tudor Baetu MSc 2001
Role for NF- κ B in the regulation of TNF α related apoptosis inducing ligand (TRAIL) expression
19. Yael Mamane PhD 2002
Regulation of IRF-4 activity in lymphoid cells and involvement in HTLV-1 induced T cell leukemogenesis.
20. Delphine Duguay MSc 2004
Characterization of the tumor suppressor activity of IRF3.
21. Sonia Sharma PhD 2004
IKK Kinases control activation of interferon regulatory factor signaling (Dean's Honor List)
22. Benjamin tenOever PhD 2004
Recognition of RNA virus infection leading to activation of IRF3 and IRF7.
23. Yan Desfosses MSc 2005
Regulation of HIV-1 gene expression by clade specific Tat proteins
24. Jennifer Harris MSc 2005
Regulation of c-Rel phosphorylation by TBK1 and IKK ϵ
25. Meztli Arguello PhD 2006
Disruption of the B cell transcriptional program in primary effusion lymphoma

26. Myriam Vilasco PhD 2008 (Institut Pasteur, Université de Paris V)
Role de la kinase IKKe lors de l'infection par le virus de l'hépatite C
27. Delphine Goubau MSc 2008
Distinct roles of IRF3 and IRF7 in the activation of the anti-tumor properties of human macrophages
28. Stephanie Oliere PhD 2010
Modulation of the innate immune response during HTLV-1 infection
29. Vanessa Tumilasci PhD 2010
Improving VSV virotherapy in chronic lymphocytic leukemia with small molecule BCL-2 inhibitors
30. Peyman Nakhaei PhD 2011
Regulation of the RIG-I/MAVS antiviral and apoptotic signaling pathways
31. Mayra Solis PhD 2011
Immune evasion mechanisms associated with HIV-1
32. Suzanne Paz PhD 2011
Positive and negative regulation of the interferon antiviral response (Dean's Honor List)
33. Simon Leveillé PhD 2011
Combination strategies in the development of oncolytic virus cancer therapies
34. Sara Samuel PhD 2013
VSV and Bcl-2 inhibitor combination therapy for the treatment of chronic lymphocytic leukemia
35. Laura Shulak MSc 2014
Histone deacetylase inhibitors potentiate VSV oncolysis in prostate cancer cells

PREVIOUS POST-DOCTORAL FELLOWS

Jacqueline Lanoix, PhD	Research Scientist in Biotech
Lucia Conti, PhD	Research Scientist, Istituto Superiore di Sanita, Rome
Stephane Dionne, PhD	Research Scientist, Biotech
Rongtuan Lin, PhD	Associate Professor, McGill University
Pascale Crepieux, PhD	Charge de Recherche, CNRS Tours France
Pierre Genin, PhD	Charge de Recherche, CNRS, Paris France
Rita Crinelli, PhD	Research Scientist, Universitat de Urbino Italy
Cecile LePage, PhD	Research Scientist, Notre Dame Hospital Montreal
Laura Faggioli, PhD	Research Scientist, University of Verona
Michele Algarte, PhD	Research Scientist, Hopital Necker, Paris France
Guo-Ping Zhou, MD	Associate Professor, Shanghai China
Marco Sgarbanti, PhD	Research Scientist, Istituto Superiore di Sanita, Rome
Marc Servant, PhD	Associate Professor, Université de Montreal
Nathalie Grandvaux PhD	Associate Professor, Université de Montreal
Judith Lacoste, PhD	Director of Microscopy Services, McGill University
Raphaëlle Romieu, PhD	Research Associate, Lady Davis Institute
Nanh Nguyen PhD	Research Scientist, GSK Brussels
Renee Douville, PhD	Assistant Professor, University of Manitoba
Fethia Benedri PhD	Clinical Research Associate, Montreal Que

VISITING SCIENTISTS

Raymond Cesaire, MD – INSERM Fort-de-France Martinique 2002-2003
 Agnes Lezin, PhD - INSERM Fort-de-France Martinique 2003-2004
 Guy LeMay, PhD – Université de Montreal 2006-2007

UNDERGRADUATE HONOURS STUDENTS

1. Adele Marshall 1986-1987 Dept. of Biology
2. Charles P. Tremblay 1987-1988 Dept. of Biology
3. Arthur Kania 1989-1990 Dept. of Microbiology and Immunology
4. Alex Ho 1989-1990 Dept. of Microbiology and Immunology
5. Alison Farrell 1991-1992 Dept. of Microbiology and Immunology

6. Lily Le	1992-1993 Dept. of Microbiology and Immunology
7. James Marois	1992-1993 Dept. of Microbiology and Immunology
8. Juan Carlos Guigon	1992 Univ. of Manitoba Medical School
9. Mila Oh	1992 McGill University Medical School
10. Michelle Clark	1994 -1995 Dept. of Microbiology and Immunology
11. Alissa Scalera	1994 -1995 Dept. of Microbiology and Immunology
12. John O'Grady	1995 -1996 Dept. of Microbiology and Immunology
13. Ivan Fong	1995 -1996 Dept. of Microbiology and Immunology
14. Lindsey Teskey	1997 -1998 Dept. of Microbiology and Immunology
15. Sonia Sharma	1998-1999 Dept. of Microbiology and Immunology
16. Oana Popescu	1999-2000 Dept. of Microbiology and Immunology
17. Guillaume Martell	2000-2001 Interdepartmental Honours in Immunology
18. Douglas Hayami	2001-2002 Interdepartmental Honours in Immunology
19. Jennifer Palmer	2002-2003 Dept. of Microbiology and Immunology
20. Catherine Corriveau	2003-2004 Dept. of Microbiology and Immunology
21. Steven Gowing	2005-2006 Dept. of Microbiology and Immunology
22. Hassan Tarique	2006-2007 Dept. of Microbiology and Immunology
23. James Zhang	2007-2008 Dept. of Biology, McGill University
24. Marnie Goodwin-Wilson	2009-2010 Dept. of Microbiology, McGill University
25. Desanthe Joseph-Pillai	2009-2010 Dept. of Environmental Science, McGill
26. Thomas DiLenardo	2010-2011 Dept. of Physiology, McGill

John HISCOTT

UNIVERSITY CONTRIBUTIONS - PROGRAM DEVELOPMENT

DEVELOPMENT OF THE TERRY FOX MOLECULAR ONCOLOGY GROUP

Dr. John Hiscott served as the Director of the Molecular Oncology Group at the Lady Davis Institute (1992-2010), a research team involved in the study of oncogenes, signal transduction and oncogenic development at the molecular level. The group includes internationally recognized scientists. Dr. Hiscott is studying transcriptional control of cytokine and oncogene expression; he is also studying the impact of human retrovirus infection on the expression of immunoregulatory genes and signalling through the NF- κ B/rel pathway.

