

University of California, San Francisco
CURRICULUM VITAE

Name: Sanjay Kakar, MD

Position: Professor of Clinical
Pathology, Step 2
Pathology
School of Medicine

Professor of Anatomic
Pathology

Chief, Gastrointestinal-Hepatobiliary
Pathology Service
Director, Gastrointestinal-Hepatobiliary
Pathology Fellowship Program
UCSF School of Medicine
San Francisco
Staff Pathologist
Department of Anatomic Pathology
San Francisco Veteran Affairs Medical Center
San Francisco, CA

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EDUCATION

| | | | |
|-------------|--|----------|---------------------|
| 1984 - 1986 | Chandigarh, India | B.Sc.I | Science |
| 1986 - 1991 | Christian Medical College, Ludhiana, India | M.B.B.S. | Medicine |
| 1992 - 1994 | Postgraduate Institute, Chandigarh, India | M.D. | Pathology |
| 1996 - 2000 | University of Illinois at Chicago, IL | Resident | Pathology |
| 2000 - 2001 | Mayo Clinic, Rochester, MN | Fellow | GI/liver Pathology |
| 2001 - 2002 | Mayo Clinic, Rochester, MN | Fellow | Molecular Pathology |

LICENSES, CERTIFICATION

| | |
|------|---|
| 2000 | Board Certification, Anatomic Pathology |
| 2000 | Board Certification, Clinical Pathology |
| 2002 | Medical licensure, California |

PRINCIPAL POSITIONS HELD

| | | | |
|----------------|---|---------------------|-----------|
| 1995 - 1996 | Postgraduate Institute, Chandigarh, India | Clinical Instructor | Pathology |
| 2002 - 2007 | University of California, San Francisco | Asst. Professor | Pathology |
| 2007 - 2011 | University of California, San Francisco | Associate Professor | Pathology |
| 2011 - present | University of California, San Francisco | Professor | Pathology |
| 2002 - present | VA Medical Center, San Francisco | Staff Pathologist | Pathology |

OTHER POSITIONS HELD CONCURRENTLY

| | | | |
|----------------|---|---------------------|----------------------------|
| 2004 - 2009 | VA Medical Center, San Francisco | Director, Surgical | Pathology |
| 2009 - 2015 | VA Medical Center, San Francisco | Chief of Service | Pathology |
| 2015 - present | University of California, San Francisco | Chief of Service | GI-Hepatobiliary Pathology |
| 2015 - present | University of California, San Francisco | Fellowship Director | GI-Hepatobiliary Pathology |

HONORS AND AWARDS

2005 Best teacher award, Anatomic pathology, UCSF

KEYWORDS/AREAS OF INTEREST

Key words: Colorectal cancer, methylation, microsatellite instability, hepatocellular adenoma, hepatocellular carcinoma, immunohistochemistry.

Areas of interest: GI, liver and pancreaticobiliary pathology.

CLINICAL ACTIVITIES SUMMARY

Interpretation of surgical pathology and cytopathology cases, providing intraoperative consultations, night and weekend pathology calls, running the fine needle aspiration biopsy clinic, on the spot assessment of CT and ultrasound guided fine needle aspiration biopsies and reviewing gastrointestinal and liver pathology consults.

MEMBERSHIPS

- 2015 - present Laennec Liver Pathology Society
- 1998 - present College of American Pathologists (CAP)
- 2000 - present United States and Canadian Academy of Pathology (USCAP)
- 2000 - present United States Gastrointestinal Pathology Society (GIPS)
- 2002 - present Hans Popper Hepatopathology Society
- 2002 - present South Bay Pathology Society
- 2003 - present Association of Indian Pathologists in North America

2000 - 2003 American Gastroenterology Association (AGA)
 1998 - 2003 American Society of Clinical Pathology (ASCP)
 1996 - 2000 Illinois Registry of Anatomic Pathology

SERVICE TO PROFESSIONAL ORGANIZATIONS

| | | |
|----------------|---|--|
| 2016 - 2018 | Hans Popper Hepatopathology Society | Vice President |
| 2014 - 2016 | American Joint Committee on Cancer | Member, Lower GI Panel |
| 2014 - 2016 | American Joint Committee on Cancer | Member, Hepatobiliary Panel |
| 2015 - 2016 | International Committee on Cancer Reporting | Member, HCC expert panel |
| 2015 - 2016 | College of American Pathologists | Member, Gastric HER2 Guidelines Panel |
| 2014 - present | College of American Pathologists | Lead author, Lower GI and Hepatobiliary Cancer Protocols |
| 2013 - present | College of American Pathologists | Member, Cancer Committee |
| 2013 - 2014 | United States Gastrointestinal Pathology Society (GIPS) | Past President |
| 2012 - 2013 | United States Gastrointestinal Pathology Society (GIPS) | President |
| 2011 - 2012 | United States Gastrointestinal Pathology Society (GIPS) | President-elect |
| 2010 - 2011 | United States Gastrointestinal Pathology Society (GIPS) | Vice President |
| 2006 - 2009 | United States Gastrointestinal Pathology Society (GIPS) | Chair, Training Committee |
| 2003 - 2007 | United States Gastrointestinal Pathology Society (GIPS) | Member, Training Committee |
| 2013 - 2015 | United States and Canadian Academy of Pathology | Moderator, liver specialty conference |
| 2013 - 2013 | United States and Canadian Academy of Pathology | Moderator, liver platform session |
| 2009 - 2010 | United States and Canadian Academy of Pathology | Moderator, liver platform session |
| 2013 - 2013 | United States and Canadian Academy of Pathology | Member, liver abstract review panel |
| 2009 - 2010 | United States and Canadian Academy of Pathology | Member, liver abstract review panel |

