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Cansu Karakas

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CLINICAL OFFICE (PRIMARY)

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Bio

BIO

Dr. Cansu Karakas is an Assistant Professor, with subspecialty expertise in Breast Pathology. Her academic career spans notable institutions such as MD Anderson Cancer Center and (2010–2017) and NYU (2017-2018). She is passionate about research with a focus on HER2-driven breast cancers, artificial intelligence (AI) applications in breast cancer and identifying resistance mechanisms to guide novel, personalized therapeutic strategies in breast cancer.

CLINICAL FOCUS

- Anatomic Pathology
- Breast Pathology

ACADEMIC APPOINTMENTS

- Assistant Professor-Univ Med Line, Pathology
- Member, Bio-X

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Breast Cancer Committee, NRG Oncology (2026 - present)
- Editor/Editorial Academy, Modern Pathology (2026 - present)
- Member, United States and Canadian Academy of Pathology (2010 - present)
- Member, International Society of Breast Pathology (2018 - present)
- Member, European Society of Pathology (2024 - present)
- Member, American Society of Molecular Pathology (2021 - present)
- Member, Digital Pathology Association (2012 - present)
- Member, Southbay Pathology Society (2025 - present)
- Member, California Pathology Society (2025 - present)

PROFESSIONAL EDUCATION

- Fellowship: Brigham and Women's Hospital (2024) MA
- Board Certification: Anatomic Pathology, American Board of Pathology (2023)
- Residency: University of Rochester Medical Center (2023) NY
- Residency: Saint Barnabas Medical Center NJ
- Medical Education: Ege Universitesi (2001) Turkey

Publications

PUBLICATIONS

- **HER2 In Situ Hybridization: Validation and Implementation of Brightfield Assay in a US Academic Pathology Laboratory.** *Applied immunohistochemistry & molecular morphology : AIMM*
  Troxell, M. L., Dussaq, A. M., Solarewicz, J., Salisbury, T., Young, K., Hsu, N., Hammer, P., Karakas, C., Ollila, E., Zhang, X., Lam, M. M., Ernst, K., West, et al
  2026

- **Optimization of Pathologists' Roles in Molecular Biomarker Testing in Metastatic Breast Cancer: A Consensus Statement.** *The Journal of molecular diagnostics : JMD*
  Kolhe, R., Karakas, C., Vail, E., Deftereos, G., Sidiropoulos, N.
  2026

- **Reporting of both positive and negative concordance is necessary to recognise and investigate bias in digital algorithms.** *Journal of clinical pathology*
  Troxell, M. L., Karakas, C., Lam, M. M., Dussaq, A. M., Bean, G., Allison, K. H.
  2026

- **Generative AI improves breast cancer genomic subtype prediction from histology images.**
  Simon, B., Weiss, C. L., Chan, D., Mangiante, L., Smith, N. H., Ma, Z., Karakas, C., Curtis, C.
  AMER ASSOC CANCER RESEARCH.2026

- **Collagenous Myofibroblastic Bundles in Bilateral Breasts of Young Women: When Does Fibrosis Portend Systemic Disease?**
  Karakas, C., Bean, G., Ernst, K., Allison, K., West, R., Troxell, M.
  ELSEVIER SCIENCE INC.2026

- **A Validation Study of an Expanded Description of Glandular (Acinar)/Tubule Formation for the Use of Nottingham Grading System for Invasive Breast Carcinomas Demonstrates Improvement in Concordance for Breast Pathologists and Trainees in Pathology.** *Archives of pathology & laboratory medicine*
  Karakas, C., Aldrees, R. A., Mohamed, A., Ellis, I. O., Fineberg, S. A., Ngo, M. H., Schnitt, S. J., Lester, S. C.
  2025

- **Low-Molecular Weight Cyclin E Confers a Vulnerability to PKMYT1 Inhibition in Triple-Negative Breast Cancer.** *Cancer research*
  Li, M., Lulla, A. R., Wang, Y., Tsavaschidis, S., Wang, F., Karakas, C., Nguyen, T. D., Bui, T. N., Pina, M. A., Chen, M. K., Mastoraki, S., Multani, A. S., Fowlkes, et al
  2024; 84 (22): 3864-3880

- **Neutrophil Elastase Remodels Mammary Tumors to Facilitate Lung Metastasis.** *Molecular cancer therapeutics*
  Lulla, A. R., Akli, S., Karakas, C., Caruso, J. A., Warma, L. D., Fowlkes, N. W., Rao, X., Wang, J., Hunt, K. K., Watowich, S. S., Keyomarsi, K.
  2024; 23 (4): 492-506

- **In ER-Positive, HER2-Negative Breast Cancers, HER2 mRNA Levels Correlate Better with Clinicopathologic Features and Oncotype DX Recurrence Score than HER2 Immunohistochemistry.** *Laboratory investigation; a journal of technical methods and pathology*
  Tyburski, H., Karakas, C., Finkelman, B. S., Turner, B. M., Zhang, H., Hicks, D. G.
  2024; 104 (3): 100309

- **Validation and interpretation of Pan-TRK immunohistochemistry: a practical approach and challenges with interpretation.** *Diagnostic pathology*
  Karakas, C., Giampoli, E. J., Love, T., Hicks, D. G., Velez, M. J.

