

ELIZABETH RACHEL LAWLOR MD, PHD
Russell G. Adderley Professor of Pediatric Oncology
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Education and Training

09/1978 – 06/1983 High School Baden Senior School, CFB Baden-Söllingen, Germany
08/1983 – 08/1986 BSc., McMaster University, Hamilton, Ontario (Conferred 11/1986)
08/1986 – 05/1989 MD, McMaster University, Hamilton, Ontario, Canada (Conferred 5/1989)
06/1989 – 06/1990 General Medical/Surgical Internship (Rotating Intern), Greater Victoria
Hospitals, Victoria, British Columbia
07/1990 – 06/1991 Resident, Pediatrics, University of British Columbia, BC's Children's
Hospital, Vancouver, British Columbia
07/1991 – 06/1993 Resident, Pediatrics, University of Ottawa, Children's Hospital of Eastern
Ontario, Ottawa, Ontario
07/1993 – 06/1994 Chief Resident, Pediatrics, University of Ottawa, Children's Hospital of
Eastern Ontario, Ottawa, Ontario
07/1994 – 06/1996 Clinical Fellow, Pediatric Hematology-Oncology & Bone Marrow
Transplantation, University of British Columbia, BC's Children's Hospital, Vancouver, British
Columbia
07/1996 – 09/2001 Research Fellow, Pediatric Hematology-Oncology & Bone Marrow
Transplantation, BC's Children's Hospital, University of British Columbia, Vancouver, British
Columbia
09/1997 – 09/2001 PhD, Cancer Biology – Pediatric Sarcoma (Mentor: Dr. PHB Sorensen),
Dept of Pathology & Laboratory Medicine, University of British Columbia, Vancouver, British
Columbia (Conferred 05/2002)
10/2001 – 01/2004 Post-Doctoral Fellow, Mechanisms of oncogene action in tumor initiation
and maintenance (Mentor: Dr. GI Evan), UCSF Cancer Research Institute, San Francisco, CA.

Certification and Licensure

1990 Licentiate Medical Council of Canada (LMCC). Registration Number 69837
1990 – 2001 College of Physicians & Surgeons of British Columbia (Reg. Number 123922)
1994 – 2007 Pediatrics Board Certification (FRCPC), Royal College of Physicians and
Surgeons of Canada (College ID 456977)

***Note:** no current licensure. No longer practicing clinical medicine.

Academic, Administrative, and Clinical Appointments

Academic

04/2004 – 12/2009 Assistant Professor (Tenure Track), Departments of Pediatrics (Primary) &
Pathology (Secondary), Keck School of Medicine, University of Southern California

04/2004 – 12/2009 Research Scientist, Division of Pediatric Hematology-Oncology, Saban Research Institute, Children's Hospital Los Angeles, Los Angeles, CA
02/2010 – 08/2011 Assistant Professor (Instructional Track), Departments of Pediatrics & Communicable Diseases (Primary) & Pathology (Secondary), University of Michigan, Ann Arbor, MI.
09/2011 – present Associate Professor (with tenure), Department of Pediatrics & Communicable Diseases & Associate Professor (without tenure, secondary appointment), Department of Pathology, University of Michigan, Ann Arbor, MI.

Clinical

07/1996 – 12/2000 Staff Physician (part-time), Pediatric Hematology-Oncology & Bone Marrow Transplantation, BC's Children's Hospital, Vancouver, British Columbia
07/1996 – 06/1998 Consultant Pediatrician, Canuck Place Hospice for Children, Vancouver, British Columbia

Research Interests

Major areas of Investigation

1. Biology of the Ewing sarcoma family of tumors
2. Function of polycomb genes in tumor initiation and maintenance
3. Disruption of genetic and epigenetic regulation in human neural crest-derived tumors

Research in Progress

1. Evaluating the role of BMI1 as a cooperative oncogene in Ewing sarcoma and its molecular relationship with EWS-FLI1
2. Studies of EWS-FLI1 oncogene expression in human embryonic stem-derived neural crest stem cells (effects on gene expression, DNA methylation, tumor initiation)
3. Gene expression signatures of Ewing sarcoma as tools for clinical prognostication and biologic classification
4. Evaluation of the clinical and biologic significance of stem cell gene expression in Ewing sarcoma

Research Grants

A. Present & Active

1 P50-CA168512 NIH/NCI

Title: SARC Sarcoma SPORE

Principal Investigator: Raphael E. Pollock

Role: Co-Leader, Project 3: Investigating G-protein coupled receptors as biomarkers of aggressive disease and novel therapeutic targets in Ewing sarcoma.