Dr. Antonis Koromilas is examining the role of a novel tumor suppressor gene - the interferon inducible p68 kinase - PKR - in cell growth, differentiation, and tumorigenesis.

Dr. Wilson Miller is examining differentiation inducing agents known as retinoids and has demonstrated that the retinoic acid receptor is chromosomally translocated in acute promyelocytic leukemia. Moreover, he and others have shown that retinoic acid is able to induce striking remission in the course of this type of leukemia.

Dr. Stéphane Richard has isolated a new family of RNA binding proteins - p62/SAM68 - which are involved in protein-RNA trafficking to and from the nucleus.

Dr. Rongtuan Lin is interested in cytokine gene transcription and has been examining the virus induced phosphorylation and degradation of IRF-3 and IRF-7 transcription factor.

Dr. Anne Gatignol is studying the mechanisms of transactivation of the HIV LTR by the Tat protein and by host cellular proteins involved in transcriptional initiation and elongation.

Dr. Volker Blank was recently recruited from the Children's Hospital, Harvard Medical School in Boston and is studying transcriptional control of gene expression during erythroid differentiation and development.

***CANADIAN INSTITUTES OF HEALTH GROUP PROGRAM IN AIDS PATHOGENESIS
McGILL AIDS CENTER - John Hiscott and Mark Wainberg, co-Directors***

The McGill AIDS Centre Program Grant (1996-2007) entitled "Molecular Mechanisms Regulating HIV-1 Pathogenesis" brought together the efforts of established investigators at the Lady Davis Institute for Medical Research, McGill University in a multi-disciplinary approach to the study of the molecular mechanisms involved in HIV gene regulation, virus assembly, viral persistence/latency, emergence of drug resistance and antiviral/vaccine development. Our unified approach has brought together researchers from diverse backgrounds - molecular biology/virology, biochemistry and immunology/cell biology - with unique but overlapping perspectives to the projects.

CANADIAN ONCOLYTIC VIRUS CONSORTIUM (supported by the Terry Fox Foundation)

Dr. Hiscott was a founding member of the Canadian Oncolytic Virus Consortium (2003-2012). The objective of this program is to create an oncolytic virus consortium devoted to the development and refinement of conditionally replicating viruses as novel treatments for cancer. Our overall hypothesis is that malignant cells, by virtue of the constellation of genes they do or do not express, can be unique niches for the growth of oncolytic viruses. As an example, we have evidence that the genetic abnormalities contributing to the malignant phenotype also compromise the innate antiviral programs of these same cells. Our goals are to understand virus:host cell interactions in a comprehensive manner, exploit this knowledge to selectively target tumour cells, and develop oncolytic viruses as therapeutics in concurrent and synergistic projects.

The consortium includes investigators from across Canada - Montreal, Ottawa, London, Calgary, Halifax. Members include: Drs. J. Bell, D. Stojdl and H. Atkins (University of Ottawa); Drs. N. Sonenberg and J. Hiscott (McGill University); Dr. P. Forsyth (University of Calgary); Dr. Patrick Lee (Dalhousie University); Dr. Grant McFadden (University of Western Ontario).

John HISCOTT

GRANTS PANELS and ADVISORY COMMITTEES

2019	Science Foundation of Ireland Review Panel
2018	Centers of Excellence Program, University of Antwerp, Belgium
2015	NIH – Virology Special Emphasis Panel
2014	CDMRP – Lung Cancer Research Program
2014	Canadian Cancer Society – Immunology Grant Panel
2010-2012	Science Foundation of Ireland, International Review Panel
2011	Virology B Study Section, National Institutes of Health
2010	National Cancer Inst., Cancer & Inflammation Program Site Review
2009	Chair, CIHR Influenza Pandemic Response Panel
2007-2008	Chair, CIHR HIV/AIDS Emerging Team Grants Panel
2007	Virology B Study Section, National Institutes of Health
2006-2008	Virology and Viral Pathogenesis, CIHR
2006	National Cancer Institute of Canada, Virology Study Section
2005	AIDS Molecular and Cellular Biology Study Section, NIH
2003	Network Centers of Excellence Selection Committee
2003	Virology Study Section, National Institutes of Health
2003	National Institutes of Health, NCI Site Visit Cleveland Clinic Foundation Program Project
2001-2005	Virology and Viral Pathogenesis Grants Panel, CIHR
2000-2003	Israel Cancer Research Fund Grants Panel, New York, NY
2000-2002	Canada Research Chairs Program Review Committee
1999-2005	Scientific Advisory Board, Israel Cancer Research Fund
1999	Dean's Search Committee, Faculty of Medicine Chair of the Dept. of Genetics, McGill University
1999-2003	Academic Advisory Committee, Jewish General Hospital
1998-2000	Scientific Officer, Virology and Viral Pathogenesis Grants Panel Canadian Institutes of Health Research
1995-1998	MRC Canada - Biochemistry and Molecular Biology Grants Panel
1995-1996	MRC/Health and Welfare Canada AIDS Research Grants Panel
1996-97	National Institutes of Health, NINDS Center for Demyelinating Diseases Baltimore, MD
1996	Scientific Officer, Health and Welfare Canada – AIDS Research Panel
1994-1996	Israel Cancer Research Fund Grants Panel, New York, NY
1993 - 1995	McGill Cancer Center Canderel Fellowship Committee
1995	MRC Group Program Site Review Committee, University of Manitoba
1993	NCIC Site Review Committee, Terry Fox Program Project Ontario Cancer Institute, Toronto Ontario
1993	National Cancer Institute Site Visit - Cleveland Clinic Foundation Program
1993	Human Science Frontier Program Review
1991 - 1994	Cell and Molecular Biology Grants Panel, Cancer Research Society, Inc.
1991 - 1993	MRC- NHRDP AIDS Grants Panel, MRC

EDITORIAL BOARDS

2006 - present	Editor-in-Chief, <i>Cytokine & Growth Factor Reviews</i>
2011 - present	Editorial Board, <i>Biological Chemistry</i>
2012 - present	Editorial Board, <i>DNA & Cell Biology</i>
2013 - present	Editorial Board, <i>Journal of Biological Chemistry</i>
2017 – present	Editorial Board, <i>Journal of Virology</i>
2004 - 2009	Editorial Board, <i>Retrovirology</i>
2002 - 2010	Editorial Board, <i>Current HIV Research</i>
1998 - 2006	Section Editor, <i>Journal of Interferon & Cytokine Research</i>
1993 - 2001	Associate Editor of <i>Virology</i>

