

**Xiayuan Liang, M.D.**

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**BOARD CERTIFICATIONS**

American Board of Pathology, Hematology, 1999  
American Board of Pathology, Anatomic and Clinical Pathology, 1998

**STATE MEDICAL LIENCES**

Colorado, 38336  
California, A066704

**PROFESSIONAL APPOINTMENTS**

**Academic Appointments**

Associate Professor, Department of Pathology, University of Colorado, 2005 - present  
Assistant Professor, Department of Pathology, University of Colorado, 1999 - 2005

**Hospital Staff Appointments**

Staff Pathologist, Department of Pathology, University of Colorado Hospital, 1999 - present  
Staff Pathologist, Department of Pathology, The Children's Hospital, Denver, 1999 - present

**EDUCATION**

Hematopathology Fellowship, University of Arkansas, Little Rock, AK and St. Jude Research Children's Hospital, Memphis, TN, 1998 - 1999  
Residency, Anatomic and Clinical Pathology, University of Arkansas, Little Rock, AR, 1996 - 1998  
Residency, Anatomic and Clinical Pathology, University of Maryland, Baltimore, MD, 1994-1996  
  
Postdoctoral Fellow, Department of Biochemistry and Molecular Biology, Georgetown University, Washington D.C., 1990-1994  
Maternity leave, 1988-1989  
Postdoctoral Fellow, St. Louis Children's Hospital, Washington University, St. Louis, MO, 1987-1988  
  
Residency, Pediatrics, Beijing Children's Hospital, Beijing, China, 1986  
Master of Science-Immunology and Microbiology, Capital Institute of Medicine, Beijing, China, 1983-1986  
Doctor of Medicine, Beijing Second Medical College, Beijing, China, 1978-1982

**HONORS OR AWARDS**

Summit award for excellence in teaching and the education of pathologists, Department of Pathology, University of Colorado Denver, 2009  
  
Recognition of Service to Pediatric Hematology-Oncology, 2002  
  
Graduation with Honors, Beijing Second Medical College, China, 1982

**NATIONAL SCIENTIFIC PARTICIPATION**

**Invited Journal Reviewer**

Archives of Dermatology, 2010  
Pediatric and Developmental Pathology, 2009, 2010  
Medical Oncology, 2008  
Acta Haematologica, 2008  
Haematologica, 2008

**Professional Societies**

Society of Hematopathology, 2005 - present  
Society of Pediatric Pathology, 2007 - present  
Children Oncology Group, 2007 - present  
American Society of Clinical Pathologists, 1994 - present  
College of American Pathologists, 1994 - 2005

**TEACHING****Sophomore Pathology Course**

Instructor, University of Colorado Denver, School of Medicine, 1999 - present  
Instructor, University of Arkansas for Medical Sciences, 1997 - 1998  
Instructor, University of Maryland Medical System, 1995 - 1996

**Resident/Fellow Teaching**Lectures

Pediatric lymphomas, 2010  
Post transplant lymphoproliferative disorders, 2006  
Precursor lymphoblastic leukemia, 2005, 2006

Grand round

t(2;5)(p23;q35) and variants in ALK+ anaplastic large cell lymphoma, 2002

Conferences

University of Colorado, The Children's Hospital

Unknown conferences, 2006-present  
Hematopathology didactics : non-neoplastic lymphadenopathy, 2006  
Mobility and mortality conference, biweekly (case dependent), 2001 - present  
Leukemia conference, monthly, 1999 - present  
Hematology/Oncology teaching series, weekly (case dependent), 1999 - present  
Tumor board, biweekly (case dependent), 1999 - present  
Pediatric pathology conference, weekly (case dependent), 1999 - present  
Professor around, oncology, weekly (case dependent), 1999 - present

University of Arkansas

Bone marrow transplant conference, weekly, 1998-1999  
Hematology/Oncology conference, weekly, 1998 - 1999  
Tumor board, 1997 - 1998  
GI conference, weekly, 1997 - 1998

Resident curriculum

The chapter of red blood cell disorders, non-neoplastic white blood cell disorders, and platelet disorders,  
University of Colorado, 2006 - 2007  
The chapter of body fluids and urine analysis, University of Colorado, 2006 - 2007

Resident study sets

Hematopathology, University of Colorado, 2006  
Hematopathology, flow cytometry, and cytology, The Children's Hospital, Denver, 2005