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|----------------|--|---------------------------------------|
| 2006 - 2010 | GI Tumors Cancer Protocol Review Board | Member, Review Panel |
| 2003 - 2007 | GIPS: Rodger Haggitt Award for best GI paper | Judge |
| 2003 - present | Regional Cancer Foundation | Consultant pathologist |
| 2005 - 2011 | College of American Pathologists | Member, Surgical Path Committee |
| 2006 - 2011 | College of American Pathologists | Program leader, Digital Slide Program |

SERVICE TO PROFESSIONAL PUBLICATIONS

| | |
|----------------|---|
| 2003 - present | Guest Reviewer, Gastrointestinal Endoscopy |
| 2005 - 2005 | Invited Reviewer, European Journal of Cancer |
| 2006 - present | Invited Reviewer, American Journal of Gastroenterology |
| 2006 - present | Invited Reviewer, Modern Pathology |
| 2006 - present | Invited Reviewer, Archives of Pathology and Laboratory Medicine |
| 2007 - 2007 | Guest Editor, Current Diagnostic Pathology |
| 2007 - present | Member, Editorial Board, Human Pathology |
| 2010 - present | Member, Editorial Board, World Journal of Hepatology |

INVITED PRESENTATIONS - INTERNATIONAL

| | |
|------|---|
| 2003 | Postgraduate Institute, Chandigarh, India (Invited lecture) |
| 2004 | United States and Canadian Academy of Pathology, Vancouver, Canada (2 posters) |
| 2005 | Postgraduate Institute, Chandigarh, India (Invited lecture) |
| 2005 | Postgraduate Institute, Chandigarh, India (Invited lecture) |
| 2006 | International CME course, Kolkata, India (Invited lecture) |
| 2006 | Centennial Congress, International Academy of Pathology, Montreal, Canada, (Liver course) |
| 2007 | International CME course, Pune, India (Invited lecture) |
| 2008 | International Academy of Pathology, Athens, Greece (poster), scheduled |
| 2008 | Postgraduate Institute, Chandigarh, India (Invited lecture) |
| 2009 | Postgraduate Institute, Chandigarh, India (Invited lecture) |
| 2010 | FRCPath course, University of Birmingham, United Kingdom |
| 2010 | All India Institute of Medical Sciences, New Delhi, India (Invited lecture) |
| 2011 | National Liver Pathology meeting, Postgraduate Institute, Chandigarh, India |
| 2011 | Slide seminar, Liver Pathology, Postgraduate Institute, Chandigarh, India |

- 2012 International CME course, Dehradun, India
- 2012 Liver Specialty Conference, United States and Canadian Academy of Pathology, Vancouver, Canada
- 2012 United States and Canadian Academy of Pathology, Vancouver, Canada (2 posters)
- 2012 Case conference, International Academy of Pathology, Cape Town, South Africa
- 2013 Invited lecture, European Association on Study of Liver disease, Amsterdam, Netherlands
- 2013 Invited lecture, Beaujon Hospital, Clichy, France
- 2013 Invited lectures, National Pathology Congress, Izmir, Turkey
- 2014 International CME course, Chandigarh, India
- 2014 Invited lecture, Fortis Multispecialty Hospital, Mohali, India.
- 2014 Gastrointestinal Pathology session, International Academy of Pathology meeting, Bangkok, Thailand(scheduled)
- 2014 Case seminar session, International Academy of Pathology meeting, Bangkok, Thailand (scheduled)
- 2015 Invited lectures, Christian Medical College, Vellore, India
- 2015 International CME course, Hyderabad, India
- 2015 Surgical Pathology update, Taipei, Taiwan
- 2015 Surgical Pathology update, Taichung, Taiwan
- 2015 Surgical Pathology update, Kaohsiung, Taiwan
- 2015 Autoimmune hepatitis scoring, Laennec meeting, Paris, France
- 2015 Beta-catenin in adenomas, Laennec meeting, Paris, France
- 2015 Hepatocellular adenoma, Laennec meeting, Paris, France
- 2016 GI and Liver Pathology CME, Tata Memorial Hospital, Kolkata, India
- 2016 Hepatocellular Adenoma Panel meeting, Sao Paulo, Brazil
- 2016 Hepatocellular Carcinoma, Annual pathology Conference, Kuwait University, Kuwait(scheduled)
- 2016 Liver pathology invited lectures, University of Bern, Switzerland (scheduled)