John HISCOTT

AD HOC JOURNAL REVIEWS

Cell, Immunity, Nature, Science, Cancer Research, Journal of Exp. Medicine, PLoS Pathogens, Cell Host & Microbe, EMBO J, Molecular and Cellular Biology, Proc. Natl. Acad. Sci. USA, Journal of Biological Chemistry, Journal of Immunology, Journal of Clinical Investigation, Journal of Leukocyte Biology, Journal of Virology, Oncogene, Virology, European Journal of Biochemistry, Biochemistry,

OTHER UNIVERSITY / COMMUNITY SERVICES

2016 Session Chair & Speaker – World Life Sciences Conference – Innate Immunity
2014 Session Chair & Speaker – Keystone Symposium on Innate Immunity
2013 International Patent Application - PCT/US14/15574 & US Patent Application 14/177,866 – 5'Triphosphate nucleotides
2011 Guest Editor, Current Opinion in Immunology (Special Issue on Cytokines)
2011-2013 Scientific Organizer of the **HTLV-1 Conference** in Montreal 2013
2010-2011 International Organizing Committee, **Cytokines 2011**, Florence Italy
2007-2008 Chairman, ISICR-ICS Conference “**Cytokines 2008**”, Montreal Quebec
2006-2010 Dept. of Medicine Tenure Committee
2004-2007 Board of Directors, International Society for Interferon and Cytokine Research
2002-2004 Treasurer, International Cytokine Society
2003 Canadian SARS Research Consortium – Scientific Advisory Committee
2003-2004 Scientific Organizer of the ISICR/ICS Conference in Puerto Rico
1998-2001 Expert Witness, Cravath, Swain and Moore, New York
1998-1999 International Patent Application - PCT/CA99/00314
“Highly Active Forms of Interferon Regulatory Factor Proteins”
1999 Presentation to the Israel Cancer Research Foundation
1997 Chairman, Basic Science Track
Annual Meeting of the Canadian Assoc. for HIV Research
1997 Chairman, Interferon Gene Regulation Session
Annual Meeting of the ISICR, San Diego, Cal.
1996 Chairman, Regulation of HIV Gene Expression
XI International Conference on AIDS, Vancouver, BC
1995 Search Committee (2nd recruitment)
Dept. of Immunology, Institut Armand Frappier
1994 Scientific Advisory Committee
International Society for Oncodevelopmental Biology and Medicine
1993-present Board of Directors, Lady Davis Institute
Jewish General Hospital
1993 Search Committee, Dept. of Immunology
Institut Armand Frappier
1993 Chairman, Molecular Regulatory Mechanisms Session
International Association for Research on Leukemia
and Related Diseases Annual Meeting, Montreal Quebec
1993 Seminar presentation to the Terry Fox Foundation
1993 Corporate Challenge Luncheon, Terry Fox Foundation
1992 Seminar presentation to the Montreal Chapter
Canadian Society for the Weizmann Institute of Science

PATENTS

Patent Serial No.	Country	Filing Date	Status
62/026,473	USA	July 18, 2014	Converted
PCT/US15/40861	PCT	July 17, 2015	Nationalized
14/802,187	USA	July 17, 2015	Pending
15822808.0	European Patent Convention	February 10, 2017	Pending

John HISCOTT

INVITED EXTERNAL LECTURES (2000-present)

2000

“Regulation of chemokine gene expression in HTLV-1 infected cells”
Dept. of Microbiology, NYU Medical Center, New York (February 2000)

“Activation and regulation of IRF-4 expression in HTLV-1 infected T cells”
Molecular Biology and Pathogenesis of HTLV-1, Airlie Center, Warrington Virginia (March 2000)

“Regulation of IRF-4 function in HTLV-1 infected T cells”
Viral Oncogenesis Symposium, AACR Meeting, San Francisco, CA (April 2000)

“Control of interferon and chemokine gene expression during viral pathogenesis”
Dept. of Microbiology & Immunology, Hershey Medical Center, Penn State University (Sept. 2000)

“Regulation of interferons and chemokines by NF- κ B and IRF transcription factors”
Lymphocyte Signal Transduction Conference, Santorini, Greece (Oct. 2000)

“Interferon and chemokine gene regulation”
Third joint Meeting of the ICS/ISICR, Amsterdam, The Netherlands (Nov. 2000) – **Plenary Lecture**

2001

“Regulation of interferons and chemokines by NF- κ B and IRF transcription factors”
Signal Transduction in Normal and Cancer Cells, Banff, Alberta (March 2001)

NF-AT and NF- κ B regulation of IRF-4 in HTLV-1 infected T lymphocytes
Institut Curie Paris France (May 2001)

Activation of antiviral cascades by the NF- κ B and IRF transcription factors
University of Paris V, Paris France (May 2001)

Activation of antiviral cascades by the NF- κ B and IRF pathways during viral infection
Ottawa General Hospital Research Center, Ottawa, Ont. (Sept. 2001)

Activation of antiviral cascades by the NF- κ B and IRF pathways during viral infection
Dept. of Medical Microbiology and Immunology, University of Alberta, Edmonton, AL (October 2001)

Activation of antiviral cascades by the NF- κ B and IRF pathways during viral infection
Plenary Lecture, ISICR Annual Meeting, Cleveland Ohio (October 2001)

Activation of antiviral cascades by the NF- κ B and IRF pathways during viral infection
Dept. of Pathology, Albert Einstein College of Medicine, Bronx, New York (November 2001)

Transcriptional profiling of antiviral genes stimulated by IRF-3
Entretiens Jacques Cartier, Lyon France (December 2001)

Activation of antiviral cascades by the NF- κ B and IRF pathways during viral infection
International Interferon and Cytokine Conference, Havana Cuba (December 2001) - **Plenary Lecture**

John HISCOTT

2002

“Hostile Takeovers: Viral appropriation of cytokine pathways”
Robarts Research Institute, University of Western Ontario, London, Ontario (January 2002)

“Activation of antiviral cascades by the NF κ B and IRF transcription factors”
Signal Transduction Conference, Luxembourg (January 2002)

“Hostile Takeovers: Viral appropriation of cytokine pathways”
Department of Microbiology, Mount Sinai School of Medicine, New York, NY (March 2002)

“Hostile Takeovers: Viral appropriation of cytokine pathways”
Department of Microbiology and Immunology, University of Alberta, Edmonton, Alberta (March 2002)

