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ADDRESS

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3601 West Thirteen Mile Road
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EDUCATION AND TRAINING

7/2000 – 6/2001	Surgical Pathology Fellow, Department of Pathology & Laboratory Medicine Hospital of University of Pennsylvania, Philadelphia, PA
7/1997 – 6/2000	Residency, Department of Pathology Beth Israel-Deaconess Medical Center, Harvard Medical School, Boston, MA
2/1995 – 6/1997	Post-Doctoral Fellow, Department of Rheumatology Oregon Health Sciences University, Portland, OR
8/1988 – 1/1995	Doctorate of Philosophy, Ph.D. in Cell & Molecular Biology, Department of Cell Biology and Anatomy, Oregon Health Sciences University, Portland, OR
12/1985 – 8/1988	Research and Pathology Fellow Institut für Anatomie, Universitätsklinikum Essen, and Institute für Pathologie, Universitätsklinikum, Bochum, West Germany
12/1982 – 11/1985	Residency, Department of Pathology Tongji University School of Medicine, Wuhan, Hubei, P.R. China
3/1978 – 12/1982	Bachelor of Medicine and Bachelor of Surgery, M.B.B.S., (M.D. equivalent) Tongji University School of Medicine, Wuhan, Hubei, P.R. China

OTHER RELATED TRAINING

5/2000	Pediatric Pathology, One-Month Pathology Rotation Armed Force Institute of Pathology (AFIP), Washington DC
3/2001	Soft Tissue Pathology, One-Month Pathology Rotation with Sharon Weiss, M.D., Department of Pathology & Laboratory Medicine at Emory University, Atlanta, GA
11/2003	Liver Transplant Pathology, two-week sabbatical with Swan Thung, M.D., Department of Pathology & Laboratory Medicine, Mount Sinai School of Medicine, New York, NY
9/2004	Liver Transplant Pathology, two-week sabbatical with Umila Khettry, M.D., Department of Pathology & Laboratory Medicine, Lahey Clinic, Burlington, MA

11/2004	Liver & Small Bowel Transplant Pathology, two-week sabbatical with Stan Radio, M.D., Department of Pathology & Microbiology Medicine, University of Nebraska Medical Center, Omaha, NE
11/2004	Executive Coaching, personal coach Joan Bolmer, listed in The National Directory of Executive Coaches

PROFESSIONAL MEMBERSHIPS

American Society for Clinical Pathology (ASCP)

College of American Pathologist (CAP)

United States and Canadian Academy of Pathology (USCAP)

American Medical Informatics Association (AMIA)

American Society of Investigative Pathology (ASIP)

American College of Rheumatology (ACR)

PROFESSIONAL, ACADEMIC, ADMINISTRATIVE, AND CLINICAL POSITIONS

Academic Positions

2017 – present	Pathology Informatics, New pathology Resident Course
12/2010 – present	Professor, Department of Pathology and Laboratory Medicine Oakland University William Beaumont School of Medicine, Rochester, MI
4/2010 – 11/2010	Associate Professor, Department of Pathology and Laboratory Medicine Oakland University William Beaumont School of Medicine, Rochester, MI
5/2008 – 3/2010	Associate Professor, Department of Pathology and Laboratory Medicine University of Rochester Medical Center, Rochester, NY
8/2001 – 10/2006	Assistant Professor, Department of Pathology and Laboratory Medicine University of Texas Health Science Center in Houston, Houston, TX
Spring 2001	Pathology, GY-2, (Laboratory) University of Pennsylvania School of Medicine, Philadelphia, PA
2002 – 2006	Pathology of Pancreas, Gallbladder and Liver (Lectures and Laboratories) GY-2 University of Texas Medical School, Houston, TX
2001 – present	• Residents and medical student teaching on routine clinical service in surgical pathology • Hepatobiliary and gastrointestinal pathology • Photography for anatomic pathology • Digital imaging in surgical pathology • Data management in pathology • Informatics mini-series on software applications • Specimen processing and histochemical stains in pathology

Fall 1990	Human Histology, GY-1. (Lab) Oregon Health Sciences University, Portland, OR
Fall 1985	Pathology (Introduction to General Pathology), GY-2 Tongji University School of Medicine, Wuhan Hubei, PR China
Fall 1984	Pathology (Introduction to Tumor pathology), GY-2 Tongji University School of Medicine, Wuhan Hubei, P.R.China
Fall 1983	Pathology (Inflammation and Repair), GY-2 Tongji University School of Medicine, Wuhan Hubei, PR China