INVITED PRESENTATIONS - NATIONAL

- | | | |
|------|--|-------------|
| 2016 | United States and Canadian Academy of Pathology, Seattle, WA | 2 platforms |
| 2016 | United States and Canadian Academy of Pathology, Seattle, WA | 4 posters |
| 2015 | United States and Canadian Academy of Pathology, Boston, MA | 2 platforms |
| 2015 | United States and Canadian Academy of Pathology, Boston, MA | 3 posters |

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|------|--|-------------|
| 2014 | United States and Canadian Academy of Pathology, San Diego, CA | 3 posters |
| 2013 | United States and Canadian Academy of Pathology, Baltimore, MD | 4 posters |
| 2011 | United States and Canadian Academy of Pathology, San Antonio, TX | 3 posters |
| 2010 | United States and Canadian Academy of Pathology, Washington, DC | 2 posters |
| 2009 | United States and Canadian Academy of Pathology, Boston, MA | 3 posters |
| 2008 | United States and Canadian Academy of Pathology, Denver, CO | 3 posters |
| 2007 | United States and Canadian Academy of Pathology, San Diego, CA | platform |
| 2007 | United States and Canadian Academy of Pathology, San Diego, CA | 2 posters |
| 2006 | United States and Canadian Academy of Pathology, Atlanta, GA | 2 posters |
| 2005 | United States and Canadian Academy of Pathology, San Antonio, TX | 3 posters |
| 2004 | College of American Pathologists, Phoenix, AZ | poster |
| 2003 | United States and Canadian Academy of Pathology, Washington, DC | platform |
| 2003 | United States and Canadian Academy of Pathology, Washington, DC | 2 posters |
| 2002 | Digestive Diseases Week, San Francisco, CA | poster |
| 2002 | United States and Canadian Academy of Pathology, Chicago, IL | 2 posters |
| 2002 | United States and Canadian Academy of Pathology, Chicago, IL | 2 platforms |
| 2001 | American College of Gastroenterology, Las Vegas, NV | poster |
| 2001 | Digestive Diseases Week, Atlanta, GA | poster |
| 2001 | United States and Canadian Academy of Pathology, Atlanta, GA | poster |
| 2000 | American Society of Clinical Pathologists, San Diego, CA | poster |
| 1999 | Association for Molecular Pathology, St. Louis, MO | poster |
| 1999 | American Society of Clinical Pathologists, New Orleans, LA | 2 posters |
| 1995 | National Update on Thalassemia, Chandigarh, India | platform |
| 1993 | Indian Association of Pathologists and Microbiologists, India | platform |

INVITED PRESENTATIONS - REGIONAL AND OTHER INVITED PRESENTATIONS

| | | |
|------|--|--|
| 2016 | Liver short course, United States and Canadian Academy of Pathology, Seattle, WA (scheduled) | |
| 2016 | Autoimmune hepatitis, Current Issues in Anatomic Pathology, San Francisco, CA (scheduled) | |
| 2016 | Hepatocellular tumors, Texas Society of Pathology, Dallas, TX | |
| 2016 | Kaiser Annual Pathology Symposium, Berkeley, CA | |
| 2015 | Liver short course, United States and Canadian Academy of Pathology, Boston, MA | |

