



Emily Chan

Associate Professor of Pathology (Clinical Pathology)

CLINICAL OFFICE (PRIMARY)

- **Department of Pathology**

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Bio

BIO

Dr. Chan is an Associate Professor of Pathology at Stanford University. She completed her MD, PhD at New York University and Anatomic Pathology residency with subspecialty Genitourinary Pathology training at University of California-San Francisco (UCSF). She is AP board-certified. Dr. Chan was a GU attending at UCSF for five years before joining Stanford to lead the Genitourinary Pathology Service and Fellowship. She has successfully mentored numerous trainees in projects, publications, and career planning. Dr. Chan has co-authored more than 70 peer-reviewed research publications and has a particular interest in integrating molecular testing in diagnostic pathology, as well as recognition of prostate cancer architectural patterns that can help with prognosis and treatment decision making.

CLINICAL FOCUS

- Anatomic and Clinical Pathology

ACADEMIC APPOINTMENTS

- Associate Professor - University Medical Line, Pathology
- Member, Bio-X
- Member, Stanford Cancer Institute

PROFESSIONAL EDUCATION

- Medical Education: New York University School of Medicine (2015) NY
- Board Certification: Anatomic Pathology, American Board of Pathology (2018)
- Residency: UCSF Pathology Residency (2018) CA

Publications

PUBLICATIONS

- **Comprehensive immunohistochemical and molecular characterization of paratesticular clear cell papillary cystadenomas: A multi-institutional study of 14 cases.** *Annals of diagnostic pathology*
Mubeen, A., Morrison, C. E., Pacheco, R., Chan, E., Acosta, A. M., Panizo, A., Williamson, S. R., Nova-Camacho, L. M., Sangoi, A. R.

2026; 83: 152636

- **Histologic mimics of urothelial carcinoma.** *Seminars in diagnostic pathology*
Wu, D. J., Chan, E.
2026; 43 (2): 150993
- **Field-effect-informed urine liquid biopsy for bladder cancer.** *Cell*
Shi, W. Y., Liu, K. J., Esfahani, M. S., Mach, K. E., Phillips, N. A., Almanza, D., Bajpai, R. K., Schroers-Martin, J. G., Trabanino, L., Lee, T. J., La, V., Rodriguez, G., Holton, et al
2026
- **Prostatic Adenocarcinoma Identified on Transurethral Resection of Bladder Tumor: A Clinicopathologic Series of a Diagnostically Relevant Potential Pitfall.** *Human pathology*
Wu, D. J., Pacheco, R., Chan, E., Lowe, A. C., Sangoi, A. R.
2026: 106059
- **Cannonball metastases as an initial presentation of urothelial bladder carcinoma: a case report and literature review.** *Urology case reports*
Rayapureddi, K., Glover, M., Guo, H. H., Chan, E., Shah, S. A.
2026; 64: 103320
- **Correlation of unfavourable and favourable histology at radical prostatectomy with Decipher scores and freedom from biochemical recurrence.** *Histopathology*
Greenland, N. Y., Cowan, J. E., Ding, C. C., Sirohi, D., Cooperberg, M. R., Carroll, P. R., Simko, J. P., Stohr, B. A., Zhang, L., Chan, E.
2025
- **In reply to: 'Prostate cancer with favorable histology is not synonymous with prostate cancer indolence'.** *Histopathology*
McKenney, J. K., Brooks, J. D., Nguyen, J. K., Ding, C. K., Newcomb, L. F., Myles, J. L., Alaghebandan, R., Przybycin, C. G., Chan, E., Simko, J. P., Greenland, N. Y., Schwen, Z., Weight, et al
2025
- **DNA methylation-based classification of kidney neoplasms.** *Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc*
Papanicolaou-Sengos, A., Singh, O., Park, K., Snuderl, M., Tretiakova, M., Merino, M., Stohr, B., Simko, J., Deng, F. M., Chan, E., Wu, J., Barreto, J., Gupta, et al
2025: 100884
- **Modulating the PPAR γ pathway upregulates NECTIN4 and enhances chimeric antigen receptor (CAR) T cell therapy in bladder cancer.** *Nature communications*
Chang, K., Delavan, H. M., Yip, E., Kasap, C., Zhu, J., Lodha, R., Liao, S. Y., Berman, S. C., Carretero-Gonzalez, A., Basar, M., Gokturk Ozcan, G., Teo, M. Y., Solit, et al
2025; 16 (1): 8215
- **The utility of next-generation sequencing in metastatic prostate cancer FNA biopsies.** *Cancer cytopathology*
Sirohi, D., Cornelia Ding, C. K., Stohr, B. A., Balassanian, R., Vohra, P., Aggarwal, R., Chan, E., Greenland, N. Y.
2025; 133 (9): e70038
- **Overlapping Morphologic and Immunophenotypic Features of Plasmacytoid Urothelial Carcinoma and Urothelial Carcinoma With Osteoclast-Like Giant Cells** *INTERNATIONAL JOURNAL OF SURGICAL PATHOLOGY*
Rizkalla, C. N., Tretiakova, M., Williamson, S. R., Akgul, M., Al-Obaidy, K. I., Acosta, A. M., Idrees, M. T., Chan, E., Sangoi, A. R.
2025: 10668969251363267
- **Do urinary bladder smooth muscle neoplasms show morphologic and immunophenotypic features of their uterine fumarate hydratase-deficient counterparts?** *Annals of diagnostic pathology*
Gao, H., Ren, D., Giannico, G. A., Akgul, M., Khani, F., Galea, L. A., Al-Obaidy, K. I., Falzarano, S. M., Wobker, S. E., Barry-Holson, K. Q., Chan, E., McHenry, A. J., Sangoi, et al
2025; 79: 152536
- **Invasive urothelial carcinoma with chordoid and myxoid features shows increased RAS/RAF pathway alterations.** *Human pathology*
Chan, E., Stohr, B. A., Sangoi, A. R., Sirohi, D.
2025: 105882