General Small Group Teaching and Supervising

9/2001 – 10/2010	Office assistants: selected mentoring on "academic," "education," "clinical" track Mentoring Activity: computer software applications / information technologies: Microsoft Word, Excel, PowerPoint; webpage design, data-mining
2003 – 2010	Medical student: 3-4 rotating medical students per month; regular teaching and supervision during clinical service and rotation presentation
7/2001 – present	Pathology residents: 4-7 new residents per year; regular teaching and supervising during clinical service

Information Technology Training Program (Funder & Director)

"This program is designed to provide volunteer students with the opportunity to explore the fascinating world of medicine, biology and information technology. The focus is to prepare the students for their academic endeavors, future career, and personal worthwhile goals via acquisition of specific technical skills, hands-on practice, broad clinical observation and involvement in specific projects."

I established this program in 2004 at the University of Texas Health Science Center in Houston, Texas. It subsequently moved with me to the University of Rochester Medical Center (URMC) and expanded with support from the Pathology Department. The URMC program reached capacity accepting 18 students. Under my direction the program at URMC has entered its 13th year and remains a stellar educational program under the auspices of the Student Encrichment Program at the University of Rochester.

Web link to: Pathology IT Program at University of Rochester Medical Center

I re-created this program at Beaumont Health Royal Oak when I joined the institution in 2010. I have been directing this program under the auspices of Beaumont Health's Volunteer Office. The program offers a wide variety of training, from simple text management, to web page design, image database, speech recognition, podcasting, etc..

Web link to: Information Technology Volunteer Program at Beaumont Health

Sample projects by volunteer students:

- Method Of the Histochemical Stains & Diagnostic Application
- The Biological Stain Commission (2007-2014 Web version)
- Pathology Tumor Reporting Templates (updated Dec. 2016)
- KnowledgeBase (RSS feed) (for student training only)
- Literature Up-To-Date in Apple iTune (discontinued)

Projects for the summer of 2017:

- Update Pathology Tumor Reporting Template with 8th AJCC staging schema
- Establish image database to support collaboration with PathologyOutline.com
- Web publish reporting templates for molecular pathology
- Database for grant source & guidelines (with focus on fundation grants)

Administrative Appointments

2/2015 – 5/2017	Director of Surgical Pathology, Department of Anatomic Pathology Corewell Health William Beaumont University Hospital, Royal Oak, MI
1/2008 – 3/2010	Medical Director of Pathology Informatics, Department of Pathology and Laboratory Medicine, Strong Memorial Hospital University of Rochester Medical Center, Rochester, NY
6/2003 – 10/2006	Director of Pathology Informatics Division, Department of Pathology and Laboratory Medicine, University of Texas Health Science Center, Houston, TX
10/2003 – 10/2006	Director, Hepatobiliary Pathology Service, Department of Pathology and Laboratory Medicine, Memorial Hermann Hospital, Houston, TX
3/2004 – 7/2004	Director, Immunohistochemistry Lab, Department of Pathology and Laboratory Medicine, University of Texas Health Science Center, Houston, TX

Clinical Appointments

12/2010 – present	Senior Staff Pathologist Gastrointestinal Pathology, Department of Anatomic Pathology Corewell Health William Beaumont University Hospital, Royal Oak, MI
11/2006 – 3/2010	Senior Staff Pathologist, Department of Pathology and Laboratory Medicine Strong Memorial Hospital, University of Rochester Medical Center, Rochester, NY
8/2001 – 10/2006	Staff Pathologist, Memorial Hermann Hospital & Lyndon B. Johnson Hospital University of Texas Helath Science Center in Houston, Houston, TX

COMMITTEES AND OTHER SERVICE

1/2015 – 11/2016	Cancer Committee, Beaumont Health System, Royal Oak, MI
2/2009 – 3/2010	Cancer Committee, Strong Memorial Hospital, University of Rochester Medical Center, Rochester, NY
2/2007 – 3/2010	Residency Education Committee, Department of Pathology and Laboratory Medicine, University of Rochester, Rochester, NY
9/2005 – 10/2006	Residency Committee, Department of Pathology and Laboratory Medicine, University of Texas Health Science Center, Houston, TX
5/2007 – 3/2010	Faculty Mentor & Funding Director, Pathology Information Technology Training Program, University of Rochester Medical Center, Rochester, NY

7/2005 – 10/2006	Committee on Continuing Medical Education (CME), University of Texas Health Science Center, Houston, TX
7/2010 – present	Faculty Mentor & Funding Director, Information Technology Volunteer Program, Corewell Health System (East), Royal Oak, M

PUBLICATIONS

Full-Length Articles and Book Chapters

Qu Z. Mechanisms of oncogene activation. Journal of Western Medicine, volume in Cancer Research (Gou Wai Yi Xue--Zhong Liu Xue Fen Ce) 6:324-328, 1984.