2015 Slide seminar, University of Washington, Seattle, WA

2015 Liver course, Washington Society of Pathology, Seattle, WA

2014 Current Issues in Anatomic Pathology, San Francisco, CA

2014 Invited lecture, International Hepatocellular Adenoma workshop, New York, NY

2014 Slide seminar, Brigham and Women' s Hospital, Boston, MA

2014 Grand Rounds, Brigham and Women' s Hospital, Boston, MA

2013 Liver short course, Colorado Society of Pathology

2013 Current Issues in Anatomic Pathology, San Francisco, CA

2013 Liver short course, United States and Canadian Academy of Pathology, Baltimore, MD

2012 Case-based session, California Society of Pathology, UCSF, San Francisco, CA

2012 Short course, California Society of Pathology, UCSF, San Francisco, CA

2012 Invited lecture, Kaiser Permanente, Walnut Creek, CA

2012 Current Issues in Anatomic Pathology, San Francisco, CA

2012 Grand Rounds, Rush University, Chicago, IL

2012 Invited lecture, Kaiser Permanente, Santa Clara, CA

2011 Video tutorial, California Society of Pathology, San Francisco, CA

2011 Video tutorial, Current Issues in Anatomic Pathology, UCSF, San Francisco, CA

2011 Grand rounds, Yale University, New Haven, CT

2011 Liver short course, United States and Canadian Academy of Pathology, San Antonio, TX

2010 Invited lecture, American Osteopathic College of Pathologists, San Francisco, CA

2010 GI Pathology Symposium, American Society of Clinical Pathologists, San Francisco, CA

2010 Video tutorial, Current Issues in Anatomic Pathology, UCSF, San Francisco, CA

2010 Liver short course, United States and Canadian Academy of Pathology, Washington, DC

2010 Hans Popper Hepatopathology Society, United States and Canadian Academy of Pathology meeting, Washington, DC

2009 Liver pathology short course. American Society of Clinical Pathologists, Chicago, IL

2009 Invited lecture, Update of gastrointestinal and liver pathology, San Francisco, CA

2009 Video tutorial, Current Issues in Anatomic Pathology, UCSF/Stanford, San Francisco

2009 Liver short course, United States and Canadian Academy of Pathology, Boston, MA

2008 Video tutorial, College of American Pathologists, San Diego, CA

- 2008 Liver course, College of American Pathologists, San Diego, CA
- 2007 Current Issues in Anatomic Pathology, UCSF/Stanford, San Francisco, CA
- 2007 American Society of Clinical Pathologists, teleconference
- 2006 California Society of Pathology, San Francisco, CA
- 2006 Slide seminar, California Society of Pathology, San Francisco, CA
- 2006 Liver course, College of American Pathologists, San Diego, CA
- 2006 Video tutorial, College of American Pathologists, San Diego, CA
- 2006 UCSF, Update in surgical pathology of hepatocellular carcinoma
- 2006 UCSF, Rheumatology
- 2006 Slide seminar, Current Issues in Anatomic Pathology, UCSF/Stanford, San Francisco
- 2006 Selected problems in GI and liver pathology, Monterey, CA
- 2005 Video tutorial, College of American Pathologists, San Diego, CA
- 2005 Liver course, College of American Pathologists, Chicago, IL
- 2005 Current Issues in Anatomic Pathology, UCSF/Stanford, San Francisco, CA
- 2005 UCSF, Rheumatology
- 2005 Liver Specialty Conference, United States and Canadian Academy of Pathology
- 2004 South Bay Pathology Society, Palo Alto, CA
- 2004 Current Issues in Anatomic Pathology, UCSF/Stanford, San Francisco, CA
- 2004 UCSF, Rheumatology
- 2004 San Francisco VA, GI Research Division
- 2004 UCSF, Gastroenterology
- 2004 Postgraduate Institute, Chandigarh, India
- 2003 South Bay Pathology Society, Palo Alto, CA
- 2003 UCSF, Rheumatology
- 2002 San Francisco VA, GI Research Division
- 2001 UCSF, Anatomic Pathology
- 2001 Creighton University, Omaha, NE
- 1999 Illinois Registry of Anatomic Pathology, Chicago, IL
- 1995 National Update in Thalassemia, Chandigarh, India

CONTINUING EDUCATION AND PROFESSIONAL DEVELOPMENT ACTIVITIES

- 2010 USCAP meeting, Washington, DC

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|------|---|
| 2011 | USCAP meeting, San Antonio, TX |
| 2011 | Current Issues in Anatomic Pathology, San Francisco, CA |
| 2012 | USCAP meeting, Vancouver, Canada |
| 2012 | Digestive Diseases Week, San Diego, CA |
| 2012 | Current Issues in Anatomic Pathology, San Francisco, CA |
| 2012 | International Academy of Pathology meeting, Cape Town, South Africa |
| 2012 | American Society of Clinical Pathologists meeting, Boston, MA |
| 2012 | California Society of Pathology meeting, San Francisco, CA |
| 2013 | USCAP meeting, Baltimore, MD |
| 2013 | Current Issues in Anatomic Pathology, San Francisco, CA |
| 2013 | California Society of Pathology meeting, San Francisco, CA |
| 2014 | USCAP meeting, San Diego, CA |
| 2014 | Current Issues in Anatomic Pathology, San Francisco, CA |
| 2014 | California Society of Pathology, San Francisco, CA |
| 2015 | Washington State Society of Pathology, Seattle, WA |
| 2015 | USCAP meeting, Boston, MA |
| 2015 | Current Issues in Anatomic Pathology, San Francisco, CA |
| 2015 | AASLD meeting, San Francisco, CA |
| 2016 | USCAP meeting, Seattle, WA |

SERVICE ACTIVITIES SUMMARY

I serve as the fellowship director as well as the chief of the GI-Hepatobiliary pathology division at UCSF. For the I have been participating as a volunteer to offer free pathology consultations to patients who bring their problems to the Regional Cancer Foundation, a community-based organization that provides free consultations to patients diagnosed with cancer.

