

PASCHE, BORIS

**Medical Student Summer Research Program (MSSRP)
and Research Thesis Program (RTP)
Mentor Information**

1) Research description (maximum 1 page):

a) General research description

See IGP web site: <http://www.feinberg.northwestern.edu/igp/facindex/PascheB.html>

b) Description of potential MSSRP or RTP student projects

Involvement in any of the projects described above.

2) Cover letter explaining the reasons for your interest in becoming a mentor

As a physician scientist who started his career in research while a medical student, I am committed to make other medical students benefit from the opportunities that were provided to me at that stage of my career.

3) Current Biosketch

See attached

4) Trainees over the past 5 years (undergraduate, medical or graduate students; post-doctoral fellows)

TRAINEES

Graduate students:

Diana Rosman	June 2004-
Michael Pennison	June 2006-

Students:

Bree McDaniel, college student	summer 2001
Ciáran Bradley, medical student	summer 2002
Chris Hegarty, medical student	summer 2003
Diana Rosman, graduate student	January-March 2003
Thomas Graham, high school student	summer 2004
Ilya Chalik, high school student	summer 2005
Michael Pennison, graduate student	March-June 2006
Neeta Lal, medical student	Summer 2006
Jack Rose, college student	Summer 2006

Postdoctoral fellows:

Yansong Bian	February 2001-March 2004, currently Research Associate at the NIH
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Junjian Liu

September 2002-April 2005, currently
Senior Staff Scientist at Abbott, Inc.

Yanfei Xu

November 2005-

Hongtao Zhang

March 2006-April 2007

Qinghua Zeng

October 2006-

Hematology/Oncology fellows:

Virginia Kaklamani

October 2001 to present, Assistant
Professor of Medicine at Northwestern since
November 2003

Recipient of ASCO career development
award in 2005

Lisa Baddi

July 2003 to June 2005, in private practice
oncology since then

Kari Wisinski

June 2006-

Research area (check all that apply):

Basic Science

Translational Science

Clinical Science

Other _____

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Pasche, Boris	POSITION TITLE Associate Professor		
eRA COMMONS USER NAME BPASCHE			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Karolinska Institute, Stockholm, Sweden	M.D.	1986	Medicine
University of Lausanne, Lausanne, Switzerland	M.D.	1987	Medicine
Karolinska Institute, Stockholm, Sweden	Ph.D	1989	Coagulation Research

A. Positions and Honors**Positions and Employment**

1989-1992	Research fellow, Cardiovascular Divisions, Brigham and Women's Hospital, Harvard Medical School (Dr. Joseph Loscalzo)
1992-1994	Internship/Residency in Medicine, The New York Hospital-Cornell Medical Center
1994-1997	Fellowship in Hematology/Oncology, The Memorial Sloan-Kettering Cancer Center and The New York Hospital, Cornell University Medical College
1993-2000	Assistant Physician I, The New York Hospital and the Memorial Sloan-Kettering Cancer Center-Cornell University Medical College
1996-2000	Research fellow, Cell Biology Program, Howard Hughes Medical Institute and Sloan-Kettering Institute for Cancer Research (Dr. Joan Massagué)
2001-present	Attending physician, Northwestern Memorial Hospital
2001-2005	Assistant Professor of Medicine, Northwestern University Medical School
2006-present	Associate Professor of Medicine, Northwestern University Medical School
2002-present	Director, Northwestern University Cancer Genetics Program
2006-present	Co-leader, Cancer Genes and Molecular Targeting Program, Robert H. Lurie Comprehensive Cancer Center

Other Experience and Professional Memberships

2003-present	Editor, Oncology, Genetics and Molecular Medicine, The Journal of the American Medical Association (<i>JAMA</i>)
2003-present	Member, Genetic/Familial High-Risk Assessment: Breast and Ovarian, National Comprehensive Cancer Network (NCCN)
2003-2006	Member, Cancer Education Committee, Tumor Biology/Human Genetics Committee, The American Society of Clinical Oncology (ASCO)
2005-present	Member, Colorectal Cancer Screening Panel, National Comprehensive Cancer Network (NCCN)