Qu Z. and Zhao X.Z. Oncogenes and tumorigenesis. In Clinical Pathophysiology. Ed. Li Z. J., Lu X., and Zhao X. Z.. Guandong Acdemic Press, P.R.China, Volume I, page 412 - 436, 1990. (ISBN: 7-5359-0269-3/R.51)

Qu Z., Hernandez-Garcia C., O'Rourke L.M., Planck S.R , Hart C.E. and Rosenbaum J.T.. Local proliferation of fibroblast-like synoviocytes contributes to synovial hyperplasia: results of proliferating cell nuclear antigen/cyclin, c-myc, and nucleolar organizer region staining. Arthritis Rheum. 37:212-220, 1994.

Qu Z., Dang T., Picou M.A., Angell E., Hart C.E., Planck S.R. and Rosenbaum J.T.. Immunolocalization of basic fibroblast growth factor and platelet-derived growth factor-A during adjuvant arthritis in the Lewis rat. Am. J. Pathol. 145: 1127-1139, 1994.

Qu Z., Liebler J.M., Powers M.R., Galey T., Huang X.-Na., Ansel J.C., Butterfield J.H. , Planck S.R. and Rosenbaum J.T.. Mast cells are a major source of basic fibroblast growth factor in chronic inflammation and cutaneous hemangioma. Am. J. Pathol. 147: 564 - 573, 1995.

Qu Z, Huang X-Na., Andresevic J, Ahmadi P, Planck SR, Hart CE and Rosenbaum JT. Expression of basic fibroblast growth factor in synovial tissue from patients with rheumatoid arthritis and degenerative joint disease. Lab. Invest. 73: 339 - 346, 1995.

Ahmadi P., **Qu Z.**, Kayton R.J., Anderson D., Spangler W.D., Planck S.R. and Rosenbaum J.T.. Enzymatic digestion is also an effective antigenicity-restoring method for immunohistochemistry at the electron microscopic (EM) level. Proceedings in Microsopy &. Microanalysis. pp. 42-43, 1996.

Powers M.R., **Qu Z.**, O'Brien B., Wilson D.J., Thompson J.E. and Rosenbaum J.T.. Immunolocalization of bFGF in pterygia – association with mast cells. Cornea 16:545-549, 1997.

Liebler J.M., Picou M.A., **Qu Z.**, Powers M.R. and Rosenbaum J.T.. Altered immunohistochemical localization of basic fibroblast growth factor after bleomycin-induced lung injury. Growth Factor 14:25-38, 1997.

Qu Z., Huang X.-Na., Ahmadi P., Stenberg P., Liebler J.M., Le A-C., Planck S.R. and Rosenbaum J.T.. Synthesis of basic fibroblast growth factor (bFGF) by murine mast cells -- regulation by transforming growth factor beta, tumor necrosis factor alpha, and stem cell factor. Int. Arch. Allergy Immunol. 115:47-54, 1998.

Qu Z., Kayton R., Ahmadi P., Liebler J.M., Powers M.R. Planck S.R. and Rosenbaum J.T.. Ultra-structural immunolocolization of basic fibroblast growth factor in mast cell secretory granules – morphological evidence for bFGF release through degranulation. J. Histochem. Cytochem. 46:1119-1128, 1998.

Liebler J.M., **Qu Z.**, Buckner B., Powers M.R. and Rosenbaum J.T.. Fibroproliferation and mast cells in the acute respiratory distress syndrome. Thorax 53:823-829, 1998.

Powers M.R., **Qu Z.**, LaGesse P., Liebler J.M., Wall M.A. and Rosenbaum J.T.. Expression of basic fibroblast growth factor in nasal polyps. Ann. Otol. Rhinol. & Laryngol. 107:891-897, 1998.

Lemos L.B., **Qu Z.**, Laucirica R. and Fred H.L.. Hyperinfection syndrome in strongyloidiasis: Report of two cases. Ann. Diagn. Pathol. 7(2):87-94, 2003.