“Hostile Takeovers: Viral appropriation of cytokine pathways”
Department of Microbiology and Immunology, University of Maryland, Baltimore, MD (April 2002)

“Hostile Takeovers: Viral appropriation of cytokine pathways”
Department of Microbiology and Immunology, University of Calgary, Calgary, Alberta (April 2002)

“Regulation of HIV LTR mediated transcription by NF- κ B and Tat”
Dept. of Microbiology and Immunology, University of Western Ontario (April 2002)

“Functional Genomics and Proteomics of the Immune Response”
Genome Quebec, Montreal Quebec (May 2002)

“Tumor Suppressor and Immunomodulatory Activities of IRF Factors”
IDM Biotech Inc., Paris France (August 2002)

“Dysregulation of NF- κ B and IRF Pathways in HTLV-1 Leukemogenesis”
ISICR/ICS Conference on Interferons and Cytokines, Torino, Italy (October 2002) - **Plenary Lecture**

“NF- κ B and IFN Signaling Pathways and the Regulation of Innate Immunity”
Sixth International Latin American Immunology Congress, Havana Cuba (December 2002)

2003

“Multiple Signaling Pathways leading to the Activation of IRF Transcription Factors”
Plenary Lecture, Signal Transduction and Apoptosis, Luxembourg (January 2003)

“Convergence of the NF- κ B and IFN Signaling Pathways in the Development of Antiviral Defense”
University of Paris V, Paris France (January 2003)

“Convergence of the NF- κ B and IFN Signaling Pathways in the Development of Antiviral Defense”
Department of Microbiology, Mount Sinai School of Medicine, New York, NY (March 2003)

“Convergence of the NF- κ B and IFN Signaling Pathways in the Development of Antiviral Defense”
Dept. of Medicine, University of Massachusetts, Amherst, Mass. (April 2003)

Triggering the Interferon Antiviral Response through an IKK-related Pathway
Laboratory of Virology Istituto Superiore di Sanita, Rome Italy (May 2003)

Triggering the Interferon Antiviral Response through an IKK-related Pathway
Dept. of Medicine, Baylor College of Medicine, Houston Texas (June 2003)

John HISCOTT

Triggering the Interferon Antiviral Response through an IKK-related Pathway
Dept. of Virology, Pasteur Institute, Paris France (July 2003)

Triggering the Interferon Antiviral Response through an IKK-related Pathway
Institute of Biochemistry and Molecular Medicine
Universite Libre de Bruxelles, Gosselies, Belgium (July 2003)

“Convergence of the NF- κ B and IFN Signaling Pathways in the Development of Antiviral Defense”
International Cytokine Conference, Dublin Ireland (September 2003) – **Plenary Lecture**

“NF- κ B and IFN Signaling Pathways and the Regulation of Innate Immunity”
International Immunology Congress, Lima Peru (October 2003) – **Keynote Speaker**

Triggering the Interferon Antiviral Response through an IKK-related Pathway
ISICR Annual Conference, Cairns Australia (October 2003)

The Role of NF- κ B in Viral Oncogenesis
International Biotechnology Conference, Havana Cuba (November 2003)

The Potential Use of Oncolytic Viruses in Cancer Therapy
International Biotechnology Conference, Havana Cuba (November 2003)

Oncolytic VSV, IFN Signaling and Experimental Cancer Therapeutics
Carl Icahn Institute of Gene Therapy and Molecular Medicine,
Mt. Sinai School of Medicine, New York (December 2003)

2004

Triggering the Interferon Antiviral Response through an IKK-related Pathway
Istituto Superiore di Sanita, Rome Italy (February 2004)

Oncolytic VSV, IFN Signaling and Experimental Cancer Therapeutics
American Association for Immunology, FASEB Meeting, Washington DC (April 2004) – **Symposium Speaker**

Toll-like Receptors, IFN signaling and Development of Antiviral Immunity
Biogen Research Conference, Manchester, Vermont (May 2004)

The Interferon Antiviral Response: From Invasion to Evasion
American Society for Microbiology, New Orleans, LA (May 2004) – **Symposium Speaker**

Signaling the Host Antiviral Response to Virus Infection
13th International Symposium on Molecular Biology of Macrophages, Osaka, Japan (July 2004)

Triggering the Interferon Antiviral Response through an IKK-related Pathway
University of Oregon, Portland Oregon (November 2004)

Triggering the Interferon Antiviral Response through an IKK-related Pathway
ASM Conference on Signaling Mechanisms in Virus infection, Savannah, Georgia (December 2004)

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2005

Triggering the Interferon Antiviral Response through an IKK-related Pathway
Rockefeller University, New York (April 2005)

Triggering the Interferon Antiviral Response through an IKK-related Pathway
McMaster University, Hamilton Ontario (April 2005)

Triggering the Interferon Antiviral Response through an IKK-related Pathway
Virus and Cell interactions, Gordon Research Conference, Lucca, Italy (May 2005)

Oncolytic Virus Therapy for Cancer
Istituto Superiore di Sanita, Rome Italy (May 2005)

Oncolytic Virus activity in HTLV-1 induced leukemogenesis
International Retrovirology Conference, Montego Bay Jamaica (June 2005)

Triggering the Interferon Antiviral Response through an IKK-related Pathway
IDM Biotech, Paris France (July 2005)

Triggering the Interferon Antiviral Response: Implications for Viral Oncolytic Therapies
Emerging Strategies in Molecular Medicine and Biotechnology
Crete, Greece (September 2005)

Inhibition of RIG-I dependent signaling to the IFN response by Hepatitis C Protease NS3/4A
International Conference on Hepatitis C, Montreal Canada (October 2005)

Signaling pathways leading to the activation of the interferon antiviral response
Vanderbilt University (October 2005)

Signaling pathways leading to the activation of the interferon antiviral response
Hospital for Special Surgery, Cornell Medical School (December 2005)

Signaling pathways leading to the activation of the interferon antiviral response
University of Aarhus, Denmark (December 2005)

Signaling pathways leading to the activation of the interferon antiviral response
ImmunoDesign Molecules (IDM) Inc. Paris (December 2005)

2006

Signaling pathways leading to the activation of the interferon antiviral response
Keystone Symposium, Pathogen-Host Standoff, Keystone, Colorado (January 2006) – **Plenary Lecture**

Signaling pathways leading to the activation of the interferon antiviral response
Cell Signaling World 2006, Luxembourg (January 2006)

TLR-dependent and -independent pathways leading to the interferon antiviral response
Toll 2006, Salvador, Brazil (March 2006)