Honors

1989	Young Scientist Merit Award, 12th Congress of the International Society on Thrombosis and Hemostasis, Tokyo, Japan
1991	Young Investigator Merit Award, 13th Congress of the International Society on Thrombosis and Hemostasis, Amsterdam, The Netherlands
1992	Trainee Investigator Award for Excellence in Scientific Research, American Federation for Clinical Research, Baltimore, MD
1994	American Cancer Society Clinical Oncology Fellowship: #94-142-1
1995-1998	K12 Physician Scientist Award, National Cancer Institute, CA 01712
2001	Elected Fellow (FACP), The American College of Physicians
2005	The Ohio State University Human Cancer Genetics Program Commemorative Medal
2007	Elected Member, the American Society for Clinical Investigation (ASCI)

B. Selected peer-reviewed publications (in chronological order)

1. **Pasche B**, Ouimet H, Francis S, Loscalzo J. Structural changes in platelet glycoprotein IIb/IIIa by plasmin: determinants and functional consequences. *Blood*. 1994;83:404-414.
2. Loscalzo J, **Pasche B**, Ouimet H, Freedman JE. Platelets and plasminogen activation. *Thromb Haemost*. 1995;74:291-293.
3. Lebet JP, Reite M, Higgs L, Barbault A, Rossel C, Tomic Z, Amato D, Dafni U, **Pasche B**. Electroencephalographic changes following Low Energy Emission Therapy. *Ann Biomed Eng*. 1996;24:424-429.
4. **Pasche B**, Erman M, Hayduk R, Mitler MM, Reite M, Higgs L, Kuster N, Rossel C, Dafni U, Amato D, Barbault A, Lebet JP. Effects of low energy emission therapy in chronic psychophysiological insomnia. *Sleep*. 1996;19(4):327-36.
5. Kelly TL, Kripke DF, Hayduk R, Ryman D, **Pasche B**, Barbault A. Bright light and LEET effects on circadian rhythms, sleep and cognitive performance. *Stress Med*. 1997;13:251-258.
6. **Pasche B**, Luo Y, Rao PH, Nimer SD, Dmitrovsky E, Caron P, Luzzatto L, Offit K, Cordon-Cardo C, Renault B, Satagopan JM, Murty VV, Massague J. Type I transforming growth factor beta receptor maps to 9q22 and exhibits a polymorphism and a rare variant within a polyalanine tract. *Cancer Res*. 1998;58(13):2727-32.
7. **Pasche B**, Kolachana P, Nafa K, Satagopan J, Chen Y-G, Lo RS, Brener D, Yang D, Kirstein L, Oddoux C, Ostrer H, Vineis P, Varesco L, Jhanwar S, Luzzatto L, Massagué J, Offit K. T β R-I(6A) is a candidate tumor susceptibility allele. *Cancer Res*. 1999;59:5678-5682.
8. **Pasche B**. T β R-I(6A): a new cancer susceptibility gene. *Cancer Res*. 2000;Alert 1:114-117.
9. Michel LS, Liberal V, Chatterjee A, Kirchwegger R, **Pasche B**, Gerald W, Dobles M, Sorger PK, Murty VV, Benzra R. MAD2 haplo-insufficiency causes premature anaphase and chromosome instability in mammalian cells. *Nature*. 2001;409(6818):355-9.
10. **Pasche B**. Role of Transforming Growth Factor Beta in cancer. *J Cell Phys*. 2001;186:153-168.
1. **Pasche B**, Bian Y, Reich J, Rademaker A, Kolachana P, Offit K. T β R-I(6A) in colorectal cancer: a new twist? *Cancer Res*. 2001;61:8351-2.
12. Pasche B, Mulcahy M, Benson AB 3rd. Molecular markers in prognosis of colorectal cancer and prediction of response to treatment. *Best Pract Res Clin Gastroenterol*. 2002;16(2):331-45.
13. Bian Y, Kaklamani V, Reich J, **Pasche B**. TGF- β signaling alterations in cancer. *Cancer Treat Res*. 2003;115:73-94.
14. Kaklamani V, Hou N, Bian Y, Reich J, Offit K, Michel L, Rubinstein WS, Rademaker A, **Pasche B**. TGFBR1*6A and cancer risk: A meta-analysis of seven case-control studies. *J Clin Oncol*. 2003;21:3236-3243.
15. Pasche B, Serhan CN. Is C-reactive protein an inflammation opsonin that signals the risk of colon cancer? *JAMA*. 2004;291:623-624.
16. Pasche B, Kaklamani V, Hou N, Young T, Rademaker A, Peterlongo P, Ellis N, Offit K, Caldes T, Reiss M, Zheng T. TGFBR1*6A and cancer: a meta-analysis of twelve case control studies. *J Clin Oncol*. 2004;22:756-758.
17. Patel JD, **Pasche B**, Argiris A. Targeting non-small cell lung cancer with oral epidermal growth factor tyrosine kinase inhibitors: where do we stand, where do we go. *Crit Rev Oncol Hematol*. 2004;50:175-186.
18. Kaklamani V, **Pasche B**. Role of TGF- β in cancer and potential for therapy and prevention. *Expert Rev Anticancer Ther*. 2004;4:649-661.
19. Kaklamani V, Baddi L, Rosman D, Liu J, Ellis N, Oddoux C, Ostrer H, Chen Y, Ahsan H, Offit K, **Pasche B**. No major association between TGFBR1*6A and prostate cancer. *BMC Genet*. 2004;5:28.
20. Bian Y, Caldes T, Wijnen J, Franken P, Vasen H, Kaklamani V, Nafa K, Peterlongo P, Ellis N, Baron JA, Burn J, Moeslein G, Morrison PJ, Chen Y, Ahsan H, Watson P, Lynch HT, de la Chapelle A, Fodde R, **Pasche B**. TGFBR1*6A may contribute to hereditary colorectal cancer. *J Clin Oncol*. 2005;23:3074-3078.
21. Kaklamani V, Baddi L, Liu J, Rosman D, Bradley C, Hegarty C, McDaniel B, Rademaker A, Oddoux C, Ostrer H, Michel L, Chen Y, Ahsan H, Offit K, Pasche B. Combined genetic assessment of common TGF- β signaling pathway variants may predict breast cancer risk. *Cancer Res*. 2005;65:3454-3461.
22. Pasche B, Knobloch TJ, Bian Y, Liu J, Phukan S, Rosman D, Kaklamani V, Baddi L, Siddiqui FS, Frankel WL, Prior TW, Schuller DE, Agrawal A, Lang J, Dolan E, Vokes EE, Lane WS, Huang C-C, Caldes T, Di