Lemos LB, **Qu Z**, Garg K, Papasozomenos S.. Pseudoneoplastic proliferation of histiocytes with paclitaxel-induced ultrastructural changes in a mastectomy specimen. Ann Diagn Pathol. 8(5):299-304, 2004

Pereira, K.D., Bennett, K.M., Elkins, T.P. and **Qu Z..** Ameloblastic fibroma of the maxillary sinus. Int. J. Pediatr. Otorhinolaryngol. 68(11):1473-1477, 2004.

Garg K., Lee P., Ro JY., **Qu Z.**, Troncoso P. and Ayala A.G.. Adenomatoid tumor of the adrenal gland: a clinicopathologic study of 3 cases. Ann Diagn Pathol. 9(1):11-5, 2005.

Qu Z., Immunohistological detection of growth factors and cytokines in tissue mast cells. In Methods in Molecular Biology -- Mast Cells Methods and Protocols. Edited by Guha Krishnaswamy &. David S. Chi. Humana Press Inc. p257-272, 2005.

Qazilbash, M.H., **Qu Z.**, Hosing C., Couriel D., Donato M., Giralt, S. and Champlin, R.. Rituximab-induced acute liver failure after an allogeneic transplantation for chronic myeloid leukemia. Am J Hematol. 80(1):43-5, 2005.

Qu Z., Ghorbani R.P., Hunter RL, Hannah CD. Advantages of combined touch screen technology and text hyperlink for the pathology grossing manual: a simple approach to access instructive information in biohazardous. Human Pathology 38(3):420-425, 2007.

Qu Z., Ninan S., Almosa A, K.G. Chang KD., Kuruvilla S., Nguyen N. Synoptic reporting in tumor pathology: Advantages of a web-based system. American Journal of Clinical Pathology 127(6): 898-903, 2007, with editorial comment.

Swaim L.S., Zeitz B. and **Qu Z..** An uncommon cause of vaginal bleeding in the pre-child. Obstetrics & Gynecology. 110(2) Part-1: 416-420, 2007. (Selected as national required reading article for ObGyn residents for 2007-2008).

Qu Z. and Ryan CK.. Chapter V – Hepatobiliary System. In Photographic Atlas of Anatomic Pathology – A Fundamental Diagnostic Companion. Ed.: Kreuger GRE et al. Sichuan University Press, ISBN 978-7-5614-4021-6 / R.158. 2008.

Nguyen D, Padula A., Illoh O., **Qu Z..** A teaching database for diagnosis of hematologic neoplasms using immunophenotyping by flow cytometry. Arch. Path. Lab. Med. 132(5):829-837, 2008.

Qu Z., Abadeer R., Kundu U., and Wanger A.. Strongyloides colitis is a lethal mimic of ulcerative colitis: the key morphologic differential diagnosis. Human Pathology, 40:572-577, 2009.

Katz AW, Chawla S, **Qu Z**, Kashyap R, Milano MT and Hezel AF. Stereotactic hypofractionated radiation therapy as a bridge to transplantation for hepatocellular carcinoma: Clinical outcome and pathologic correlation. Int J Radiat Oncol Biol Phys 83(3):895-900, 2012.

Denby KS, Briones AJ, Bourne PA, Spaulding, Lu, Fischer-Colbrie R, **Qu Z**, Wang HL, and Xu H.. IMP3, NESP55, TTF-1 and CDX2 serve as an immunohistochemical panel in the distinction among small-cell carcinoma, gastrointestinal carcinoid and pancreatic endocrine tumor metastasized to the liver. AIMM 20(6):573-579, 2012.

Levine RA, **Qu Z** and Wasvary H. Retrorectal teratoma: A rare cause of pain in the tailbone. Indian J Surg Published on-Line, March 2012 (DOI 10.1007/s12262-012-0457-0) *Indian Journal of Surgery 2013, 75 (2): 147-8.*

Stueck AE, **Qu Z**, Huang MA, Campreciós G, Ferrell LD, Thung SN. Hepatocellular carcinoma arising in an HNF-1α–mutated adenoma in a 23-year-old woman with maturity-onset diabetes of the young: A case report. Seminars in Liver Disease (2015). 35(4): 444-449.

Zhang K, Parikh SR, ..., **Qu Z** and Zhang PL.. Diagnostic values of a progenitor cell marker CD133 expression in various types of adenocarcinoma. J Mol Biom & Diag (2016). 7: 299. doi:10.4172/2155-9929.1000299.