- **Interobserver Reproducibility of Pelvicalyceal Invasion in Renal Cell Carcinoma Nephrectomies Among Genitourinary Pathologists.** *The American journal of surgical pathology*
Sangoi, A. R., Akgul, M., Mubeen, A., Humble, R., Wu, D. J., Pacheco, R., Acosta, A., Amin, M., Aron, M., Brimo, F., Chan, E., Cheng, L., Cheville, et al
2025
- **Prognostic Impact of Lymph Node Yield in a Phase III Clinical Trial (NRG/RTOG 9601) of Prostate Cancer Patients Treated With Salvage Radiation Following Prostatectomy.** *The Prostate*
Chan, E., Pugh, S. L., Simko, J. P., Feng, F., Shipley, W. U., Lukka, H. R., Bahary, J. P., Pisansky, T. M., Zeitzer, K. L., Gore, E., Efstathiou, J. A., Rosenthal, S. A., Balogh, et al
2025
- **Serous Borderline Tumors of the Testis and Paratestis: A Clinicopathologic Study of 19 Tumors Emphasizing Morphologic Spectrum and Clinical Outcome.** *The American journal of surgical pathology*
Shahabi, A., Konstantinov, A., McKenney, J. K., Lane, J., Kao, C. S., Williamson, S. R., Alaghebandan, R., Cheng, L., Sangoi, A. R., Chan, E., Cornejo, K. M., Przybycin, C. G.
2025
- **Urothelial carcinoma with osteoclast-like giant cells: An expanded immunohistochemical and molecular profile.** *American journal of clinical pathology*
Rizkalla, C. N., Tretiakova, M., Suarez, C. J., Williamson, S. R., Al-Obaidy, K. I., Acosta, A. M., Idrees, M. T., Chan, E., Potterveld, S., Sangoi, A. R.
2025
- **Current practices in prostate pathology reporting: results from a survey of genitourinary and general pathologists.** *Histopathology*
Nourbakshs, M., Du, L., Acosta, A. M., Alaghebandan, R., Amin, A., Amin, M. B., Aron, M., Berney, D., Brimo, F., Chan, E., Cheng, L., Colecchia, M., Dhillon, et al
2025
- **Pancreatic Serous Neoplasm and Metastatic Clear Cell Renal Cell Carcinoma: Diagnostic Pitfalls Resolvable by a Panel of Immunohistochemical Stains to Include PAX8 and CK7 But Not CAIX.** *The American journal of surgical pathology*
Theparee, T., Umetsu, S. E., Chan, E.
2025; 49 (4): 394-402
- **Testing and Interpretation of Human Epidermal Growth Factor Receptor 2 Protein Expression and ERBB2 Gene Amplification in Advanced Urothelial Carcinoma.** *JCO precision oncology*
Koshkin, V. S., Schafer, J. M., Scherrer, E., Boydiddle, C., Schwartz, N. R., Yu, H., Fang, Q., Baker, A. F., Sayedian, F. H., Chan, E.
2025; 9: e2400879
- **Clinical Response to Enfortumab Vedotin and Pembrolizumab in a Patient with Vaginal Squamous Cell Carcinoma: A Case Report.** *Case reports in oncology*
Glover, M., Beshar, I., McHenry, A., Ding, C., Dorigo, O., Chan, E., Shah, S. A.
2025; 18 (1): 473-479
- **The Utility of Next-Generation Sequencing in Metastatic Prostate Cancer Fine-Needle Aspiration Biopsies**
Sirohi, D., Stohr, B., Balassanian, R., Aggarwal, R., Ding, C., Chan, E., Greenland, N.
ELSEVIER SCIENCE INC.2025
- **Correlation of Unfavorable, Borderline, and Favorable Histology at Radical Prostatectomy with Decipher Scores and Freedom from Biochemical Recurrence**
Greenland, N., Cowan, J., Ding, C., Sirohi, D., Simko, J., Carroll, P., Stohr, B., Zhang, L., Chan, E.
ELSEVIER SCIENCE INC.2025
- **Do Urinary Bladder Smooth Muscle Neoplasms Show Morphologic and Immunophenotypic Features of Their Uterine Fumarate Hydratase-Deficient Counterparts?**
Gao, H., Ren, D., Giannico, G., Khani, F., Galea, L., Al-Obaidy, K., Falzarano, S., Wobker, S., Barry-Holson, K., Chan, E., Mchenry, A., Sangoi, A.
ELSEVIER SCIENCE INC.2025
- **Evaluation of Atypical Intraductal Proliferation in Patients with Grade Group 1-2 or No Invasive Cancer on Prostate Biopsies including Decipher, PTEN and Subsequent Biopsy/Radical Prostatectomy Follow-up**
Chan, G., Sirohi, D., Ding, C., Cowan, J., Carroll, P., Stohr, B., Chan, E., Greenland, N.