TLR-dependent and -independent signaling to the interferon antiviral response: lessons in
evasion from Hepatitis C virus
St. Jude Children's Research Hospital, Memphis, Tenn. (April 2006)

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TLR-dependent and –independent signaling to the interferon antiviral response
American Association for Immunology, Boston, Mass (May 2006) – **Symposium Speaker**

TLR-dependent and –independent signaling to the interferon antiviral response: lessons in evasion from Hepatitis C virus
Pfizer Global Research, Sandwich Kent England (May 2006)

Recruitment of an interferon signaling complex to the mitochondrial membrane
International Society for Interferon and Cytokine Research, Vienna Austria (August 2006)

Innate immune response to virus infection
Entretiens Jacques Cartier, Lyon France (December 2006) – **Plenary Speaker**

Innate immune response to virus infection
Microbiology & Molecular Genetics, Harvard Medical School (December 2006)

2007

Signaling to the antiviral response: cross-talk between apoptosis and the innate response
Rutgers University, Piscataway, NJ (March 2007)

The innate immune response to virus infection: lessons in evasion from hepatitis C virus
Faculty of Pharmacy, Université de Montreal (March 2007)

Signaling to the antiviral response: cross-talk between apoptosis and the innate response
Innate Immunity Workshop, McGill University (April 2007)

The innate immune response to virus infection: cross-talk between antiviral and apoptotic signaling
Dept. of Cellular and Molecular Medicine, University of Ottawa (June 2007)

The NEMO/IKKgamma adapter bridges the NF- κ B and IRF pathways during RIG-I signaling
ISICR Conference Oxford, UK (September 2007)

2008

The innate immune response to virus infection: lessons in evasion from hepatitis C virus
Institut Pasteur, Paris France (January 2008)

Innate Immunity to Virus infection: implications for oncolytic virus therapy
Université Paris V, Rene Descartes, Paris France (January 2008)

The innate immune response to virus infection
Meakins-Christie Laboratories, McGill University (January 2008)

Molecular interactions regulating the RIG-I signaling pathway
Dept, of Molecular Biology, University of Texas, Dallas Texas (February 2008)

Molecular interactions regulating the RIG-I signaling pathway
Dept, of Microbiology, Queens University, Kingston Ontario (March 2008)

Molecular interactions regulating the RIG-I signaling pathway
American Assoc. for Immunologists, San Diego CA (April 2008)

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Evasion of the Innate Immune Response by Hepatitis C Virus
International HCV Conference, Varadero Cuba (April 2008) – **Keynote Speaker**

Molecular interactions regulating the RIG-I signaling pathway
Host Pathogens Interactions, Munster Germany (June 2008) – **Invited Speaker**

Chemical targeting of the innate immune response by HDAC inhibitors renders
refractory cancers sensitive to viral oncolysis
Cleveland Clinic, Cleveland Ohio (June 2008)

Molecular interactions regulating the RIG-I signaling pathway
Nagano Memorial Conference, Sapporo Japan (July 2008) – **Keynote Symposium Speaker**

Molecular interactions regulating the RIG-I signaling pathway
Entretiens Jacques Cartier, Montreal Que (October 2008) – **Plenary Speaker**

Manipulation of the innate immune response to enhance oncolytic virotherapy
Fox Chase Cancer Center, Philadelphia PA (November 2008)

Regulation of the RIG-I response to virus infection by the ubiquitination pathway
Autumn Immunology Conference, Chicago Ill. (November 2008) – **Plenary Speaker**

Regulation of the RIG-I response to virus infection by the ubiquitination pathway
Greenberger Cancer Center, University of North Carolina (December 2008)

2009

The innate immune response to RNA virus infection
Université Paris-Descartes, Paris France (February 2009)

The innate immune response to RNA virus infection
Dept. of Virology, Erasmus University, Rotterdam The Netherlands (February 2009)

Manipulating the immune response to augment oncolytic virotherapy
Vaccine & Gene Therapy Institute, Oregon Health Sciences University, Portland OR (March 2009)

Manipulating the immune response to augment oncolytic virotherapy
5th Oncolytic Virus Conference, Banff AB (March 2009) – **Keynote Speaker**

Manipulating the immune response to augment oncolytic virotherapy
Institut Armand Frappier, Laval Que. (March 2009)

Ubiquitin-mediated Regulation of the RIG-I-MAVS Antiviral Pathway
16th Conference on Hepatitis C Virus, Nice France (October 2009)

2010

The innate immune response to RNA virus infection &
Manipulating the immune response to augment oncolytic virotherapy
Institute of Biophysics Chinese Academy of Sciences, Beijing
Institute of Medicinal Biotechnology, Beijing
Shanghai Institute of Biochemistry and Cell Biology, Shanghai
College of Life Sciences, Wuhan University
Wuhan Institute of Virology, Wuhan (May 2010)

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The innate immune response to RNA virus infection
Université Paris-Descartes, Paris France (June 2010)

Molecular interactions regulating the RIG-I dependent antiviral immune response
EMBO Workshop - Emerging Themes in Infection Biology
La Colle sur Loup, France (June 2010) – **Plenary Speaker**.

RIG-like Receptors: Sensing and responding to Virus Infection
American Society for Virology, Bozemann Montana (July 2010) – **Invited Speaker**

RIG-like Receptors: Sensing and responding to Virus Infection
Vaccine & Gene Therapy Institute - Oregon (August 2010)

Modulation of the Innate Immune Response during HTLV-1 Infection
National Cancer Institute – HTLV-1 Conference, Bethesda Maryland (September 2010)

RIG-like Receptors: Sensing and responding to Virus Infection
International Interferon and Cytokine Conference, Chicago Illinois (Oct. 2010) – **Symposia Speaker**

Molecular interactions regulating the RIG-I dependent antiviral immune response
Dept. of Molecular Biomedical Research VIB, Flanders University, Ghent Belgium (Dec. 2010)

2011

Innate immune response to virus infection: cross-talk between antiviral and apoptotic signalling
Dept. of Virology, Leiden University Medical Center (March 2011)

Development of oncolytic vaccines for cancer therapy
Oncology Center, Martin Memorial Health System, Stuart FL (May 2011)

Pattern recognition receptors and innate immunity
International Cytokine Conference, Florence Italy (Oct. 2011) – **Invited Speaker**

Regulation of the interferon response by IRF3 and IRF7
Symposium on Interferon Stimulated Genes, Prato, Italy (Oct. 2011) – **Symposia Speaker**

Development of oncolytic vaccines for cancer therapy
Marianopolis College, Montreal Que (November 2011)