Other Scholarly Publications

Qu Z. and Ghorbani R. Electronic Procedure Manual for Surgical Pathology. 277 web pages. Official procedure manual at Department of Pathology & Laboratory Medicine, University of Texas Health Sciences Center in Houston. Available on the world wide web since 2003.

Qu Z. and Ninan S. (MS). Tumor Synoptic Reporting System. 42 web pages. Available on the world wide web since 2005. Last updated: March 2012.

Qu Z. Formulation of Pathology Report. 60 web pages. Available on the world wide web since 2003.

Qu Z. and Ninan S. (MS). Expert Diagnostic System for Hepatobiliary Pathology. Under on-going construction. Available on the world wide web since 2004.

Churukian, C.J.,: Method of the Histochemical Stains & Diagnostic Application. Web design and publication by C. Walker and Yuehui Mao. Project director: **Qu, Z.**

Qu Z and Ghorbani R.: Grading and Scoring Schemas in Pathology. A consortium of grading systems frequently applied (2012).

Qu Z. Expert Diagnostic System for Common Neoplasms. Over 2000 tumor and variants. Estimated 3000 print pages (not include photographs). Internal use only.

Qu Z. Literature Up-to-Date. A podcast of article titles of major pathology journals. Publish monthly since 2010. Also accessible on iTune Podcase.

INVITED LECTURES / PRESENTATIONS

Case and poster presentations. 124th Annual Meeting of the Association of Clinical Scientists. Houston, TX, May 12 – 16, 2004. Ann. Clin. Lab. Sci., Vol. 34, Issue 3, 357-372, July 1, 2004.

Case presentations in plenary sessions I-VI: Hepatitis C; Hepatitis B; Translplantation; Liver Tumors; NASH; and other liver diseases. Contemporary Concepts in Liver Disease and Transplantation, Houston, TX, November 12 – 13, 2004.

1. Pathology Informatics; and 2. Liver Transplantation Pathology; Tongji International Pathology Symposium, November 29 – December 2, 2006. Tongji Medical College, Hua Zhong University of Science and Technology, Wuhan, China.

Co-chair / moderator in gastrointestinal, breast and lung pathology sessions. Tongji International Pathology Symposium, November 29 – December 2, 2006. Tongji Medical College, Hua Zhong University of Science and Technology, Wuhan, China.

Pathology: A cornerstone of medicine and biological sciences. A lecture to medical students at Tongji Medical College, Hua Zhong University of Science and Technology, Wuhan, China, November 30, 2006.

Ulcerative colitis: How often does it become a fatal diagnosis? Institute of Pathology, University of Heidelberg, Germany. May 15, 2007.

Showcase of selected informatics projects in pathology. Internal invited presentation during Microsoft worldwide health team visit to University of Rochester. September 18, 2007.

Applied information technologies. Faculty course director. 2011 ASCP Meeting/ WASPaLM XXVI World Congress. October 18 – 22, 2011. Las Vegas, NV.

National Teleconferences & Live Webcasts (Webinar): "Application of Information Technology in Pathology: Principles and Pragmatic Approaches." Zhenhong Qu. Novevmber 28, 2012. American Society for Clinical Pathology.

National Teleconferences & Live Webcasts (Webinar): "Biological Stains in Diagnostic Liver Pathology" Zhenhong Qu October 28, 2015. National Society for Histotechnology (NSH).

ABSTRACTS AND MEETING PRESENTATIONS

Qu Z., Echoff A., and Mühler K.M.. Localization of fibronectin in human lung carcinomas: Poster and presentation at the annual "Pathologentreffen der Rheinprovinz" June 1988, Universität Düsseldorf, D-4000 Düsseldorf, West Germany.

Qu Z., Planck S.R., Hart C.E. and Rosenbaum J.T.. Localization of platelet-derived growth factor (PDGF) isoforms and PDGF receptor in synovial tissues from patients with rheumatoid arthritis (RA) and degenerated joint disease (DJD). Arthritis. Rheum. 33 (9) (supplement): S42, 1990.

Qu Z., Planck S.R., Hart C.E. and Rosenbaum J.T.. Distribution pattern of basic fibroblast growth factor (b-FGF) in synovial tissue from patients with rheumatoid arthritis. Arthritis Rheum. 33 (9) (supplement): A75, 1990.

Hernández-García C., **Qu Z.**, Planck P.R., Rosenbaum J.R.. Detección del producto del anti-oncogén p53 en membrana sinovial de AR. XIX Congreso de la Sociedad Española de Reumatología. San Sebastián, 1992. (Detection of the anti-oncogen p53 product in synovial membrane of RA. 19th meeting of the Spanish Society of Rheumatology.) (oral presentation).