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- **Osteoclast-Rich Undifferentiated Urothelial Carcinoma: An Expanded Immunohistochemical and Molecular Profiling with Classification Reassessment**
Rizkalla, C., Tretiakova, M., Suarez, C., Williamson, S., Al-Obaidy, K., Acosta, A., Idrees, M., Chan, E., Potterveld, S., Sangoi, A.
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- **Interobserver Reproducibility of Pelvicalyceal Invasion in Renal Cell Carcinomas Among Genitourinary Pathologists**
Sangoi, A., Akgul, M., Mubeen, A., Humble, R., Acosta, A., Amin, M., Aron, M., Brimo, F., Chan, E., Cheng, L., Cheville, J., Collins, K., Cornejo, et al
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- **MAPK11P1L::TFE3-rearranged renal cell carcinoma: a novel fusion adding to the differential diagnosis of oncocytic renal neoplasms.** *Virchows Archiv : an international journal of pathology*
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2025
- **Gamna-Gandy bodies in renal neoplasms: A multi-institutional clinicopathologic study of 350 consecutive nephrectomies.** *Annals of diagnostic pathology*
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2025; 75: 152440
- **Unexpectedly high variability in determining tumour extent in prostatic biopsies: implications for active surveillance.** *Histopathology*
Bernhardt, M., Weinhold, L., Bremmer, F., Chan, E., Cheng, L., Collins, K., Downes, M., Greenland, N., Hommerding, O., Iczkowski, K. A., Jufe, L., Kreft, T., van Leenders, et al
2024
- **Aggressiveness classification of clear cell renal cell carcinoma using registration-independent radiology-pathology correlation learning.** *Medical physics*
Bhattacharya, I., Stacke, K., Chan, E., Lee, J. H., Tse, J. R., Liang, T., Brooks, J. D., Sonn, G. A., Rusu, M.
2024
- **Utility of The Paris System for Reporting Urinary Cytology in patients with HPV-positive urinary tract carcinoma** *CANCER CYTOPATHOLOGY*
Tanaka, K., Kayraklioglu, N., Chan, E., Ding, C. C., Vohra, P.
2024
- **Cowper Glands Identified in Prostate and Urethral Specimens: A Comprehensive Immunohistochemical Characterization and Potential Diagnostic Pitfall.** *International journal of surgical pathology*
Sangoi, A. R., Al-Obaidy, K. I., Akgul, M., Mehra, R., Chan, E., Williamson, S. R.
2024: 10668969241268375
- **Next-generation sequencing has diagnostic utility in challenging small/flat urothelial lesions.** *Annals of diagnostic pathology*
Pinard, A., Chen, C., Van Ziffle, J., Simko, J. P., Stohr, B. A., Chan, E.
2024; 73: 152370
- **HER2 overexpression in urothelial carcinoma with GATA3 and PPARG copy number gains** *ONCOLOGIST*
Zhu, X., Chan, E., Turski, M. L., Mendez, C., Hsu, S. C., Kumar, V., Shipp, C., Jindal, T., Chang, K., Onodera, C., Devine, W., Grenert, J. P., Stohr, et al
2024
- **Proposal for an optimised definition of adverse pathology (unfavourable histology) that predicts metastatic risk in prostatic adenocarcinoma independent of grade group and pathological stage.** *Histopathology*
Nguyen, J. K., Harik, L. R., Klein, E. A., Li, J., Corrigan, D., Liu, S., Chan, E., Hawley, S., Auman, H., Newcomb, L. F., Carroll, P. R., Cooperberg, M. R., Filson, et al
2024
- **Morphologic patterns observed in prostate biopsy cases with discrepant grade group and molecular risk classification.** *The Prostate*
Greenland, N. Y., Cooperberg, M. R., Carroll, P. R., Cowan, J. E., Simko, J. P., Stohr, B. A., Chan, E.
2024
- **GATA3 Expression in Prostatic Adenosquamous Carcinoma: A Potential Diagnostic Pitfall.** *International journal of surgical pathology*
Potterveld, S. K., Williamson, S. R., Al-Obaidy, K. I., Akgul, M., Chan, E., Giannico, G. A., Sangoi, A. R.
2024: 10668969241241640