DEPARTMENTAL SERVICE

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|----------------|---|
| 2015 - present | Chief GI-Hepatobiliary Pathology Service, UCSF |
| 2015 - present | Fellowship Director, GI-Hepatobiliary Pathology, UCSF |
| 2009 - 2015 | Chief of Pathology, VA Medical Center |
| 2009 - 2015 | Chief of Pathology, VA Medical Center |
| 2002 - 2015 | Department of Pathology Quality Assurance Committee |
| 2015 - 2015 | Chair, Search Committee for hiring pathology faculty |

2009 - 2009 Member, Search Committee for hiring pathology faculty
 2010 - 2010 Chair, Search Committee for hiring pathology faculty
 2010 - 2010 Member, Search Committee for hiring pathology faculty
 2013 - 2013 Member, Search Committee for hiring pathology faculty
 2008 - present Consultant pathologist, Imaging Core, UCSF Liver Center

COMMUNITY AND PUBLIC SERVICE

2003 - present Regional Cancer Foundation, San Francisco, CA Consultant Pathologist

TEACHING SUMMARY

Medical students:

-Pathology course director and currently faculty for the metabolism and nutrition section: redesigned the course presentations, course content and reformatted the test questions. Slide sessions with medical students rotating in pathology.
 -Teaching medical students in pathology laboratory sessions. Discussion group leader in medical student teaching sessions.

Pathology residents:

-Formal teaching sessions over the microscope and didactic lectures.
 -Informal teaching during sign out of clinical cases.

Clinical residents and fellows:

-Formal teaching sessions in the form of didactic lectures to gastroenterology and rheumatology divisions.

FORMAL TEACHING

| Not UCSF | Academic Yr | Course No. & Title | Teaching Contribution | School | Class Size |
|----------|-------------|--|--|----------|------------|
| | 2004 - 2005 | Pathology Laboratory Sessions for Medical Students | Microscope sessions; 2 two hour sessions | Medicine | 15 |
| | 2004 - 2005 | Pathology Laboratory Sessions for Medical Students | Microscope session; 1 two hour session | Medicine | 15 |
| | 2005 - 2006 | Pathology Laboratory Sessions for Medical Students | Microscope sessions; 2 two hour sessions | Medicine | 15 |
| | 2005 - 2006 | Pathology Laboratory Sessions for Medical Students | Microscope sessions; 1 two hour sessions | Medicine | 15 |

| Not UCSF | Academic Yr | Course No. & Title | Teaching Contribution | School | Class Size |
|----------|-------------|--|--|----------|------------|
| | 2005 - 2006 | Pathology Case Sessions for Medical Students | Microscope sessions; 3 one hour sessions | Medicine | 5 |
| | 2006 - 2007 | Pathology Laboratory Sessions for Medical Students | Discussion Group Leader; 2 two hour sessions | Medicine | 15 |
| | 2006 - 2007 | Staging of Cancer | Mock tumor board for medical students | Medicine | 40 |
| | 2006 - 2007 | Pathology Laboratory Sessions for Medical Students | Discussion Group Leader; 2 two hour sessions | Medicine | 15 |
| | 2006 - 2007 | Pathology Case Sessions for Medical Students | Microscope sessions; 2 one hour sessions | Medicine | 3 |
| | 2007 - 2008 | Pathology Laboratory Sessions for Medical Students | Pathology course director; 4 two hour sessions | Medicine | 140 |
| | 2008 - 2009 | Pathology Laboratory Sessions for Medical Students | Pathology course director; 4 two hour sessions | Medicine | 140 |
| | 2009 - 2010 | Pathology Laboratory Sessions for Medical Students | Pathology course director; 4 two hour sessions | Medicine | 140 |
| | 2010 - 2011 | Pathology Laboratory Sessions for Medical Students | Discussion Group Leader; 4 two hour sessions | Medicine | 25 |
| | 2011 - 2012 | Pathology Laboratory Sessions for Medical Students | Discussion Group Leader; 4 two hour sessions | Medicine | 25 |
| | 2012 - 2013 | Pathology Laboratory Sessions for Medical Students | Discussion Group Leader; 3 two hour sessions | Medicine | 25 |
| | 2013 - 2014 | Pathology Laboratory Sessions for Medical Students | Discussion Group Leader; 4 two hour sessions | Medicine | 25 |

INFORMAL TEACHING

2002 - present Pathology case reviews (fortnightly with 3-5 residents/students at the microscope)

2002 - present Pathology teaching during sign-out

2007 - present Fellows teaching (case reviews once in 1-2 months)

POSTDOCTORAL FELLOWS AND RESIDENTS MENTORED

| Dates | Name | Fellow | Mentor Role | Faculty Role | Current Position |
|-------------|------------------------|--------------------|-------------|--|--|
| 2002 - 2003 | Tony Karnezis, MD, PhD | Pathology resident | | Clinical Supervisor | Assistant Professor of Pathology, UCSF |
| 2002 - 2003 | Ken Schneider, MD | Pathology resident | | Clinical Supervisor | Private practice, Pathology |
| 2002 - 2003 | Evelyn Nakagawa, MD | Pathology resident | | Clinical and Personal Supervisor | Fellow, Surgical Pathology, Cedars Sinai, Los Angeles |
| 2002 - 2003 | Lamia Shagrun, MD | Pathology resident | | Clinical Supervisor | Clinical Instructor, Pathology UCSF |
| 2003 - 2006 | Joaquin Garcia, MD | Pathology resident | | Clinical, Research and Personal Supervisor | Assistant Professor of Pathology, Mayo Clinic |
| 2003 - 2008 | Walden Browne, MD, PhD | Pathology resident | | Clinical and Research Supervisor | Staff Pathologist, Kaiser Permanente, Walnut Creek, CA |
| 2003 - 2006 | Anne Buckley, MD | Pathology resident | | Clinical and Research Supervisor | Assistant Professor of Pathology, Duke University |
| 2003 - 2005 | Brad Stohr, MD, PhD | Pathology resident | | Clinical and Research Supervisor | Assistant Professor of Pathology, UCSF |