Qu Z., Thao Dang, Picou M.A., Angell E., Hart C.E., Planck S.R. and Rosenbaum J.T.. Contrasting roles of basic fibroblast growth factor (bFGF) and platelet-derived growth factor A (PDGF-A) during adjuvant arthritis in Lewis rats (Abstract). Arthritis Rheum. 36 (9) (supplement): S211, 1993.

Picou M.A., Liebler J.M., **Qu Z.**, Powers M.R. and Rosenbaum J.T.. Immunohistochemical localization of basic fibroblast growth factor in bleomycin-induced lung injury. Am. Rev. Resp. Dis. 147: A85, 1993.

Gregory K.W., Buckley L.A., Haw T.E., Grunkemeier J.M., Chasleney E.A., **Qu Z.**, Tuke-Bahiman D., Fahrenbach H. and Block P.C.. Photochemotherapy of intimal hyperplasia using psoralen activated by ultra-violet light in a porcine model. Circulation 88 (4) pt.4: I-82, 1993.

Powers M.R., **Qu Z.**, Liebler J.M., LaGesse P., Wall. M.A. and Rosenbaum J.T.. Immunohistochemical localization of basic fibroblast growth factor and proliferating cell nuclear antigen in nasal polyp tissue. Am. J. Resp. Crit. Care Med. 149 (4): A707, 1994.

Liebler. J.M., **Qu Z.**, Powers M.A., Picou L., O'rourke L., Galey T. and Rosenbaum J.T.. Immunohistochemical localization of basice fibroblast growth factor and tryptase in human fibrotic lung tissue. Am. J. Resp. Crit. Care Med. 149 (4): A379, 1994.

Qu Z., Planck S.R. and Rosenbaum J.T.. Mast cells rather than macrophages or synovicytes are the major source of basic fibroblast growth factor in arthritic joint. Arthritis Rheum. 37 (suppl): S305, 1994.

Qu Z., Angell E., Sauser D., Planck S.R. and Rosenbaum J.T.. Basic fibroblast growth factor improves adjuvant arthritis, while a growth factor antagonist worsens the disease. Arthritis Rheum. Arthritis Rheum. 37 (suppl): S399, 1994.

Qu Z., Lea A.C., Ahmadi P., Liebler J.M., Ansel J.C., Planck S.R. and Rosenbaum J.T.. Murine mast cells synthesize and release basic fibroblast growth factor (FGF-2). ASCB (Special Poster Session): H91, 1994.

Liebler J.M., **Qu Z.**, O'Rurke L., Powers M.R., Peters J.I., Coalson J.J. and Rosenbaum J.T.. Increased number of mast cells correlate with fibroproliferation in the adult resporatory distress syndrome (ARDS). AJRCCM 151: A765, 1995.

Qu Z., Branham V., Ahmadi P., Planck S.R. and Rosenbaum J.T.. Immunolocalizarion implicates fibroblast growth factor receptor-2 in synovial hyperplasia in patients with rheumatoid arthritis (RA). Arthritis Rheum. 38 (9, supplement): S355, 1995.

Liebler J.M., **Qu Z.**, Powers M.R., Picou M., Ahmadi P. and Rosenbaum T.J.. Intensity of immunolocalization of basic fibroblast growth factor (bFGF) corresponds to increased cell proliferation in bleomycin-induced lung injury. 1996. (submitted to ATS).

Liebler J.M., **Qu Z.**, O'Brian B., Powers M.R. and Rosenbaum T.J.. Fibroblast growth factor receptor 1 (FGFR-1) and 2 (FGFR-2) in human and experimental pulmonary fibrosis. AJRCCM 153: A311, 1996.

Ahmadi P., **Qu Z.**, Powers M.R., Kayton R.J., Morrison L., Planck S.R. and Rosenbaum J.T.. Light and electron microscopic immunolocalization of bFGF in eosinophils in chronic inflammatory tissues (abstract). FASEB 10(6):A1478, 1996.

Qu Z., Ahmadi P., Stenberg P., Kayton R.J., Planck S.R. and Rosenbaum J.T., Ultrastructural immunolocalization of basic fibroblast growth factor-like molecules in cytoplasmic granules of mast cells in inflamed tissue (Abstract). FASEB 10(6):A1263, 1996.