- **Testing and Interpretation of HER2 Protein Expression and Gene Amplification in Urothelial Carcinoma**
Chan, E., Boydiddle, C., Scherrer, E., Schwartz, N., Yu, J., Fang, Q., Schafer, J., Baker, A., Sayedian, F., Koshkin, V.
ELSEVIER SCIENCE INC.2024: S920
- **Immunohistochemistry and MYB fluorescence in-situ Hybridization Differentiate Basal Cell Carcinoma of Prostate From Adenoid Cystic Carcinoma**
Ding, C., Haffner, M., Chan, E., Stohr, B., Rooper, L., Epstein, J.
ELSEVIER SCIENCE INC.2024: S934-S935
- **Paratesticular Clear Cell Papillary Cystadenomas: A Morphologic and Immunohistochemical Comparison with Metastatic Renal Cell Carcinoma**
Morrison, C., Chan, E., Acosta, A., Panizo, A., Williamson, S., Mubeen, A., Nova-Camacho, L., Sangoi, A.
ELSEVIER SCIENCE INC.2024: S1022-S1023
- **Highlighting the Differential Pattern of GPNMB Expression in a Cohort of ELOC-mutated RCC**
Mohanty, S., Lobo, A., Aron, M., Chan, E., Jha, S., Sangoi, A., Akgul, M., Deshwal, A., Acosta, A., Williamson, S., Kaushal, S., Cheng, L., Rao, et al
ELSEVIER SCIENCE INC.2024: S1017-S1018
- **Large cribriform glands (> 0.25 mm diameter) as a predictor of adverse pathology in men with Grade Group 2 prostate cancer. *Histopathology***
Greenland, N. Y., Cowan, J. E., Stohr, B. A., Simko, J. P., Carroll, P. R., Chan, E.
2023
- **Positive NKX3.1 as a diagnostic pitfall for prostate cancer in extramammary Paget's disease of genitourinary sites. *Histopathology***
Chen, C. V., Francois, R. A., Mully, T. W., Sangoi, A., LeBoit, P. E., Simko, J. P., Chan, E.
2023
- **Wilms Tumor: An Unexpected Diagnosis in Adult Patients. *Archives of pathology & laboratory medicine***
Chan, G. J., Stohr, B. A., Osunkoya, A. O., Croom, N. A., Cho, S. J., Balassanian, R., Charu, V., Bean, G. R., Chan, E.
2023
- **Artificial Intelligence-Based PTEN Loss Assessment as an Early Predictor of Prostate Cancer Metastasis After Surgery: a Multi-Center Retrospective Study. *Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc***
Patel, P., Harmon, S., Iseman, R., Ludkowsky, O., Auman, H., Hawley, S., Newcomb, L. F., Lin, D. W., Nelson, P. S., Feng, Z., Boyer, H. D., Tretiakova, M. S., True, et al
2023: 100241
- **IgG4-Related Prostatitis: A Potentially Underappreciated Finding for Pathologists. *International journal of surgical pathology***
Sangoi, A. R., Maclean, F., Myint, E., Chan, E.
2023: 10668969231171659
- **Current Practices in Prostate Pathology Reporting: Results From A Survey of Genitourinary Pathologists**
Williamson, S., Alaghebandan, R., Amin, A., Amin, M., Aron, M., Brimo, F., Chan, E., Cheng, L., Colecchia, M., Dhillon, J., Downes, M., Evans, A., Harik, et al