Term: 09/12-08/17

Total: \$11,800,000 (Total for project 3: \$1,496,000)

% effort: 25%

1R01-CA134604 NIH/NCI

Title: Investigating oncogenic cooperation between BMI-1 and EWS-FLI1

Principal Investigator: Elizabeth R. Lawlor

Term: 06/10 – 05/15

Total: \$1,610,894

% effort: 25%

Liddy Shriver Initiative International Collaborative Research Grant

Title: Molecular Mechanisms and Pharmacologic Inhibition of Bone Sarcoma Metastasis

Role: Co-Principal Investigator (4 PIs in US, Italy and Austria)

Term: 11/12-10/14

Total: \$250,000 (Total for UM/Lawlor project \$56,800)

SU2C-AACR-IRG1309 Stand Up to Cancer Innovative Research Grant

Title: Modeling Ewing Tumor Initiation in Human Neural Crest Stem Cells

Principal Investigator: Elizabeth R. Lawlor

Term: 02/10 – 07/13

Total: \$750,000

% effort: 25%

CureSearch for Children's Cancer

Title: The Role of Ion Channel Suppression in Ewing's Sarcoma Cell Survival

Principal Investigator: Elizabeth R. Lawlor

Term: 02/12-01/14

Total: \$150,000

% effort: 5%

Sunbeam Foundation

Title: Investigating Rho/MKL signaling as a mediator of Ewing tumor metastasis and a promising new therapeutic target

Principal Investigator: Elizabeth R. Lawlor

Term: 02/12-01/13

Total: \$25,000

B. Previous Grants

Nancy Newton Loeb Pediatric Cancer Research Award, University of Michigan,

Department of Pediatrics

Principal Investigator: Elizabeth R. Lawlor

Term: 02/2011-01/2012

Total: \$20,000

1U01 CA114757-01 NIH/NCI

Strategic Partnering to Evaluate Cancer Signatures (SPECS)

Title: Diagnostic & prognostic sarcoma signatures

Principal Investigator: Timothy J. Triche

Term: 06/06 – 03/10

Role: Project leader – Ewing sarcoma

Total Funding Amount: \$7,180,640 (Ewing sarcoma project direct costs: \$795,000)

RS1-00249-1 California Institute for Regenerative Medicine

Scientific Excellence through Exploration and Development (SEED) Grant

Title: Human embryonic stem cells as tools to investigate the neural crest origin of Ewing sarcoma

Principal Investigator: Elizabeth R. Lawlor

Term: 08/07 – 07/09

Total Funding Amount: \$633,120

Margaret E. Early Medical Research Trust

Title: Defining the role of BMI-1 in the pathogenesis of Ewing sarcoma

Principal Investigator: Elizabeth R. Lawlor

Term: 12/05 – 11/08

Total Funding Amount: \$225,000

Stop Cancer Foundation Career Development Award

Title: Determining the biologic and clinical significance of stem cell pathway activation in pediatric sarcoma

Principal Investigator: Elizabeth R. Lawlor

Term: 3/06 – 2/09

Total Funding Amount: \$150,000

American Cancer Society – Institutional Research Grant

Title: Defining the consequences of EWS/FLI1 expression in murine embryonic stem cells