- Cristofano A, Hampel H, Nilsson I, von Heijne G, Fodde R, Murty VVVS, de la Chapelle A, Weghorst CW. Somatic acquisition and signaling of *TGFBR1*6A* in cancer. *JAMA*. 2005;294:1634-1646.
3. Kaklamani V, **Pasche B**. Transforming Growth Factor Beta and breast cancer. *Cancer Treat Res*. 2005;126:129-56.
 24. Daly MB, Axilbund JE, Bryant E, Buys S, Eng C, Friedman S, Esserman LJ, Farrell CD, Ford JM, Garber JE, Jeter JM, Kohlmann W, Lynch PM, Marcom PK, Nabell LM, Offit K, Osarogiagbon RU, **Pasche B**, Reiser G, Sutphen R, Weitzel JN; National Comprehensive Cancer Network. Genetic/familial high-risk assessment: breast and ovarian. *J Natl Compr Canc Netw*. 2006;4(2):156-76.
 25. Mahieu T, Park JM, Revets H, **Pasche B**, Lengeling A, Staelens J, Wullaert A, Vanlaere I, Hocheplied T, van Roy F, Karin M, Libert C. The wild-derived inbred mouse strain SPRET/Ei is resistant to LPS and defective in IFN-beta production. *Proc Natl Acad Sci USA*. 2006;103(7):2292-7.
 26. Levin B, Barthel JS, Burt RW, David DS, Ford JM, Giardiello FM, Gruber SB, Halverson AL, Hamilton S, Kohlmann W, Ludwig KA, Lynch PM, Marino C, Martin EW Jr, Mayer RJ, **Pasche B**, Pirruccello SJ, Rajput A, Rao MS, Shike M, Steinbach G, Terdiman JP, Weinberg D, Winawer SJ. Colorectal Cancer Screening Clinical Practice Guidelines. *J Natl Compr Canc Netw*. 2006;4(4):384-420.
 27. **Pasche B**. A new strategy in the war on renal cell cancer: hitting multiple targets with limited collateral damage. *JAMA*. 2006;295(21):2537-8.
 28. **Xu Y, Pasche B**. TGF- β signaling alteration and susceptibility to colorectal cancer. *Human Mol Genetics*, 16:R14-R20, 2007