Rosenbaum J.T., **Qu Z.**, Spangler W.D. and Planck S.R.. Immunolocalization of fibroblast growth factor receptor-1 and -2 in joint tissue from rats with adjvant polyarthritis (abstract). FASEB 10(6):A2757, 1996.

Martin T.M., **Qu Z.**, Huang X.N., Planck S.R., Edwards A. and Rosenbaum J.T.: Exclusion of the IL-4 receptor as the Blau syndrome gene. Invest. Ophthalmol. Vis. Sci 39:S362 1998.

Liebler J.M., Powers M.R., J. Eubanks J., **Qu Z.** and Rosenbaum J.T.. Immunolocalization of interleukin 10 (IL-10) in the acute respiratory distress syndrome (ARDS) and idiopathic pulmonary fibrosis (IPF). Am J. Resp. & Crit Care Med. 159:A108, 1999.

Ivan D., Nguyen A., Lemos L. and **Qu Z**.. A powerful, easy-to-use, and cost-effective image acquisition and management system for surgical pathology. ASCP Meeting Abstract 2002.

Jiang L., Ninan S., Kott M. and **Qu Z**.. A flexible, user-friendly, web-based test order database for surgical pathology. ASCP Meeting Abstract 2002.

Zhang H., Ninan S. and **Qu Z**.. Computer-assisted routine sign-out in surgical pathology: A new tool to enhance independence and improve performance of trainees. ASCP Meeting Abstract 2002.

Hannah C., Ghorbani R. and **Qu Z..** A computerized surgical pathology procedure manual with touch-screen navigation. ASCP Meeting Abstract 2002.

Gu Y., Hannah C.D., Chughtai O.R., **Qu Z**.. A computer-assisted diagnostic system for inflammatory skin disease. Abstract [1474], ASCAP Annual Meeting, 2003 March.

Kuruvilla S., **Qu Z**. and Chang K.G.. A simple modification of CAP checklist minimizes extensive editing and reduces clerical error in pathology tumor reporting. Mod Pathol. 18 (suppl. 1):323A (Abstract 1503), 2005.

Lloyd M., Wang R., **Qu Z**., Geng Y.J.. Penile morphological and physiological changes in mice with hypercholesterolemia. (Abstract) 2004 Summer Student Research Program Exhibition, UT-MS, Houston, TX.

Ostler D.A., Nina S. and Qu Z.. Computerized diagnostic consultation system for hepatobiliary pathology. Mod Pathol. 18 (suppl. 1):332A (Abstract 1544), 2005.

Merhav H. J., Botero R., **Qu Z**, Zazua R., LeSage G., Mieles L.. Early treatment of hepatitis-C after liver transplantation: Preliminary results. Liver Transplantation, Volume 11, Issue 7 (p C1-C166), 2006.

Abadeer R., Kundu U., Wanger A. and **Qu Z**.. Strongyloides colitis minics ulcerative colitis: Morphological differential diagnosis. Abstract [1225], page 267A, ASCAP Annual Meeting, 2007.

Duan X, **Qu Z**, Albarracin CT, Mapilca C and Deavers MT. Primary leiomyosarcoma of vagina: a clinicopathologic study of 11 cases. Abstract [889], page 195A, ASCAP Annual Meeting, 2007 March.

Qu Z, Findes-Hosey J and Schafer KE. Pathology tumor reporting and data depository using a web-based system. Abstract-401 (with oral presentation), APIII Meeting (http://apiii.upmc.edu/), 2007 September.

Qu Z, CoyKendall G and Rodriguez ME. A web-based pathology scoring / grading system for non-neoplastic diseases. Abstract-400 (with oral presentation), APIII Meeting (http://apiii.upmc.edu/), 2007 September.

Kundu K, Nguyen J, Nguyen ND, **Qu Z**, Uthman M. A Burkitt lymphoma case with atypical immunophenotype: Coexpression of CD5 and CD10 along with cytoplasmic light chain restriction. Abstract 41, page 695. ASCP Annual Meeting 2007 October 18-21, Riverside, New Orleans, LA.

Findes-Hosey J, Ikpeze TC, Mao Y, Hosey D, Van Vranken C, Schafer KE, Ninan S, and **Qu Z.** Web-based pathology tumor reporting system with enhanced user data collection, re-usability and storage. Modern Pathol. 21 (Suppl. 1): 364A, 2008. (Abstract 1660 and platform presentation) 2008 USCAP Annual Meeting.