Principal Investigator: Elizabeth R. Lawlor

Term: 1/05 – 12/05

Total Funding Amount: \$20,000

V Foundation for Cancer Research Scholar Award

Title: Effects of EWS-FLI-1 on the developing neural crest

Principal Investigator: Elizabeth R. Lawlor

Term: 12/04 – 11/06

Total Funding Amount: \$100,000

TJ Martell Foundation

Title: Pediatric Cancer and Leukemia Research Program

Principal Investigator: Robert C. Seeger

Term: 01/05 – 12/09

Role: Investigator
Total Funding Amount: \$200,000

C. Submitted Grants

Honors and Awards

1983 Chancellor's Entrance Scholarship, McMaster University
1991 Most Exemplary Junior Resident Award, BC's Children's Hospital
1992, 1994 Resident Role Model Award, Children's Hospital of Eastern Ontario (CHEO),
1993 Award for Clinical Excellence, CHEO
1993 Resident Research Award, CHEO
1996 Top Clinical Fellow Research Project, BC's Children's Hospital (Represented
UBC Pediatrics at National Trainee Research Symposium)
1996 Subspecialty Fellow Teaching Award—Excellence in Resident Teaching, BC's
Children's Hospital, 1996
1996 – 1998 Mining for Miracles Fellowship, Research Institute for Children's & Women's
Health, Vancouver, BC
1997 Young Investigator Travel Grant, AACR, Special Conference on Disrupted
Transcription Factors in Cancer
1998 – 2001 Medical Research Council of Canada Post-MD Fellowship
1998 – 2001 National Cancer Institute of Canada Terry Fox Post-MD Research
Fellowship (declined)
1999 Student Participation Grant, AACR/ASCO Methods in Clinical Cancer Research
2001 The Laura MacRae Trust Fund Award, College of Physicians & Surgeons of BC
2001 – 2003 Canadian Institutes of Health Research Senior Research Fellowship
2002 Detweiler Traveling Fellowship, Royal College of Physicians & Surgeons, Canada
2003 AACR-AFLAC Scholar-in-Training Award, International Conference on
Molecular Targets & Cancer Therapeutics
2004 V Foundation for Cancer Research Scholar Award
2006 Stop Cancer Foundation Research Career Development Award
2009 USC Mellon Mentoring Award for Faculty Mentoring Graduate Students
2009 Stand Up to Cancer/AACR Innovative Research Grant (1 of 13 awarded
nationally)
2011 Russell G. Adderley Professorship in Pediatric Oncology, Department of Pediatrics
and Communicable Diseases, UM

Memberships in Professional Societies

1990 – 2003 Canadian Medical Association
1997 – present American Association for Cancer Research
2005 – present International Society for Stem Cell Research
2009 – present Society for Pediatric Research

Peer-Review Service

Journals (review editor)

Frontiers in Pediatric Oncology 2011-

Journals (reviewer)

BMC Developmental Biology
Cancer Gene Therapy
Cancer Research
Clinical Cancer Research
Genes & Development
International Journal of Cancer
Journal of Clinical Investigation
Journal of Clinical Oncology
Journal of Oncology
Modern Pathology
Molecular Cancer Research
Molecular Biology of the Cell
Oncogene
Pediatric Blood and Cancer
PLOS One
Stem Cells

Grants

2002 Canadian Institutes of Health Research, Training Grant Committee
2005 Wright Foundation, Keck School of Medicine
2005 Children's Hospital of Eastern Ontario, Research Committee, External Reviewer
2006 Cancer Research UK New Agents Committee, External Reviewer
2007 Oesterreichische Nationalbank Anniversary Fund, External Reviewer
2007 Austrian Science Fund (FWF), External Reviewer
2006-2009 USC NIH-Cellular, Biochemical and Molecular Training Program – Graduate student fellowships
2006-2009 CHLA CIRM Stem Cell Training Program – Post-doctoral Fellowships
2009 The Chinese University of Hong Kong, External Reviewer
2008 – Liddy Shriver Sarcoma Initiative Research Grants program
2011– Pablove Foundation. Member review panel
2011 CHLA Research Career Development Award, External Reviewer
2012 SPARKS for Children's Health UK, External Reviewer
2012 – Alex's Lemonade Stand Young Investigator Awards, Member review panel
2012 – St. Baldrick's Foundation, Member grants review panel
2012 – CureSearch, Grants review panel, Bone sarcomas
2012– Bone Cancer Research Trust (UK), External reviewer

Meeting Abstracts

2006 American Society for Gene Therapy 2006 Annual Meeting, Stem cells section.
2011 American Association for Cancer Research: 2011 Annual Meeting, Tumor biology 02: Stem Cell Biology/Cancer Stem Cells/Developmental Oncobiology

Teaching

Current Trainees

Post-graduate:

- 2011 – Merlin Airik, PhD. Post-doctoral scholar
- 2011 – Lauren Nicholls, MD. Pediatric Hem-Onc Research Fellow
- 2012 – Laurie Svoboda, PhD, Post-doctoral scholar

Graduate & Medical Students:

- 2009 – Chris Scannell, MD/PhD Student, Systems Biology & Disease, Keck School of Medicine, USC
- 2012 – Melanie Ann Krook, PhD Student, UM Cancer Biology Program
- 2012 – Elisabeth Pedersen, MD/PhD Student, UM MSTP Program

Undergraduate Students:

- 2011 – David Falk (UM economics & pre-med)
- 2012 – Victor Chen (UM, LSA neuroscience & pre-med)

Past Trainees

Post-graduate:

- 2004 – 2006 Srinivas Sai Somanchi, PhD. Post-doctoral scholar [Current position: Post-doctoral scholar, MD Anderson Cancer Center, University of Texas]
- 2005 – 2008 Dorothea Douglas MD. Pediatric Hem-Onc Research Fellow (*CHLA CIRM Scholar 2006-2008*) [Current position: Pediatric Bone Marrow Transplant physician, Phoenix Children's Hospital]
- 2006 – 2009 Xiaohua (Cynthia) Jiang MD, PhD. Post-doctoral Fellow (*CHLA CIRM Scholar 2006-2008*) [Current position: Research Assistant Professor, Institution of Epithelial Cell Biology, Department of Physiology, The Chinese University of Hong Kong]
- 2006 – 2009 John van Doorninck MD. Pediatric Hem-Onc Research Fellow (*NIH Training Grant Fellow 2006-2008*) [Current position: Pediatric Hematologist-Oncologist, Rocky Mountain Hospital for Children, Denver, Co]
- 2010 – 2011 Jessie Hao-Ru Hsu, PhD. Post-doctoral scholar. [Current position: Post-doctoral scholar, Harvard Medical School. Mentor: Dr. Stuart Orkin].
- 2008 – 2011 Cornelia von Levetzow, PhD. Post-doctoral scholar (*CHLA CIRM Scholar 2009*)
- 2009 – 2011 Gregor von Levetzow, PhD. Post-doctoral scholar.

Graduate & Medical Students:

- 2005 Grace Peng, MD student, Keck School of Medicine. Summer student.
- 2005 Helty Adisetiyo, Rotation Student, PIBBS program, Keck School of Medicine
- 2007 Christine Cao, Rotation Student, PIBBS program, Keck School of Medicine
- 2007 Siu Ben Lam, Rotation Student, PIBBS program, Keck School of Medicine
- 2008 Lauren Geary, Rotation Student, PIBBS program, Keck School of Medicine
- 2008 Sryividya Swaminathan, Rotation Student, PIBBS program, Keck School of Medicine
- 2009 Wan-Ting Chen, Rotation Student, PIBBS program, Keck School of Medicine
- 2009 Martha Pastuszka, Rotation Student, PIBBS program, Keck School of Medicine

2008 – 2010: Darren Russell, MS Student, Department of Pathology, Keck School of Medicine, USC. (Degree conferred 2010. Current position MD student, USC)
2006 – 2010: Jessie Hao-Ru Hsu, PhD student, Molecular & Cellular Biology Program, Keck School of Medicine. (*USC CIRM Scholar 2007-2009*). Degree conferred June 2010.
2011 Andrew Haak, Rotation Student, PIBS program, UM
2011 Nikhil Shyam, MD/PhD Student, UM MSTP Program (rotation student)
2011 – 2012 Jeffrey Fergus, MS Student, UM MCDB program
2011 Melanie Ann Krook, UM PIBS (PhD Rotation student)
2012 Yuqing Sun, UM PIBS (PhD Rotation student)
2012 Amy Han, UM PIBS (PhD Rotation student)
2012 Elisabeth Pedersen, UM MSTP Program (rotation student)

Undergraduate & High School Students:

2006 & 2007 Darren Russell, Summer undergraduate student, CHLA
2007 & 2008 Inbal Epstein, Summer high school student, CHLA.
2009 Cecilia Miranda, Summer high school student, CHLA.
2010 Arielle Clinthorne, Summer undergraduate student, UM Cancer Research Summer Internship Program.
2011 David Falk, Summer undergraduate student, UM Cancer Research Summer Internship Program.

Dissertation and/or Qualifying Examination Committees

Nadya Andini, PhD student, Dept of Pathology, Keck School of Medicine (PI: K. Nash)
Hely Adisetiyo, PhD student, Genetics, Molecular & Cellular Biology Program, Keck School of Medicine (PI: P. Roy-Burman)
Jacob Andrade, MD/PhD student, Genetics, Molecular & Cellular Biology Program, Keck School of Medicine (PI: G. Crooks)
Kyle Nakamura, PhD student Program, Systems Biology & Disease Program, Keck School of Medicine (PI: G. Aldrovandi)
Dennis To, PhD student, Dept of Pathology, Keck School of Medicine (PI: K. Nash)
Sissada Tannukit, PhD student, Dept of Craniofacial Biology, USC School of Dentistry (PI: M. Paine)
Steven Tsai, MD/PhD student, Genetics, Molecular & Cellular Biology Program, Keck School of Medicine (PI: C. Lutzko)
Daniel Wai, PhD student, Dept of Pathology, Keck School of Medicine (PI: T. Triche)
Felicia Gray, PhD student, Chemical Biology Interdepartmental Doctoral Program, UM (PI: Tomek Cierpicki and Jolanta Grembecka (Pathology))