C. Research Support

Ongoing Research Support

R01 CA112520 (Pasche) 09/07/05 – 08/31/09

NIH/NCITGF- β polymorphisms and breast cancer in families

This study will assess the association between the *TGFBR1*6A* and the *TGFB1 T29C* variants and familial breast cancer in 2205 discordant sibling case-control sets for whom DNA and high-quality breast cancer risk factor data are available.

R01 CA108741 (Pasche) 02/24/06 – 01/31/09

NIH/NCI

TGF- β pathway polymorphism and colon cancer risk

This study will assess the association between the *TGFBR1*6A* and the *TGFB1 T29C* variants and familial colorectal cancer in 4,208 sibling case-control pairs from the NCI-sponsored familial colon cancer registry for whom DNA and high-quality colorectal cancer risk factor data are available.

Jeannik M. Littlefield-AACR Grant (Pasche) 07/01/06-06/30/2008

in Metastatic Colon Cancer Research

Targeting *TGFBR1*6A* in metastatic colorectal cancer

This study will determine the feasibility of targeting *TGFBR1*6A* by means of TGF- β antibodies in metastatic colorectal cancer.

Research Grant (Pasche) 09/01/05 – 08/31/08

Walter S. Mander Foundation, Chicago, IL

Cancer Genetics Program Development Support

This study will prospectively recruit cases and sibling controls at Northwestern to establish a family cancer registry.

Completed Research Support

K08 CA76156 (Pasche) 04/01/99 – 03/30/02

NIH/NCI

Type 1 TGF Beta Receptor Alterations

This study identified *TGFBR1*6A* as a hypomorphic type I TGF- β receptor, showed an increased *TGFBR1*6A* allelic frequency among cancer patients and led me to postulate that *TGFBR1*6A* is a tumor susceptibility allele

Research Grant (Morrow)

03/01/03 – 02/28/04

Avon

Career Development Award, Polymorphisms of the TGF- β signaling pathway in breast cancer

This study examines the combined effects of functionally relevant polymorphisms of the TGF- β signaling pathway in breast cancer susceptibility.

Role: Project PI

P50 CA90386 (Lee)

09/01/03 – 08/31/04

NIH/NCI

Role of TGFBR1*6A in prostate cancer

This prostate cancer SPORE pilot project aims at assessing the germline allelic frequency of TGFBR1*6A among patients with a diagnosis of prostate cancer and matched controls.

Role: Project PI

R21 CA82516 (Pasche)

09/01/01 – 08/31/04

NIH/NCI

Mutations of the Type 1 TGF-Beta Receptor in Cancer

This project aims at determining which human cancers may or may not be associated with the homozygous TBR-I(6A) and heterozygous TBR-I(10A) genotype. A co-segregation with familial colorectal cancers will be investigated.

P50 CA89018 (Jordan)

09/01/02 – 08/31/05

NIH/NCI

Analysis of *TGFBR1**6A gene responses in breast cancer

This breast cancer SPORE pilot project study aims at developing stably transfected breast cancer cell lines with TGFBR1 and TGFBR1*6A in order to assess their differential phenotypes.

Role: Project PI

04-36 (Pasche)

09/01/04 – 08/31/05

American Cancer Society – Illinois Division

Molecular Characterization of TGFBR16A

This project aims at determining whether *TGFBR1* and *TGFBR1**6A encode different signal sequences or different mature receptors.