2024; 19 (1): 10

- **HER2 categorical changes after neoadjuvant chemotherapy: A study of 192 matched breast cancers with the inclusion of HER2-Low category.** *Human pathology*
  Karakas, C., Tyburski, H., Turner, B. M., Weiss, A., Akkipeddi, S. M., Dhakal, A., Skinner, K., Hicks, D. G., Zhang, H.
  2023; 142: 34-41

- **Interobserver and Interantibody Reproducibility of HER2 Immunohistochemical Scoring in an Enriched HER2-Low-Expressing Breast Cancer Cohort.** *American journal of clinical pathology*
  Karakas, C., Tyburski, H., Turner, B. M., Wang, X., Schiffhauer, L. M., Katerji, H., Hicks, D. G., Zhang, H.
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- **Sequential Targeting of Retinoblastoma and DNA Synthesis Pathways Is a Therapeutic Strategy for Sarcomas That Can Be Monitored in Real Time.** *Cancer research*
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- **Histopathologic Aspects of Malignancy-Associated Granuloma Annulare: A Single Institution Experience.** *Dermatopathology (Basel, Switzerland)*
  Bagci, B., Karakas, C., Kaur, H., Smoller, B. R.
  2023; 10 (1): 95-103

- **Diffuse pulmonary meningotheliomatosis with pan-TRK expression by immunohistochemistry: a novel finding and potential pitfall.** *Diagnostic pathology*
  Karakas, C., Nead, M. A., Velez, M. J.
  2023; 18 (1): 22

- **HER2-low breast cancers: Current insights and future directions.** *Seminars in diagnostic pathology*
  Zhang, H., Karakas, C., Tyburski, H., Turner, B. M., Peng, Y., Wang, X., Katerji, H., Schiffhauer, L., Hicks, D. G.
  2022; 39 (5): 305-312

- **Umbilical Appendix Masquerading as a Patent Omphalomesenteric Duct in a Neonate.** *Pediatric and developmental pathology : the official journal of the Society for Pediatric Pathology and the Paediatric Pathology Society*
  Karakas, C., Katzman, P. J., Wakeman, D. S., Chacon, M.
  2022; 25 (4): 474-478

- **Subepidermal Calcified Nodule in a Child With Neurofibromatosis Type 1.** *Cureus*
  Bagci, B., Karakas, C., Gokden, M.
  2022; 14 (3): e23261

- **Cytoplasmic Cyclin E Expression Predicts for Response to Neoadjuvant Chemotherapy in Breast Cancer.** *Annals of surgery*
  Karakas, C., Francis, A. M., Ha, M. J., Wingate, H. F., Meena, R. A., Yi, M., Rasaputra, K. S., Barrera, A. M., Arun, B., Do, K. A., Sahin, A., Keyomarsi, K., Hunt, et al
  2021; 274 (2): e150-e159

- **LMW cyclin E and its novel catalytic partner CDK5 are therapeutic targets and prognostic biomarkers in salivary gland cancers.** *Oncogenesis*
  Lulla, A. R., Akli, S., Karakas, C., Ha, M. J., Fowlkes, N. W., Mitani, Y., Bui, T., Wang, J., Rao, X., Hunt, K. K., Meijer, L., El-Naggar, A. K., Keyomarsi, et al
  2021; 10 (5): 40

- **Targeting Replicative Stress and DNA Repair by Combining PARP and Wee1 Kinase Inhibitors Is Synergistic in Triple Negative Breast Cancers with Cyclin E or BRCA1 Alteration.** *Cancers*
  Chen, X., Yang, D., Carey, J. P., Karakas, C., Albarracin, C., Sahin, A. A., Arun, B. K., Guray Durak, M., Li, M., Kohansal, M., Bui, T. N., Ha, M. J., Hunt, et al
  2021; 13 (7)