Intramural Lectures & Courses

1991-1996 Pediatrics and pediatric hematology-oncology seminars/lectures for junior house staff [*Received teaching award from pediatric residents 1996*]
1996-1997 Pediatric transfusion medicine for Year 3 medical students, UBC. (1 hr)
1996-2000 Pediatric hematology-oncology for medical student, pediatric resident, and clinical fellow house staff, BC's Children's Hospital.

- 1999-2000 Pediatric resident and summer research student career development days. BC's Children's Hospital. (1 hr)
- 2000-2001 Lectures in molecular biology for pediatric hematology-oncology fellows. BC's Children's Hospital (1 hr).
- 2004 Graduate Student Seminar in Pathology Course #570abcd, Keck School of Medicine, Dept of Pathology – November 19: Molecular Genetics of Sarcomas (1.5 hrs); December 3: Molecular Genetics of Sarcomas (1.5 hrs)
- 2004-2007 Hematology-Oncology Fellows Journal Club, CHLA
- 2004-2006 Hematology-Oncology Fellows Biology Course, CHLA ('Tumorigenesis', 1 hr)
- 2004-2006 Hematology-Oncology Grand Rounds, CHLA ('Cancer & Stem Cells', 1 hr)
- 2005 Using stem cells to study the origins of pediatric malignancy. USC Keck School of Medicine, Stem Cell Research Day. March 1.
- 2005 Scientific Management Course lecture, Saban Research Institute, CHLA ("Getting the job you want" 0.5 hr).
- 2006 Edmonson Summer Undergraduate Program lecture, Keck School of Medicine, Dept of Pathology ("Cancer Stem Cells", 1 hr).
- 2006 Thinking About a Career in Cancer Research: A Conversation with Faculty. USC Undergraduate Programs, April 20.
- 2006 CHLA Summer students Lecture—Cancer Stem Cells (1 hr), June 26.
- 2006 Graduate Student Seminar in Pathology Course #570abcd, Dept of Pathology, USC October 13: Cancer stem cells – origins (1.5 hrs); October 20: Cancer stem cells – self-renewal (1.5 hrs)
- 2006 Research Opportunities in Oncology. St. George Society, USC Keck School of Medicine, Medical Student Seminar, October 24.
- 2006 CIRM-CHLA Stem Cell Training Grant Core Curriculum. October 2: Neural stem cells (1 hr); October 9: Cancer stem cells (1 hr)
- 2007 CHLA Hem-Onc Grand Rounds: Developing new models to study the biology of Ewing sarcoma. March 28.
- 2007 CHLA Hem-Onc Fellows Biology Course (Molecular basis of tumorigenesis, 1 hr).
- 2007 CHLA Summer students Lecture ('Cancer Stem Cells', 1 hr).
- 2007 KSOM Medical Student I Pathology Lab, Department of Pathology, USC January 9: Hematology structure & morphology (2 hrs), November 21: Neoplasia II (2 hrs), November 27: Neoplasia III (2 hrs), November 29: Neoplasia IV (2 hrs)
- 2007 Stem Cell Biology and Medicine, USC INTD 650: Therapeutic applications – Cancer stem cells (2 hrs).
- 2008 Norris Comprehensive Cancer Center Grand Rounds, 'The polycomb gene *BMI-1* functions as an oncogene in Ewing sarcoma', USC, January 29.
- 2008 Edmonson Summer Undergraduate Program lecture, 'Cancer Stem Cells – Implications for Research and Clinical Care', Keck School of Medicine, Dept of Pathology (1 hr).
- 2008 CHLA Pediatric Hematology-Oncology Grand Rounds, 'BMI-1 expression in Ewing Sarcoma: Clues to a stem cell origin?', December 17 (1 hr).
- 2009 Vice-chair, USC Pathology Student Research Conference, Dana Point, CA. January 23-24.
- 2009 USC KSOM Seminar Series "Factor Meeting", Human embryonic stem cell derived model of Ewing sarcoma tumorigenesis", May 14 (1 hr).