| Dates | Name | Fellow | Mentor Role | Faculty Role | Current Position |
|-------------|-------------------|------------------------------|-------------|--|---|
| 2004 - 2005 | Amit Lamba, MD | Pathology Fellow | | Clinical, Research and Personal Supervisor | Staff Pathologist, Kaiser Permanente, Hayward, CA |
| 2006 - 2009 | Nafis Shafizadeh | Pathology Resident/Fellow | | Clinical, Research and Personal Supervisor | Surgical Pathology Fellow, UCSF |
| 2006 - 2008 | Annoel Yabes | GI Pathology Fellow | | Clinical and Research Supervisor | Staff Pathologist, CPMC, San Francisco, CA |
| 2006 - 2007 | David Park | Pathology resident | | Clinical Supervisor | Private practice, Pathology |
| 2007 - 2008 | Hugh Fenton | GI pathology fellow | | Clinical Supervisor | Private practice, Pathology |
| 2007 - 2010 | Raga Ramachandran | Resident/GI pathology fellow | | Clinical, Research and Personal Supervisor | Assistant Professor of Pathology, UCSF |
| 2009 - 2010 | Kimberly Evason | GI pathology fellow | | Clinical and Research Supervisor | Postdoctoral fellow |
| 2009 - 2010 | Andrea Pingitore | GI pathology fellow | | Clinical and Research Supervisor | Private practice, Pathology |
| 2009 - 2010 | Aras Mattis | GI pathology fellow | | Clinical and Research Supervisor | Postdoctoral fellow |
| 2010 - 2011 | Ryan Gill | GI pathology fellow | | Clinical and Research Supervisor | GI Pathology fellow |
| 2010 - 2011 | Nancy Joseph | Resident | | Clinical and Research Supervisor | Pathology resident |
| 2010 - 2011 | Gregor Krings | GI pathology fellow | | Clinical and Research Supervisor | GI pathology fellow |
| 2010 - 2011 | Daniel Phillips | GI pathology fellow | | Clinical and Research Supervisor | GI pathology fellow |

| Dates | Name | Fellow | Mentor Role | Faculty Role | Current Position |
|-------------|-----------------|--|-------------|----------------------------------|-------------------------------|
| 2010 - 2013 | Thuy Nguyen | GI pathology fellow | | Clinical and Research Supervisor | Private practice, Pathology |
| 2012 - 2013 | Samip Patel | GI pathology fellow | | Clinical and Research Supervisor | Private practice, Pathology |
| 2013 - 2014 | Menaka Raju | GI pathology fellow | | Clinical and Personal Supervisor | Private practice, Pathology |
| 2013 - 2014 | Mojgan Hosseini | GI pathology fellow | | Clinical and Research Supervisor | Staff pathologist, UCSD |
| 2013 - 2015 | Gillian Hale | Pathology resident, GI pathology fellow | | Clinical and Research Supervisor | Staff pathologist, UCSD |
| 2014 - 2016 | Sarah Umetsu | GI pathology fellow | | Clinical and Research Supervisor | Clinical instructor, UCSF |
| 2014 - 2016 | Christos Tsokos | Pathology resident and GI pathology fellow | | Clinical and Research Supervisor | Post-doc fellow, UCSF |
| 2015 - 2016 | Won-Tak Choi | GI pathology fellow | | Clinical and Research Supervisor | Pathology faculty, UCSF |
| 2015 - 2016 | Rock Adams | GI pathology fellow | | Clinical and Research Supervisor | Private practice, Pathology |
| 2015 - 2016 | Zhen Yan | Surg Path/GI pathology fellow | | Clinical and Research Supervisor | Surg Path/GI pathology fellow |

VISITING FACULTY MENTORED

2002 - 2003 Dong-Hoon Kim, MD, Associate Professor of Pathology Role: Research Advisor and Collaborator Dongguk University, Pohang, South Korea.