- **Corrigendum to "Immunohistochemistry in the workup of bladder biopsies. Frequency, variation and utility of use at an academic center" [Ann. Diagn. Pathol. 41(2019) 124-128].** *Annals of diagnostic pathology*
  McIntire, P., Khan, R., Kilic, I., Adams, D., Karakaş, C., Wojcik, E. M., Pambuccian, S. E., Barkan, G. A.
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- **Cytoplasmic Cyclin E Is an Independent Marker of Aggressive Tumor Biology and Breast Cancer-Specific Mortality in Women over 70 Years of Age.** *Cancers*
  Johnston, S. J., Syed, B. M., Parks, R. M., Monteiro, C. J., Caruso, J. A., Green, A. R., Ellis, I. O., Hunt, K. K., Karakas, C., Keyomarsi, K., Cheung, K. L.
  2020; 12 (3)
- **Dedifferentiated gastrointestinal stromal tumor: Recent advances.** *Annals of diagnostic pathology*
  Karakas, C., Christensen, P., Baek, D., Jung, M., Ro, J. Y.
  2019; 39: 118-124
- **Cyclin E Overexpression Sensitizes Triple-Negative Breast Cancer to Wee1 Kinase Inhibition.** *Clinical cancer research : an official journal of the American Association for Cancer Research*
  Chen, X., Low, K. H., Alexander, A., Jiang, Y., Karakas, C., Hess, K. R., Carey, J. P., Bui, T. N., Vijayaraghavan, S., Evans, K. W., Yi, M., Ellis, D. C., Cheung, et al
  2018; 24 (24): 6594-6610
- **Synthetic Lethality of PARP Inhibitors in Combination with MYC Blockade Is Independent of BRCA Status in Triple-Negative Breast Cancer.** *Cancer research*
  Carey, J. P., Karakas, C., Bui, T., Chen, X., Vijayaraghavan, S., Zhao, Y., Wang, J., Mikule, K., Litton, J. K., Hunt, K. K., Keyomarsi, K.
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- **Cytoplasmic Cyclin E Mediates Resistance to Aromatase Inhibitors in Breast Cancer.** *Clinical cancer research : an official journal of the American Association for Cancer Research*
  Doostan, I., Karakas, C., Kohansal, M., Low, K. H., Ellis, M. J., Olson, J. A., Suman, V. J., Hunt, K. K., Moulder, S. L., Keyomarsi, K.
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- **Molecular mechanisms involving prostate cancer racial disparity.** *American journal of clinical and experimental urology*
  Karakas, C., Wang, C., Deng, F., Huang, H., Wang, D., Lee, P.
  2017; 5 (3): 34-48
- **CDK4/6 and autophagy inhibitors synergistically induce senescence in Rb positive cytoplasmic cyclin E negative cancers.** *Nature communications*
  Vijayaraghavan, S., Karakas, C., Doostan, I., Chen, X., Bui, T., Yi, M., Raghavendra, A. S., Zhao, Y., Bashour, S. I., Ibrahim, N. K., Karuturi, M., Wang, J., Winkler, et al
  2017; 8: 15916
- **Cytoplasmic Cyclin E Predicts Recurrence in Patients with Breast Cancer** *CLINICAL CANCER RESEARCH*
  Hunt, K. K., Karakas, C., Ha, M., Biernacka, A., Yi, M., Sahin, A. A., Adjapong, O., Hortobagyi, G. N., Bondy, M. L., Thompson, P. A., Cheung, K., Ellis, I. O., Bacus, et al
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- **Cyclin E overexpression as a biomarker for combination treatment strategies in inflammatory breast cancer** *ONCOTARGET*
  Alexander, A., Karakas, C., Chen, X., Carey, J. P. W., Yi, M., Bondy, M., Thompson, P., Cheung, K., Ellis, I. O., Gong, Y., Krishnamurthy, S., Alvarez, R. H., Ueno, et al
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- **Molecular mechanisms involving prostate cancer racial disparity** *AMERICAN JOURNAL OF CLINICAL AND EXPERIMENTAL UROLOGY*
  Karakas, C., Wang, C., Deng, F., Huang, H., Wang, D., Lee, P.
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- **Cytoplasmic Cyclin E and Phospho-Cyclin-Dependent Kinase 2 Are Biomarkers of Aggressive Breast Cancer.** *The American journal of pathology*
  Karakas, C., Biernacka, A., Bui, T., Sahin, A. A., Yi, M., Akli, S., Schafer, J., Alexander, A., Adjapong, O., Hunt, K. K., Keyomarsi, K.
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- **Cyclin E Associates with the Lipogenic Enzyme ATP-Citrate Lyase to Enable Malignant Growth of Breast Cancer Cells.** *Cancer research*
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  Mitri, Z., Karakas, C., Wei, C., Briones, B., Simmons, H., Ibrahim, N., Alvarez, R., Murray, J. L., Keyomarsi, K., Moulder, S.
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- **Elafin is downregulated during breast and ovarian tumorigenesis but its residual expression predicts recurrence (vol 16, 3417, 2014)** *BREAST CANCER RESEARCH*
  Caruso, J. A., Karakas, C., Zhang, J., Yi, M., Albarracin, C., Sahin, A., Bondy, M., Liu, J., Hunt, K. K., Keyomarsi, K.
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- **Elafin is downregulated during breast and ovarian tumorigenesis but its residual expression predicts recurrence** *BREAST CANCER RESEARCH*
  Caruso, J. A., Karakas, C., Zhang, J., Yi, M., Albarracin, C., Sahin, A., Bondy, M., Liu, J., Hunt, K. K., Keyomarsi, K.
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- **Liver cyst hydatid fistulated into duodenum** *European Journal of General Medicine ((ISSN 1304-3889)*
  Okus, A., Ay, S., Karakas, C., Mustafa, M., Eryilmaz, M.
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- **Paget's disease of the breast.** *Journal of carcinogenesis*
  Karakas, C.
  2011; 10: 31