- 2010 UM Division of Pediatric Hematology-Oncology Research Rounds, “Investigating the role of deregulated stem cell pathways in Ewing sarcoma initiation and progression”, April 14 (1 hr).
- 2010 UM Cancer Research Summer Internship Program, “What stem cells can teach us about cancer”, June 28 (1 hr).
- 2010 UM Grand Rounds, Department of Pediatrics, “Cancer stem cells in pediatric tumors: The hope, the hype and the reality,” August 3 (1 hr)
- 2010 UM Department of Pathology Research Seminar Series, “Novel oncogenic functions of BMI-1 in the Ewing sarcoma family of tumors,” October 21 (1 hr).
- 2010 UM Department of Pharmacology Research Seminar Series, “Ewing sarcoma: Cancer stem cells or stem cell cancer,” December 8 (1 hr).
- 2011 UM Cancer Biology Seminar Series, “Modeling Ewing sarcoma initiation in human stem cells,” August 11 (1 hr).
- 2011-2012 UM Graduate Program in Cancer Biology, CanBio800 Journal Club, Co-director.
- 2011 Cellular and Molecular Pathology Graduate Student Research Symposium, “Modeling Ewing tumor initiation in stem cells”, November 3 (20 min)
- 2012 UM Cancer Bio 554, “Pediatric Cancer”, February 2 (90 min)
- 2012-2013 UM Graduate Program in Cancer Biology, CanBio800, Director.

Committee, Organizational, and Volunteer Service

- A. Institutional
- 1995 – 1998 Pediatric Oncology Fellowship Education Committee, BC’s Children’s Hospital
- 2004 – 2007 Coordinator, Bone and Soft Tissue Sarcoma Research Group, CHLA
- 2004 – 2009 Pediatric Hematology Oncology Fellowship Education Committee, CHLA
- 2005 – 2007 Institutional Biosafety Committee, CHLA
- 2005 – 2009 Executive Committee, California Institute for Regenerative Medicine Training Grant, CHLA
- 2006 – 2009 Admissions Committee, PIBBS Graduate Program, Keck School of Medicine, USC
- 2007 – 2009 Coordinator, Cancer Stem Cell Biology Research Group, CHLA/USC
- 2006 – 2009 Stem Cell Research Oversight Committee, CHLA
- 2006 – 2009 Executive Committee, CBM NIH Training Grant, Keck School of Medicine, USC
- 2007 – 2009 Dept of Pathology Graduate Program Committee, Keck School of Medicine, USC
- 2008 – 2009 USC Dept of Pathology Annual Research Retreat Committee, Keck School of Medicine, USC
- 2009 Dean’s Graduate Council, Keck School of Medicine, USC
- 2011 – UM OVPR Human Pluripotent Stem Cell Research Oversight (HPSCRO) Committee
- 2011 – PIBS Admissions Committee, Molecular & Cellular Pathology

2012 – Translational Research Education Certificate Program, UMHS Office of Graduate and Postdoctoral Studies & Michigan Institute for Clinical and Health Research (MICHR). Member, Faculty Advisory Committee

B. Regional

C. National

2006 – present Children’s Oncology Group, Ewing Biology Study (AEWS07B1) (Vice Chair beginning 2012)

2006 – present Children’s Oncology Group, Ewing’s Sarcoma Biology Committee (Vice-Chair beginning December 2011)

2007 – present Children’s Oncology Group, Bone Tumor Steering Committee

2009 – present Children’s Oncology Group, Translational Research Committee

2010-2011 2011 Annual Meeting, American Association for Cancer Research (AACR), Scientific Program Committee: Pediatric Oncology

2010-2011 2011 Annual Meeting, AACR, Tumor biology 02: Stem Cell Biology/Cancer Stem Cells/Developmental Oncobiology, Subcommittee

D. International

2006 Royal College of Physicians & Surgeons of Canada, Pediatric Hematology-Oncology Sub-specialty Certification Examination: Question writing.

E. Volunteer Service

3/2009 American Cancer Society Spring Open House, Pasadena, CA. Guest speaker – “Studies of Stem Cells to Determine the Origin of Aggressive Childhood Tumors.”