2012

Combination strategies in the development of oncolytic viruses for cancer therapy
Grand Medical Rounds, Moffitt Cancer Center, Tampa FL (April 2012)

Combination strategies in the development of oncolytic viruses for cancer therapy
Dept. of Virology, Erasmus University Medical Center (May 2012)

Targeting the apoptotic and autophagic pathways to augment oncolytic virotherapy of chronic lymphocytic leukemia
Death, Danger & Innate Immunity Conference, European Assoc. for Tumor Immunology
Institut Pasteur, Paris France (June 2012)

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Inhibition of influenza infectivity using RNA agonists of the RIG-I pathway
3rd International Influenza Conference, Munster Germany (September 2012)

Positive and negative regulation of the interferon antiviral response
ISICR-ICS Cytokine Conference, Geneva, Switzerland (September 2012)

Combination strategies in the development of oncolytic viruses for cancer therapy
Workshop on the Clinical Applications of VSV, Big Sky Montana (September 2012)

Combination strategies in the development of oncolytic viruses for cancer therapy
Center for Infectious Diseases, Leiden University Medical Center (October 2012)

Broad spectrum inhibition of virus infectivity using RNA agonists of the RIG-I pathway
Dept. of Microbiology, Utrecht University Medical Center (October 2012)

Combination strategies in the development of oncolytic viruses for cancer therapy
Dept. of Oncology, Leiden University Medical Center (December 2012)

2013

Host restriction factor SAMHD1 limits human T-cell leukemia virus (HTLV-1) infection
of primary monocytes via the innate immune sensor STING
Dutch Annual Virology Symposia, Academy of Sciences,
Amsterdam NL (March 2013) – **Keynote Speaker**

Host restriction factor SAMHD1 limits human T-cell leukemia virus (HTLV-1) infection
of primary monocytes via the innate immune sensor STING
Li Ka Shing Institute of Virology Symposium,
University of Alberta, Edmonton AB (May 2013) – **Invited Speaker**

Innate Immune Response to Human Retrovirus Infection
Istituto Superiore di Sanita, Rome Italy (May 2013)

Innate Immune Response to Human Retrovirus Infection
Gordon Research Conference, Il Chiocca Italy (May 2013)

Innate Immune Response to Human Retrovirus Infection
VGTI Florida Symposium (November 2013)

2014

Host restriction factor SAMHD1 limits human T-cell leukemia virus (HTLV-1) infection
of primary monocytes via STING-mediated apoptosis
Keystone Symposium, Innate Immunity to Virus Infections
Keystone Col. (January 2014) – **Invited Speaker**

Combination strategies in the development of oncolytic virotherapy of cancer
VGTI-Karolinska Symposium
VGTI Florida, Port St Lucie FL (February 2014)

Innate immune response to human retrovirus infection
Interferon Fundamentals 2014
Istituto Superiore di Sanita, Rome Italy (February 2014) – **Invited Speaker**

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Antiviral and adjuvant activity of RIG-I agonists

ImVACS – Novel Vaccines, Cambridge Healthtech, Boston MA (August 2014) – **Invited Speaker**

Innate immune sensing and response to RNA virus infection

Dept. of Molecular Medicine, University of South Florida, Tampa, FL (September 2014)

Harnessing innate immunity for antiviral and adjuvant development

Dept. of Microbiology & Immunology, University of Miami (September 2014)

Harnessing innate immunity for antiviral and adjuvant development

Institute Pasteur Paris, France (2014)

Harnessing innate immunity for antiviral and adjuvant development

Istituto Pasteur of Rome, University of Rome La Sapienza, Rome Italy (October 2014)

Harnessing innate immunity for antiviral and adjuvant development

Dept. of Infectious Diseases, University of Georgia Athens GA (December 2014)

2015

Antiviral and Adjuvant Activities of RIG-I Agonists

Vaccines & Immunopharmacology Conference Havana Cuba (June 2015) – **Plenary Speaker**

Antiviral and Adjuvant Activities of RIG-I Agonists

Giornata Romana Immunologia – Rome Italy (June 2015) – Plenary Speaker

Oxidative stress responses control the antiviral and apoptotic programs in dengue virus-infected dendritic cells

Biochemistry Physiology & Pharmacology of Oxidative Stress - Rome Italy (July 2-4, 2015) – **Plenary Speaker**

Therapeutic immunostimulation mediated by RIG-I pathway activation

Italian Society for Virology – Orvieto Italy (Sept. 14-16, 2015) – **Invited Speaker**

Lessons from Viruses: strategies to improve oncolytic virus therapy of cancer

Congresso Nazionale della Società di Microbiologica – Naples Italy (Sept. 27-30, 2015) – **Invited Speaker**

Therapeutic immunostimulation mediated by RIG-I pathway activation

International Cytokine & Interferon Society – Bamberg Germany (October 11-13, 2015)

Therapeutic immunostimulation mediated by RIG-I pathway activation

Pasteur International Network Conference

Paris France (October 14-16, 2015) – **Invited Speaker**

2016

Oncolytic virus immunotherapy for cancer

Accademia Medica

Rome Italy (March 17, 2016)

Inhibition of dengue virus infection via stimulation of the RIG-I antiviral pathway

Italian Society for Immunology (SIICA)

Abano Terme Italy (May 26, 2016) – **Invited Speaker**

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Brainstorming by Zika Virus: Infection Mechanisms and Neuropathogenesis
European Academy of Neurology - Late Breaking Symposium
Copenhagen DK (May 29, 2016) - **Invited Speaker**

Inhibition of dengue virus infection via stimulation of the RIG-I antiviral pathway
SIICA-SIM Summer Course: Intrinsic and innate immunity to pathogens
Novarella Italy (June 23-25 2016) - **Invited Speaker**

Pathogenesis and Oncogenic Transformation by Human T cell Leukemia Virus Type 1
Viruses and Cancer Course – Pasteur International Network
Rome Italy (July 5, 2016)

Antiviral and Adjuvant Properties of RIG-I Agonists
10th Vaccine Congress
Amsterdam NL (Sept. 4-7, 2016)

Combination strategies to augment oncolytic immunotherapy of cancer
Cancer Bio-Immunotherapy – XIV NIBIT Meeting
Siena Italy (October 13-15, 2016) - **Invited Speaker**

Cytosolic viral sensing pathways as regulatory targets for antiviral and vaccine development
World Life Science Conference 2016 - Chinese Academy of Science
Beijing China (November 1-4, 2016) - **Invited Speaker**