2003 - 2004 Joong Hyeon Cho, MD, Associate Professor of Pathology Role: Research Advisor and Collaborator Geong-Sang National University, Jinju, Korea

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| 2005 - 2006 | Yong Ho Kim, Associate Professor of Surgery Role: Research Advisor and Collaborator | Dongguk University, Pohang, South Korea |
| 2005 - 2006 | S. Y. Park, Associate Professor of Gastroenterology Role: Research Advisor and Collaborator | Dongguk University, Pohang, South Korea |
| 2009 - 2010 | Seong Suh, Director of Endoscopy Unit Role: Research Advisor and Collaborator | Department of Internal Medicine, National Police Hospital Seoul, South Korea |
| 2012 - 2013 | Dong-Hoon Kim, MD, Professor of Pathology Role: Research Advisor and Collaborator | Dongguk University, Pohang, South Korea. |
| 2015 - 2016 | Jia-Huei Tsai, MD Role: Clinical case reviews and Research Advisor | Faculty, Dept. of Pathology National Taiwan University, Taipei, Taiwan |
| 2016 - 2016 | Benjamin Wong, MD Role: Clinical case reviews | Faculty, National University Hospital, Singapore |

RESEARCH AWARDS - PAST

| | | | | |
|----|--|-----------------|------------|------------|
| 1. | R01 grant NIH | consultant | 2009-05-08 | 2011-04-30 |
| | S-nitroso-glutathione reductase in HCC | | | |
| 2. | R01 grant NIH | consultant | 2006-04-01 | 2011-03-31 |
| | Diet, epigenetic events and cancer prevention | | | |
| 3. | RO1 grant NIH | Co-investigator | 2007-04-01 | 2011-03-31 |
| | Genetics of NAFLD using diet-induced mouse model | | | |
| 4. | VA Merit Review grant Veterans' Health Administration | consultant | | |
| | Virus-associated liver disease III | | | |
| 5. | DLMP grant | PI | | |

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|-----|--|------------|---------------------|------------|-------------------|
| | Mayo Clinic, Rochester, MN | | 2001-06-01 | 2002-05-31 | |
| | | | \$ 10,000 direct/yr | | |
| | | | 1 | | |
| | Microsatellite instability in mucinous colorectal cancer | | | | |
| 6. | DLMP grant | PI | | | |
| | Mayo Clinic, Rochester, MN | | 2002-04-01 | 2003-03-31 | |
| | | | \$ 10000 direct/yr | | |
| | | | 1 | | |
| | Use of fluorescence in situ hybridization for diagnosis of dysplasia in Barrett' s esophagus | | | | |
| 7. | Academic Senate grant | Consultant | | | |
| | | | 2003-04-01 | 2004-03-31 | |
| | UCSF | | \$ 25000 direct/yr | | |
| | | | 1 | | |
| | Role of MRI and spectroscopy in nonalcoholic fatty liver disease | | | | |
| 8. | REAC grant | PI | | | |
| | UCSF | | 2004-06-01 | 2006-05-31 | |
| | | | \$ 25000 direct/yr | | |
| | | | 1 | | |
| | CGH in the diagnosis of hepatocellular carcinoma | | | | |
| 9. | Dept. of Defense grant | Consultant | | | |
| | Dept. of Defense | | 2002-06-01 | 2007-05-31 | |
| | CYPB1 polymorphisms in prostate cancer | | | | |
| 10. | Merit Review Entry | PI | | | Aberrant |
| | Program grant | | | | methylation in |
| | | | | | colorectal cancer |
| | | | | | (PI) |
| | Veterans' Health Administration | | 2005-10-01 | 2007-09-30 | |
| | | | \$ 150000 | | |
| | | | direct/yr 1 | | |
| | Aberrant methylation in colorectal cancer | | | | |

PEER REVIEWED PUBLICATIONS

1. Kakar S, Datta U, Sakhuja V, Minz M, Sehgal S. Antidonor lymphocytotoxic antibodies: their role in diagnosis, prediction and prognostic evaluation of acute renal allograft rejection. *Indian J Nephrology* 1997; 7: 49-53.
2. Kakar S, Chachlani N, Mihalov M, Ghosh L, Johnstone H. Correlation of c-fos, p53, and PCNA expression with treatment outcome in osteosarcoma. *J Surg Oncol*. 2000; 73(2): 125-6.
3. Kakar S, Puangsuwan N, Stevens JM, Serenas R, Mangan G, Sahai S, Mihalov M. Comparison of PathVysion and INFORM fluorescence in situ hybridization kits for assessment of HER-2/neu status in breast carcinoma. *Mol Pathol* 2000; 5 (3): 193-8.
4. Kakar S, Puangsuwan N, Stevens JM, Serenas R, Mangan G, Sahai, Mihalov M. HER-2/neu assessment in breast cancer by immunohistochemistry and fluorescence in situ hybridization: comparison of results and correlation with survival. *Mol Pathol* 2000; 5 (3): 199-208.
5. Kakar S, Mihalov M. HER-2/neu by immunohistochemistry: where is the threshold? (Letter to the editor). *Am J Clin Pathol* 2000; 114: 817-8.
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SIGNIFICANT PUBLICATIONS

1. **Kakar S**, Grenert JP, Paradis V, Jakate S, Ferrell LD. Hepatocellular carcinoma arising in adenoma: similar immunohistochemical and cytogenetic characteristics in the adenoma and carcinoma portions. Mod Pathol. 2014 Apr 18. doi: 10.1038/modpathol.2014.50. [Epub ahead of print].