#### Resident/Fellow Research Mentoring

- F Castro-Silva, M.D., Pathology resident, University of Colorado Denver. Characterization of immunophenotype changes in precursor B-lymphoblastic leukemia of childhood during the course of leukemia progression. 2009
- J Shao, M.D., Visiting fellow of hematology/oncology, The Children's Hospital, Colorado (now oncologist Shanghai Children's Hospital, China). Comparison of S-phase in lymphoblastic leukemia of childhood between initial diagnosis and relapse. 2009
- K. Capocelli, M.D., Pathology fellow, University of Colorado (now pediatric pathology fellow, The Children's Hospital, Pittsburgh, PA). Analysis of karyotype complexity and chromosome aneuploidy in Burkitt lymphoma/leukemia. 2008
- Kotnis G, M.D., Pathology resident, University of Colorado. Pattern of aberrant phenotypes in pediatric acute myeloid leukemia by gene expression profiling. 2008
- J Thomison, M.D., Pathology resident, University of Colorado Denver. Comparison of aberrant immunophenotype between CD15-negative and CD15-positive classical Hodgkin lymphomas in pediatric patients. 2008
- I. Gurevich, M.D., Pathology resident, University of Colorado (now hematopathology fellow, M.D. Anderson, University of Texas, Houston, Texas). The pattern of CD99 expression in pediatric lymphoid neoplasms. 2007
- K. Capocelli, M.D., Pathology resident, University of Colorado. Association of aneuploidy with atypical Burkitt leukemia/lymphoma. 2007
- G. Gheorghe, M.D., Pathology resident, University of Colorado (now assistant professor of pathology, Medical College of Wisconsin). Comparison of immunophenotype of precursor lymphoblastic leukemia between pediatric patients and adult patients. 2006
- A. Gupta, M.D., Pediatric pathology fellow, The Children's Hospital, Denver (now assistant professor of pathology, University of Ohio, Cincinnati, Cincinnati Children's Hospital) Comparing absence of expression of CD34 and TdT between precursor T-lymphoblastic leukemia and precursor B-lymphoblastic leukemia. 2006
- G. Gheorghe, M.D., Pathology resident. University of Colorado, Association of High expression of Bcl-6 and/or CD10 with monomorphic post transplant lymphoproliferative disorders in pediatric patients. 2005
- S. Mengshol, M.D., Pediatric pathology fellow, The Children's Hospital, Denver (Now staff pathologist, Unipath, Denver, Colorado). Association of hypodiploidy with high S-phase in pediatric precursor B-lymphoblastic leukemia. 2004
- A. Angelina, M.D., Pathology resident, University of Colorado, Pattern of aberrant phenotypes in pediatric lymphoblastic leukemia by gene expression profiling. 2003
- L. Liu, M.D., Pathology resident, University of Colorado (now a hematopathologist in Quest Pathology Inc., Indianapolis, IA), Non-positive TdT in pediatric precursor B-lymphoblastic leukemia. 2002

#### **National Workshops**

Annual workshops of society of pediatric pathology. Pediatric thymus pathology. 2010-2012

#### **International Teaching Activities**

Teaching and training sections of hematopathology and flow cytometry for hematology/oncology visiting



fellow of the program of Foundation to CURE Childhood Cancer in China which is sponsored by US CURE program and Chinese government. 2009

Invited lecture. Capital University of Medical Sciences, Beijing, China. "The role of CD44 and CD44v6 in pathogenesis of tumor dissemination in systemic anaplastic large cell lymphoma", 2002

Invited lecture. Beijing Children's Hospital, Beijing, China. "Anaplastic large cell lymphoma", 2002

#### **Other Teaching Activities**

Continuing medical education (CME) course for hematology, flow cytometry, and molecular diagnosis technicians. The Children's Hospital, Denver. "Lineage Switch in Pediatric Acute Leukemia", 2002

Instructor, Pathology course for pathology assistant students, University of Maryland, 1994 - 1995

#### **SCHOLASHIP**

##### **Research Interests**

Genotypic and phenotypic classifications of lymphoma and leukemia

Cytogenetics and molecular genetics, morphogenesis, lineage differentiation, and stage maturation of acute leukemia

Post transplant lymphoproliferative disorders in pediatric patients

Oncogene Mer expression in pediatric hematopoietic neoplasms

##### **Grant support**

American Cancer Society Research Scholar Grant, 1/1/09-12/30/13. Biologically targeted therapy against Mer tyrosine kinase in pediatric ALL. \$150,000/year (direct costs). Role: Co-investigator.