Combination strategies to augment oncolytic immunotherapy of cancer
Wuhan Institute of Virology, Wuhan University
Wuhan China (November 5, 2016) - **Invited Speaker**

Cytosolic viral sensing pathways as regulatory targets for antiviral and vaccine development
Pasteur Institute of Shanghai
Shanghai, China (November 8, 2016) - **Invited Speaker**

Gene expression profiling in HTLV-1 infected patients: Identification of ATL- and HAM/TSP- specific profiles
International Pasteur Institute Network
Paris, FR (December 2016)

2017

Cytosolic viral sensing pathways as regulatory targets for antiviral and vaccine development
BioNTech, Johannes Gutenberg University
Mainz, Germany (January 20 2017)

Combination strategies to augment oncolytic immunotherapy of cancer
Beyond Monoclonal Antibodies: Novel Immunotherapeutic Strategies
National Tumor Institute
Milan Italy (January 27 2017) - **Invited Speaker**

Oncolytic Viruses, Oncolytic Adjuvants & Immunotherapies
Dept. of Medical Microbiology, Leiden University Medical Center (April 2017)

Tumor Immunology Meets Oncology XIII
Oncolytic Viruses, Oncolytic Adjuvants & Immunotherapies
Halle (Saale) Germany (May 2017) – **Invited Speaker**

John HISCOTT

PUBLICATIONS

1. Cheevers WP, **Hiscott JB**: DNA synthesis in polyoma virus infection. II. Relationship between viral DNA replication and initiation of cellular DNA replicons. *J. Mol. Biol.* 78: 237-241, 1974.
2. **Hiscott JB**, Defendi V: Simian virus 40 gene A regulation of cellular DNA synthesis. In permissive cells. *J. Virol* 30: 590-599, 1978.
3. **Hiscott JB**, Defendi V: Viral and cellular control of the SV40 transformed phenotype. *Cold Spring Harbor Symp Quant Biol* 44: 343-352, 1979.
4. **Hiscott JB**, Murphy D, Defendi V: Amplification and rearrangement of integrated SV40 DNA sequences accompany the selection of anchorage independent transformed mouse cells. *Cell* 22: 535-543, 1980.
5. **Hiscott JB**, Defendi V: Simian virus 40 gene A regulation of cellular DNA synthesis. II. In nonpermissive cells. *J Virol* 37: 802-811, 1981.
6. **Hiscott JB**, Murphy D, Defendi V: Instability of integrated viral DNA in mouse cells transformed by simian virus 40. *Proc Natl Acad Sci USA* 78:1736-1740, 1981.
7. Pestka S, Maeda S, Levy M, Chang N, **Hiscott JB**, McCandliss E, Stein S, Moschera J, Staehelin T: The human interferons: the proteins and their expression in bacteria. In: *Recombinant DNA* (Baxter JD, Ed), 3rd Cleveland Symposium, pp. 51-73, Academic Press, New York 1982.
8. **Hiscott JB**, Cantell K, Weissmann C: Differential expression of human interferon genes. *Nucl Acids Res* 12: 3727-3746, 1984.
9. **Hiscott JB**, Ryals J, Dierks P, Hofmann V, Weissmann C: Expression of human alpha interferon genes. *Phil Trans Roy Soc London* 307:217-226, 1985.
10. **Hiscott JB**, Cantell K, Hofmann V, Weissmann C: Differential expression of human interferon genes. In: *Mechanisms of Viral Immune Suppression* (Gilmore N, Wainberg MA, Eds), pp. 215-225, Alan R. Liss, New York, 1985.
11. Xanthoudakis S, **Hiscott J**: Identification of a nuclear DNA binding protein associated with the interferon- β upstream regulatory region. *J Biol Chem* 262: 8298-8302, 1987.
12. Xanthoudakis S, Alper D, **Hiscott J**: Transient expression of the beta interferon promoter in human cells. *Mol Cell Biol* 7: 3830-3835, 1987.
13. Marshall A, Alper D, **Hiscott, J**: Modulation of nuclear proto-oncogene expression and cellular growth in myeloid leukemic cells by human interferon alpha. *J Cell Phys* 135: 324-331, 1988.
14. **Hiscott J**, Wong A, Alper D, Xanthoudakis S: *Trans*-activation of type 1 interferon promoters by simian virus 40 T antigen. *Mol Cell Biol* 8: 3397-3405, 1988.
15. Xanthoudakis S, **Hiscott J**: Modulation of interferon gene transcription by positive and negative cellular factors. *Biochem Biophys Res Comm* 154: 1338-1344, 1988.
16. Xanthoudakis S, Cohen L, **Hiscott J**: Multiple protein-DNA interactions within the interferon- β regulatory element. *J Biol Chem* 264: 1139-1145, 1989.

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17. **Hiscott J**, Alper D, Cohen L, Leblanc JF, Sportza L, Wong A, Xanthoudakis S: Induction of human interferon gene expression is associated with a nuclear factor that interacts with the NF- κ B site of the human immunodeficiency virus enhancer. *J Virol* 63: 2557-2566, 1989.
18. Xanthoudakis S, **Hiscott J**: Cross-linking of distinct proteins to the PRDII domain of the interferon β promoter. *Biochem Biophys Res Comm* 167: 1086-1093, 1990.
19. Leblanc JF, Cohen L, Rodrigues M, **Hiscott J**: Synergism between distinct enhancer domains in viral induction of the human interferon β gene. *Mol Cell Biol* 10: 3987-3993, 1990.
20. Lacoste J, D'Addario M, Roulston A, Wainberg MA, **Hiscott J**: Cell specific differences in activation of NF- κ B regulatory elements of human immunodeficiency virus and beta interferon by tumor necrosis factor. *J Virol* 64: 4726-4734, 1990.
21. Dubreuil M, Sportza L, D'Addario M, Lacoste J, Rooke R, Wainberg M, **Hiscott J**: Inhibition of HIV-1 multiplication by interferon and azidothymidine treatment. *Virology* 179: 388-394, 1990.
22. D'Addario M, Roulston A, Wainberg MA, **Hiscott J**: Coordinate enhancement of cytokine gene expression in human immunodeficiency virus infected promonocytic cells. *J Virol* 64:6080-6089, 1990.
23. Eymard D, Dascal A, **Hiscott J**, Gioseffini S, Stevenson J, Portnoy J, Mendelson J: Non-beta-lactamase-producing penicillin-resistant *Enterococcus faecium* in a clinical setting. *Can J Infect Dis* 1: 73-76, 1990.
24. Tremblay M, Numazaki K, Li X, Gornitsky M, **Hiscott J**, Wainberg MA: Resistance to infection by HIV-1 of peripheral blood mononuclear cells from HIV-1 infected individuals is probably mediated by neutralizing antibodies. *J Immunol* 145: 2896-2901, 1990.
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26. Gosselin J, Menezes J, D'Addario M, **Hiscott J**, Flamand L, Lamoureux G, Oth D: Epstein Barr virus infection inhibits tumor necrosis factor transcription in monocytes. *Eur J Immunology* 21: 203-208, 1991.
27. Geleziunas R, McQuillan A, Malapetsa A, Hutchinson M, Kopriva D, Wainberg M, **Hiscott J**, Panasci L: Increased DNA synthesis and repair enzyme expression in lymphocytes from chronic lymphocytic leukemia patients. *J Nat Cancer Inst* 83: 557-564, 1991.
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29. Lacoste J, Cohen L, **Hiscott J**: NF- κ B activity in T cells stably expressing the Tax gene of human T cell lymphotropic virus type 1. *Virology* 184: 553-562, 1991.
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32. Alper D, **Hiscott J**: The simian virus 40 enhancer activates the interferon alpha promoter in human fibroblasts. *Life Sci. Adv. (Virol).* 10: 1-12, 1991.