ELSEVIER SCIENCE INC.2023: S826-S827
- **Clear Cell Renal Cell Carcinoma with Focal Psammomatous Calcifications: A Rare Occurrence Mimicking Translocation Carcinoma. *Histopathology***
Sangoi, A. R., Al-Obaidy, K. I., Cheng, L., Kao, C., Chan, E., Sadasivan, S., Levin, A. M., Alvarado-Cabrero, I., Kunju, L. P., Mehra, R., Mannan, R., Wang, X., Dhillon, et al
2022
- **Granulomas associated with renal neoplasms: A multi-institutional clinicopathological study of 111 cases. *Histopathology***
Sangoi, A. R., Maclean, F., Mohanty, S., Hes, O., Daniel, R., Lal, P., Canete-Portillo, S., Magi-Galluzzi, C., Cornejo, K. M., Collins, K., Hwang, M., Falzarano, S. M., Feely, et al
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- **Clear Cell Renal Cell Carcinoma with Psammomatous Calcifications: A Rare Occurrence Mimicking Translocation Carcinoma**
Sangoi, A., Al-Obaidy, K., Cheng, L., Kao, C., Chan, E., Sadasivan, S., Alvarado-Cabrero, I., Kunju, L., Dhillon, J., Tretiakova, M., Smith, S., Hes, O., Williamson, et al
SPRINGER NATURE.2022: 664
- **Analysis of separate training and validation radical prostatectomy cohorts identifies 0.25 mm diameter as an optimal definition for "large" cribriform prostatic adenocarcinoma.** *Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc*
Chan, E., McKenney, J. K., Hawley, S., Corrigan, D., Auman, H., Newcomb, L. F., Boyer, H. D., Carroll, P. R., Cooperberg, M. R., Klein, E., Fazli, L., Gleave, M. E., Hurtado-Coll, et al
2022
- **Expanding the clinicopathological spectrum of succinate dehydrogenase-deficient renal cell carcinoma with a focus on variant morphologies: a study of 62 new tumors in 59 patients.** *Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc*
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- **Molecular Characterization of Metanephric Adenomas Beyond BRAF: Genetic Evidence for Potential Malignant Evolution.** *Histopathology*
Chan, E., Stohr, B. A., Croom, N. A., Cho, S., Garg, K., Troxell, M. L., Higgins, J. P., Bean, G. R.
2020
- **A Clinicopathologic and Molecular Analysis of Fumarate Hydratase-Deficient Renal Cell Carcinoma in 32 Patients.** *The American journal of surgical pathology*
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2019
- **Molecular Characterization of Metanephric Adenomas Beyond BRAF: Are All Benign?**
Chan, E., Stohr, B., Croom, N., Cho, S., Garg, K., Troxell, M., Higgins, J., Bean, G.
NATURE PUBLISHING GROUP.2019
- **Molecular Characterization of Metanephric Adenomas Beyond BRAF: Are All Benign?**
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