Cancer League of Colorado, 7/08-6/09. Analysis of MerTK contribution to initiation of leukemogenesis. \$30,000/year (direct costs). Role: Consultant.

Children's Leukemia Research Association, 1/09-12/09. \$20,000/year (direct costs). Analysis of MerTK contribution to the maintenance of pediatric acute lymphoblastic leukemia. Role: Consultant.

Pediatric General Clinical Research Center Program, National Institute of Health, Grant # M01-RR00069, 2004, Bcl-6 in Post Transplant Lymphoproliferative Disorder in Children: a Pilot Study. \$15,000 (direct costs). Role: Co-investigator.

#### **CLINICAL SERVICES**

##### **Denver Children's Hospital**

Diagnostic hematopathology (morphological, immunological, and cytochemical evaluations of peripheral blood smears, bone marrows, lymph nodes, and other tissue with hematopoietic disorders from in-house and outside consultation cases)

Diagnostic flow cytometry and cytology

Overseeing clinical flow cytometry and hematology laboratories as a medical director

Introducing antibody cocktails for antibody panel selection

Establishing immunophenotype panels of acute leukemias and lymphomas

Evaluating and establishing diagnosis of CAP survive cases

Evaluating and modifying laboratory protocols

Supervising and improving technologist's skills

Improving customer satisfaction

Autopsy reviews for quality controls

### **University of Colorado Hospital**

Diagnostic hematopathology (morphological, immunological, and cytochemical evaluations of peripheral blood smears, bone marrows, lymph nodes, and other tissue with hematopoietic disorders from in-house and outside consultation cases)

Diagnostic flow cytometry, body fluids, and cytology of hematopoietic disorders

### **ADMINISTRATION ASSIGNMENTS**

Medical Director, Hematology Laboratory, The Children's Hospital, Denver, 1999 - present

Medical Director, Flow Cytometry Laboratory, The Children's Hospital, Denver, 1999 - present

Medical Director, cytology, The Children's Hospital, Denver, 2002 - present

Promotion review committee, Department of Pathology, University of Colorado, 2008 - present

Chairman, a subcommittee, 2010

Section leader, hematopathology curriculum committee for pathology residents, University of Colorado, 2006 - 2007

Residency recruitment task force committee, Department of Pathology, University of Colorado, 2004 - present

Seminar committee, Department of Pathology, University of Colorado, 1999 - 2006

CAP inspector, Hematology, Medical Laboratory of Dallas, Texas, 1999

### **PUBLICATIONS**

#### **Publications, Peer Reviewed**

1. **Liang X**, Lovell MA, Capocelli KE, Albano EA, Birch S, Keating AK, Graham DK. Thymoma in children: report of two cases and review of the literature. *Pedia Deve Pathol*, 2010 Jan 7. [Epub ahead of print]
2. Linger RMA, DeRyckere D, Brandao L, Sawczyn KK, Jacobsen KM, **Liang X**, Keating AK, Graham DK. Mer receptor tyrosine kinase is a novel therapeutic target in pediatric B-cell acute lymphoblastic leukemia. *Blood*. 2009; 114:2678-2687.
3. **Liang X**. T-cell/histiocyte-rich B-cell lymphoma. *Check Sample, Hematology, American Society for Clinical Pathology*. 2009;H 09-2(H-325):15-25. .
4. Kelher MR., Masuno T., Moore EE., Damle S., Meng X., Song Y., **Liang X**, Niedzinski J., Geier S., Khan SY., Gamboni-Robertson F., Silliman CC.. Plasma from stored packed red blood cells and MHC Class I antibodies cause ALI in a 2-event in vivo model. *Blood*. 2009;113:2079-87.
5. Petersen W., Schlis KD., Braverman RS., Carlson I., **Liang X**, Wang M.. Pseudohypopyon: Extramedullary relapse of acute myelogenous leukemia with poor prognosis. *Pedia Blood & Cancer*. 2009;62:885-887.
6. Porter CC. **Liang X**, Gralla J., McGavran L., Albano EA.. Bcl-6 expression correlates with monomorphic histology in children with post-transplant lymphoproliferative disease. *J Pediatra Hemato Oncol*. 2008;30:684-688.
7. **Liang X**. Graham DK. Natural killer cell neoplasms. *Cancer*. 2008;112:1425-1436.
8. Zhong CH. Prima V., **Liang X**, Frye C., McGavan L., Meltesen L., Wei Q., Boomer T., Varella-



Garcia M., Gump J., Hunger S.. E2A-ZNF 384 and NOL-E2A fusion created by a cryptic t(12;19)(p13.3;p13.3) in acute leukemia. *Leukemia*. 2008;22:723-729.