Rodriguez ME, Findeis-Hosey J, Hosey D, Mao Y and **Qu Z**. Architectural Design of a Web-based scoring / grading system for non-neoplastic conditions: Bringing simplicity to diversity. Modern Pathol. 21 (Suppl. 1): 370A, 2008. (Abstract 1686 and platform presentation) 2008 USCAP Annual Meeting.

Xu H, Briones AJ, Bourne PA, Spaulding BO, Lu D, Fischer-Colbrie R, **Qu Z** and Wang HL. KOC, TTF-1 and CDX2 discriminate small cell carcinoma from carcinoid and pancreatic endocrine tumor metastasized to the liver. Modern Pathol. 21 (Suppl. 1): 318A, 2008. (Abstract 1450) 2008 USCAP Annual Meeting.

Brione AJ, Bourne PA, Spaulding BO, Lu D, **Qu Z**, Fischer-Colbrie R, Wang HL and Xu H. Metastatic pancreatic endocrine tumors in the liver express KOC. Modern Pathol. 21 (Suppl. 1): 300A, 2008. (Abstract 1367) 2008 USCAP Annual Meeting.

Miyamoto H, Bourne PA, **Qu Z**, Yao JL, Wang HL and Xu H. Diagnostic utility of WT1 immunostaining in gastrointestinal Stromal tumor. Modern Pathol. 21 (Suppl. 1): 130A, 2008. (Abstract 588) 2008 USCAP Annual Meeting.

Feng W, Li W, **Qu Z**, Brown RE. Morphoproteomic evidence of constitutively activated proinflammatory and profibrogenic mTOR and NF-κB pathways in non-alcoholic steatohepatitis. (Abstract 17) Ann Clin Lab Sci Spring 38(2):177-192. 2008.

Zhang L, Seth D, Huynh M, Van Vranken JS, **Qu Z**. Outcome assessment of computerized speech recognition to validate its application in surgical pathology. Abstract, APIII Meeting (http://apiii.upmc.edu/), 2008 September.

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RESEARCH INTERESTS AND CURRENT ACTIVITIES

Data Mining to Gain Insights that Guide Decision Making and Management

The goal is to develop different methods to query unstructured clinical data to answer specific operational question, discover practice patterns or gain insights that can guide strategic decision-making or system operation. Results from this effort have helped us identify pathology diagnosis profile. The profile allows us to develop protected intellectual property that, in the process of negotiation with a commercial vendor, can potentially have significant impact in our medical documentation.

Computer-assisted Clinical Decision Support System (CDSS) in Pathology

The goal of this project is to integrate morphological criteria, adjuncture studies (immunohistochemistry, histochemical stain and cytogenetics), representative micrographs and relevant clinical features of common neoplasms into a computer database (Expert System) that will help serve two fundamental functions of pathologists. 1) Teaching and consultation. It will function as an easy, "quick" reference but with greater flexibility.

Reporting Standardization in Pathology

Consistent with standard, quality, safety and cost effectiveness as the priority of national healthcare, standardization of pathology reporting process is another focus of my chosen area in academic medicine. My efforts are devoted to three key components of pathology reporting process – gross description, final diagnosis and structured malignant tumor reporting. They are presented as web-based projects.

A. Pathology gross examination manual (e-Manual)

This manual provides instruction on adequate specimen examination and tissue sampling. First edition: 2003 – 2011; Second edition: 2012 – present. It is available on the World Wide Web at: http://www.essentialpathology.info/Gross_manual/index.html

B. Web-based tumor reporting and data depository

The main goal of this is to provide effective tools for data collection and standardization in pathology report, and ideally a depository for future retrieval. One of specific on-going projects is my web-based cancer synoptic reporting system (http://www.essentialpathology.info/trs/default.aspx). A report detailing the method has been published (American Journal of Clinical Pathology 127(6): 898-903, 2007). A new system with these features will greatly enhance its utility by thousands of its web users and contribute significantly to accurate tumor reporting and cancer registry.

C. Web-based PathDx Wording

This project is a product of an audacious attempt to bring standardization, consistency, interoperability and efficacy to all diagnostic reports in pathology. Reporting templates for commonly encountered diagnostic entities are pre-fomulated and ready for copy-paste by "Content-Embedding Button" method. The feasibility to achieve this goal is supported by three lines of evidence: 1) Pareto Principle, 2) results of data-mining of >100,000 pathology reports carried out by my team to validate Pareto Principle in diagnostic pathology service, and 3) proof of concept by using pre-formulated diagnostic templates in my daily practice. The Web project is on-line for test and user feedback.