Visiting Professorships, Seminars and Extramural Invited Presentations

Visiting Professorships

1. Ewing Sarcoma Initiation – Insights From a Human Stem Cell Model. Lombardi Comprehensive Cancer Center, Tumor Biology Training Program Visiting Professorship series, Georgetown University Medical Center, Washington, DC. May 13-14, 2010

Seminars

1. The Biologic and Clinical Significance of Stem Cell Gene Expression in Ewing Sarcoma. Huntsman Cancer Institute, University of Utah, Salt Lake City, February 13-14, 2007
2. BMI-1 in Ewing sarcoma: Clues to a stem cell origin? BC Children’s Hospital, Child and Family Research Institute, Vancouver, Canada. May 5-6, 2008
3. BMI-1 expression in Ewing sarcoma: Clues to a stem cell origin? JCCC-BSCRC Research Seminar Series. UCLA, Los Angeles, CA. November 6, 2008
4. Biologic and clinical significance of BMI-1 over-expression in Ewing sarcoma. Pediatric Cancer Biology Program, Stanford University, Palo Alto, CA. January 13-14, 2009
5. BMI-1 expression in Ewing sarcoma: Clues to a stem cell origin? Division of Pediatric Hematology-Oncology, Department of Pediatrics, University of Michigan, Ann Arbor, MI. February 2-3, 2009

6. New insights into the putative stem cell origin of Ewing sarcoma. Memorial Sloan Kettering Cancer Center. Pediatric Grand Rounds. April 23, 2009
7. New insights into the putative stem cell origin of Ewing sarcoma. Hospital for Sick Children, Toronto, Canada. May 20-21, 2009
8. EWS-FLI1: An inducer of epigenetically driven malignant transformation. Children's Cancer Research Institute, Vienna, Austria. September 20-21, 2011.
9. Modeling Ewing tumor initiation in human neural crest stem cells. NIH, Pediatric Oncology Branch, September 28-29, 2011.
10. Using stem cells to model the epigenetic origins of Ewing's sarcoma. Children's Hospital of Philadelphia, Philadelphia, PA. November 7-8, 2011

Extramural Invited Presentations

1. Use of Anchorage Independent Multi-cellular Spheroids to Study Human Tumors *in vitro*. CB Broaddus Lab. San Francisco General Hospital, UCSF, January 13, 2004
2. Identification of cMyc transcriptional targets *in vivo*. 3rd International Ewing sarcoma meeting, Dallas, April 14-15, 2005
3. Machinery of the cell: Principles of targeted biologic therapies, 37th Congress of the International Society of Pediatric Oncology, Pre-conference educational day. Vancouver, Canada, September 20, 2005
4. Gene expression signatures in Ewing sarcoma. NIH SPECS Investigators' Meeting, Los Angeles, CA, November 14, 2006
5. The role of stem cell pathways in promoting human tumor growth. Azusa Pacific University, Undergraduate Biology Seminar Series. Azusa, CA, January 25, 2007
6. Gene expression profiling of primary Ewing sarcoma. NIH SPECS Investigators' Meeting, St. Louis, MO, October 11, 2007
7. Translocation type and clinical outcome in patients with localized Ewing sarcoma: Results from COG protocol AEWS0031. Children's Oncology Group Annual Meeting, Denver, CO, October 17, 2007
8. Gene expression profiling of primary Ewing sarcoma. Children's Oncology Group Annual Meeting, Denver, October 17, 2007
9. BMI-1 Function in Ewing Sarcoma-Clues to a stem cell origin? Rett Nearburg Ewing Sarcoma Symposium IV. Dartmouth, NH, April 10, 2008
10. BMI-1 in the Initiation and Maintenance of Ewing Sarcoma. California-Harvard Junior Faculty Stem Cell Investigators Meeting. UCLA, Los Angeles, CA, October 10, 2008
11. COG Ewing's Biology: An Update on Three Studies. Children's Oncology Group Annual Meeting, Dallas, TX, September 30, 2009
12. Modeling Tumor Initiation in Human Neural Crest Stem Cells. AACR/Stand Up to Cancer Innovative Research Grants, Finalists' Presentations. Philadelphia, PA. October 2, 2009
13. Gene expression and translocation studies in Ewing sarcoma: An update. Children's Oncology Group Meeting, Los Angeles, CA, March 25, 2010.
14. Invited mentor, "Careers in Clinical and Translational Cancer Research," Roundtable Session, Annual Meeting of the American Association for Cancer Research, Washington, DC. April 17, 2010.
15. The Challenge Of Developing A Prognostic Gene Expression Signature In Ewing Sarcoma: An Update From The COG/SPECS Study, Childhood Bone Sarcoma Genomics Consortium, Washington, DC. April 17, 2010.