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33. Leblanc JF, **Hiscott J**: Differential response of human interferon β promoter elements to *trans*-activation by HSV VP16 and IRF-1. *Virology* 186: 760-763,1992.
34. Boulerice F, Geleziunas R, Bour S, Li H, D'Addario M, Roulston A, **Hiscott J**, Wainberg MA: Differential susceptibilities of U937 cell clones to infection by HIV-1. *J. Virol.* 66: 1183-1187, 1992.
35. D'Addario M, Wainberg MA, **Hiscott J**: Activation of cytokine genes in HIV-1 infected myelomonoblastic cells by phorbol ester and tumor necrosis factor. *J. Immunology* 148: 1222-1229, 1992.
36. Roulston A, D'Addario M, Boulerice F, Caplan S, Wainberg MA, **Hiscott J**: Induction of monocytic differentiation and NF- κ B activity by HIV-1 infection of human myelomonoblastic cells. *J. Exp. Med.* 175: 751-763, 1992.
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41. Cohen L, **Hiscott J**: Characterization of TH3, an induction specific protein interacting with the interferon β promoter. *Virology* 191: 589-599, 1992.
42. Gao Q, Gu Z, **Hiscott J**, Dionne G, Wainberg M: Generation of drug resistant variants of human immunodeficiency virus type 1 by *in vitro* passage in increasing concentrations of 2',3'-dideoxycytidine and 2',3'-dideoxy-3'-thiacytidine. *Antimicro. Agents Chemo.* 37: 130-133, 1993.
43. Soudeyns H, Geleziunas R, Shyamala G, **Hiscott J**, Wainberg M: Glucocorticoid stimulation of HIV-1 replication: localization of two distinct glucocorticoid response elements within the HIV-1 genome. *Virology* 194: 758-768, 1993.
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50. Garoufalidis J, Kwan I, Lin R, Mustafa A, Pepin N, Roulston A, Lacoste J, **Hiscott J**. Viral induction of the human interferon β promoter: modulation by NF- κ B proteins and interferon regulatory factors. *J. Virol.* 68: 4707-4715 (1994).
51. Kumar A, Haque J, Lacoste J, **Hiscott J**, Williams BRG. Double stranded RNA-dependent protein kinase activates transcription factor NF- κ B by phosphorylating I κ B. *Proc. Natl. Acad. Sci USA* 91: 6288-6292 (1994).
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John HISCOTT

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FUNDING

Title of Grant: Innate Immunometabolism as an antiviral target

Source: Marie Curie – European Training Network Horizon 20/20

Grant #: N/A

Amount: ~ 4,000,000 Euro total (~520,000 Euro to Istituto Pasteur-Italia)

Project dates: 01/2019-12/2023

Summary: This objective of this Marie Curie ETN program entitled “Innate immunometabolism as an antiviral target” is to provide an integrated, multi-disciplinary training platform for European scientists at the doctoral research level to investigate the molecular interactions between human pathogenic RNA virus infection and the innate immune system. Our goal is both fundamental and translational in nature – we seek to train a new generation of world class scientists in the rapidly evolving field of viral immunology and immune metabolism, with projects examining molecular virology, innate immune signaling, innate lymphoid cell function, and mechanisms linking host metabolism with the antiviral immune response. Collectively, our integrated network structure will strengthen existing networks, train a new generation of scientists and create new knowledge, applicable to the treatment and eradication of infectious viral diseases.

Programmatic Organization:

Academic Partners

Bernadette van den Hoogen (co-ordinator)/ Ron Fouchier– Erasmus University, Rotterdam – influenza, paramyxovirus molecular virology;

John Hiscott (co-ordinator) / Angela Santoni – Pasteur Institute-Rome – antiviral innate immunity, NK & innate lymphoid cell function, metabolic control of innate immunity;

Luke O Neill / Andrew Bowie / Cliona O’Farrelly – Trinity College Dublin – inflammation, metabolism and innate immunity, anti-inflammatory drug development;

Eric Snijder / Marjolein Kikkert – Leiden University Medical Center – Coronavirus, SARS/MERS;

Frank van Kuppeveld Utrecht University – Enterovirus, picornavirus, innate sensing and signalling;

Nicolas Manel – Institut Curie, Paris – cGAS-STING & innate signaling;

Andres Bergthaler – University of Austria – Metabolic regulation of viral immunity;

Marit Anthonsen – Norwegian University of Science & Technology – role of mitochondria & peroxisomes in antiviral immunity

Industry Partners

Janssen, Stimunity, Astra Zenica

Title of Grant: Combination oncolytic viro-immunotherapy for pancreatic cancer

Source: AIRC

Grant #: 22891

Amount: ~ \$617,000

Project dates: 01/2020-12/2024

Name of PI: Hiscott

Summary: This research program will examine the efficacy of combination treatment for pancreatic cancer, using a new recombinant VSV, designed to increase sensitivity of tumor cells to OV therapy, together with immune checkpoint blockade therapy (anti-PDL-1). Our hypothesis is that OV treatment will lead to increased local inflammation and enhanced adaptive immune response, thereby improving the overall response and cure rate in pancreatic cancer models. The combination of OVs with immune checkpoint inhibitors may demonstrate clinical potential with greater efficiency and less toxicity compared to single modality therapy. Overall, this study will contribute to the identification, optimization and mechanistic understanding of a novel combinatorial strategy for the treatment of PDAC.