Description: The distinction of adenoma and hepatocellular carcinoma is challenging on biopsy and the concept of hepatocellular carcinoma arising in adenoma remains controversial. This international collaborative study analyzes these cases using histochemistry, immunohistochemistry and cytogenetic analysis by fluorescence in situ hybridization. The immunohistochemical and cytogenetic features of the adenoma portions show that these represent an extremely well-differentiated variant of hepatocellular carcinoma rather than true adenomas.

Role: Research design, retrieval of archival cases, review of slides, interpretation of immunohistochemistry, data analysis, writing the manuscript.

2. Joseph NM, Ferrell LD, Jain D, Torbenson MS, Wu TT, Yeh MM, **Kakar S**. Diagnostic utility and limitations of glutamine synthetase and serum amyloid-associated protein immunohistochemistry in the distinction of focal nodular hyperplasia and inflammatory hepatocellular adenoma. *Mod Pathol*. 2014; 27(1):62-72.

Description: The distinction of FNH and inflammatory adenoma is challenging on morphology, but is crucial to ensure proper treatment. Immunohistochemistry can help in this distinction, but the spectrum and diversity staining patterns leads to overlapping results. This study is a detailed description of staining patterns observed in these two hepatocellular lesions. The proper use of each stain and the potential pitfalls in interpretation are demonstrated.

Role: Research design, retrieval of archival cases, review of slides, interpretation of immunohistochemistry, data analysis, writing the manuscript.

3. Gregor K, Jain D, Wu TT, Yeh MM, Torbenson M, **Kakar S**. Immunohistochemical pitfalls in the diagnosis of scirrhous hepatocellular carcinoma. *Mod Pathol*. 2013;26(6):782-91.

Description: The scirrhous variant of hepatocellular carcinoma shows abundant fibrosis and is often mistaken for cholangiocarcinoma. There is limited data on this variant in the literature. This study describes the clinicopathologic features of a cohort of scirrhous HCCC cases and highlights the pitfalls in diagnosis by immunohistochemistry as commonly used markers such as Hep Par 1 and CK19 show aberrant features resembling cholangiocarcinoma. The results show that more specific hepatocellular markers like arginase-1 are necessary for accurate identification of this variant.

Role: Research design, retrieval of archival cases, review of slides, interpretation of immunohistochemistry, data analysis, writing the manuscript.

4. Evason KJ, Grenert JP, Ferrell LD, **Kakar S**. Atypical hepatocellular adenoma-like neoplasms with β -catenin activation show cytogenetic alterations similar to well-differentiated hepatocellular carcinomas. *Hum Pathol*. 2013;44(5):750-8.

Description: The recent WHO classification of adenomas describes a variant with beta-catenin activation. This important study highlights the drawbacks of this classification and shows that cases with beta-catenin activation show morphologic, immunohistochemical and cytogenetic features similar to hepatocellular carcinoma. These tumors should not be classified as adenomas, but should be placed in a borderline category or hepatocellular carcinoma category. This has important implications on treatment and outcome as these tumors can recur and metastasize, and should not be regarded as benign tumors.

Role: Research design, retrieval of archival cases, review of slides, interpretation of immunohistochemistry, data analysis, writing the manuscript.

5. Batts KP, Ketover S, **Kakar S**, Krasinskas AM, Mitchell KA, Wilcox R, Westerhoff M, Rank J, Gibson J, Mattia AR, Cummings OW, Davison JM, Naini BV, Dry SM, Yantiss RK. Appropriate use of special stains for identifying Helicobacter pylori: recommendations from the Rodger C. Haggitt Gastrointestinal Pathology Society. Am J Surg Pathol. 2013;37(11):e12-22.

Description: This publication is the first guidelines paper published by the United States Gastrointestinal Pathology Society. I was the president of the society at that time and played an important role to steer the society to start the process of writing guidelines for best practices in GI pathology. This paper discusses in detail the various aspects of detecting Helicobacter pylori in gastric biopsies. The recommendations are evidence-based and are supported by a published body of literature.

Role: Guideline discussion, review of manuscript, response to feedback during public comment phase.

6. Consultant Pathology Series: liver pathology, 2011
Editors: Ferrell LD, Kakar S.

Role: Concept of the book, outline of chapters, selection of contributors, authored 5 chapters, co-edited the entire text.

7. Surgical Pathology Clinics: liver edition, 2013.
Editors: Sanjay Kakar, Dhanpat Jain

Role: Concept of the book, outline of chapters, selection of contributors, authored 2 chapters, co-edited the entire text.

8. Diagnostic Pathology: hepatobiliary and pancreatic, 2016 (in progress).
Editors: Sanjay Kakar, Laura Lamps.

Role: Review of 20 chapters for online edition, review of the entire text for the upcoming new edition.