9. **Liang X**, Brian G, Garrington T, Graham DK. Precursor Natural Killer Cell Leukemia in Pediatric Patients. *Pedia Blood & Cancer*. 2008;50:876-878.
10. **Liang X**. Galactosialidosis. *Check Sample, Hematology, American Society for Clinical Pathology*. 2007;H 07-7(H-314):99-107.
11. Gheorghe G., Albano EA., Porter CC., McGavran L., Wei Q., Meltesen L., Danielson SM., **Liang X**.. Posttransplant Hodgkin lymphoma preceded by polymorphic posttransplant lymphoproliferative disorder: report of a pediatric case and review of the literature. *J Pediatr Hematol Oncol*. 2007;29:112-116.
12. Zohn IE., Domenico ID., Pollock A., Ward DM., Goodman JF., **Liang X**., Sanchez AJ., Niswander L., Kaplan J.. The *flatiron* Mutation in Mouse Ferroportin Acts as a Dominant Negative to cause Hemochromatosis Type IV. *Blood*. 2007;109(10):4174-4180.
13. Sather S., Kenyon KD, Lefkowitz JB, **Liang X**., Varnum BC, Henson PM, Graham DK. A soluble form of the Mer receptor tyrosin kinase inhibits macrophage clearance of apoptotic cells and platelet aggregation. *Blood*. 2007;109:1026-1033.
14. Keating AK., Salzberg DB., Sather, S., **Liang X**., Anwar A., Sawczyn K.K., Hill K., Park J., DeRyckere D., Everett, D., Johnson GL., Graham DK.. Lymphoblastic leukemia/lymphoma in mice overexpressing the Mer receptor tyrosine kinase. *Oncogene*, 2006;25:6092-6100.
15. Graham DG., Salzberg DB., Kurtzberg J., Sather S., Matsushima GK., Keating AK., **Liang X**., Lovell MA., Williams SA., Dawson TL., Schell MJ., Snodgrass HR., Earp HS.. Ectopic Expression of the Proto-oncogene Mer in Pediatric T Cell Acute Lymphoblastic Leukemia. *Clin Cancer Res*. 2006;12:2662-2669.
16. Goldenberg N., Graham DK., **Liang X**., Hays T.. Successful treatment of severe aplastic anemia in children using a standardized immunosuppressive therapy regimen of antithymocyte globulin and cyclosporine A. *Pedia Blood & Cancer*. 2004;43(7):718-22.
17. Liu L., McGavran L., Lovell MA., Wei Q., Jamieson B., Williams SA., Dirks N., Danielson MS, Dubie LM, **Liang X**.. Nonpositive Terminal Deoxynucleotidyl Transferase in Pediatric Precursor B-lymphoblastic leukemia. *Am J Clin Pathol*. 2004;121:810-815.
18. **Liang X**., Meech SJ., Odom LF., Bitter MA., Ryder JW., Hunger SP., Lovell MA., Wei Q., Meltesen L., Hutchinson RN., McGavran L.. Assessment of t(2;5)(p23;q35) translocation and variants in ALK+ anaplastic large cell lymphoma of pediatric patients. *Am J Clin Pathol*. 2004;121:496-506.
19. Trobaugh-Lotrario AD., **Liang X**., Janik JS., Lovell MA., Odom LF.. Difficult diagnostic and therapeutic case: Case 2. thymoma and tumor lysis syndrome in an adolescent. *J Clin Oncol*. 2004;22:955-957.
20. Schulz LT., Twite M. **Liang X**., Lovell MA., Stork LC.. A case of childhood CD30 negative peripheral T-cell lymphoma with massive cardiac infiltration. *J Pediatr Hematol Oncol*. 2004;26(1):48-51.
21. **Liang X**., Stork LC., Albano EA.. Primary ocular adenexal lymphoma in pediatric patients: report of two cases and review of the literature. *Pedia Deve Pathol* 2003;6:458-463.
22. Graham DK., **Liang X**., Miller KL., Wei Q., Stork LC.. Disseminated nasopharyngeal natural killer cell lymphoblastic lymphoma in a child. *Med Pediatr Oncol* 2003;40:251-253.