16. Translational Research Committee Meeting: Hippo Signaling is inhibited by BMI-1 in Ewing sarcoma. Children's Oncology Group Spring Meeting, Los Angeles. March 24, 2011.
17. Bone Tumor Committee Meeting: Gene expression profiling studies in Ewing sarcoma reveal inter-tumor heterogeneity. Children's Oncology Group Spring Meeting, Los Angeles. March 24, 2011.
18. Invited mentor, "Careers in Clinical and Translational Cancer Research," Roundtable Session, Annual Meeting of the American Association for Cancer Research, Washington, DC. April 2, 2011.
19. Session Chairperson, "Stem Cells in Cancer Biology and Therapy," Annual Meeting of the American Association for Cancer Research, Orlando, FL. April 3, 2011.
20. Translational Research Special Symposium, "What is Translational Research," Annual Meeting of the American Association for Cancer Research, Orlando, FL. April 4, 2011.
21. Major Symposium Speaker, "Modeling the Initiation of Ewing Sarcoma in Human Neural Crest Cells," Epigenetics and Stem Cells in Pediatric Tumors. Annual Meeting of the American Association for Cancer Research, Orlando, FL. April 4, 2011.
22. Keynote speaker, American Physician Scientists Association Annual Meeting, "Careers in translational medicine-A wealth of Opportunity". Chicago. April 15, 2011.
23. Beaumont Children's Hospital, Pediatric Grand Rounds, "Cancer stem cells in pediatric tumors." Oakland, MI. May 10, 2011.
24. Keynote speaker SARC Annual Meeting, "Clinical and biologic heterogeneity in Ewing sarcoma-Challenges for therapy." Chicago, IL. October 27, 2011.
25. European Network for Cancer Research In Children and Adolescents (ENCCA), "LGR5 in Ewing's sarcoma." Vienna, Austria. December 20, 2011.
26. European Science Foundation/EMBO Meeting: Molecular biology and innovative therapies in sarcomas of childhood and adolescence, "Determination of DNA methylation changes that contribute to the initiation and progression of Ewing sarcoma." Pultusk, Poland. September 30, 2012
27. Connective Tissue Oncology Society Annual Meeting. "Nutrient deprivation induces Ewing sarcoma cells to adopt a more invasive phenotype and to up regulate RHO-MKL transcriptional targets." Prague, Czech Republic. November 16, 2012.
28. Stand Up to Cancer Scientific Summit. "Modeling the initiation of Ewing sarcoma in human neural crest stem cells." Phoenix, AZ. January 30, 2013.
29. Memorial "Pablo Ugarte" Workshop Research on Ewing sarcoma. "Membrane signaling and the cytoskeleton." Madrid, Spain. March 8, 2013

Bibliography

Peer-Reviewed Journals and Publications (*denotes trainee under my supervision)

1. Crawford RI, **Lawlor ER**, Wadsworth LD, Prendiville JS (1996) Transient erythroporphyria of infancy. J Am Acad Dermatol; 35:833-4. PMID: 8912598
2. Duclos P, Hockin J, Pless R, **Lawlor B** (1997) Reporting vaccine associated adverse events. Are family physicians aware of criteria and procedures? Can. Fam. Physician; 43:1151-1560. PMID: 9303234

3. **Lawlor ER**, Webb DWM, Hill A, Wadsworth LD (1997) Thrombotic Thrombocytopenic Purpura: A Treatable Cause of Childhood Encephalopathy. J Pediatr; 130:313-6. PMID: 9042139
4. **Lawlor ER**, Anderson RA, Davis JH, Fryer CJH, Pritchard SL, Rogers PCJ, Wu JK, Schultz KR (1997) Immunosuppressive therapy: A potential alternative to bone marrow transplantation as initial therapy for acquired severe aplastic anemia in childhood? J Ped Hem Onc; 19:115-123. PMID: 9149740
5. **Lawlor ER**, Murphy JJ, Sorensen PHB, Fryer CJH (1997) Metastatic primitive neuroectodermal tumour of the ovary: Successful treatment with mega-dose chemotherapy followed by peripheral blood progenitor cell rescue. Med Ped Onc 29:308-12. PMID: 9251739
6. Hand JP, **Lawlor ER**, Yong CKK, Davis JH (1998) Successful use of cyclosporine A in the treatment of refractory thrombotic thrombocytopenic purpura. Br J Haematol; 100:597-9. PMID: 9504648
7. **Lawlor ER**, Bainbridge T, Horsman DE, Mathers JA, Kawai A, Healey JH, Huvos AG, Bridge JA, Ladanyi M, Sorensen PHB (1998) Peripheral primitive neuroectodermal tumours in adults: Documentation by molecular analysis. J Clin Oncol 1998; 16:1150-1157. PMID: 9508202
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