SATISH IYENGAR
Department of Statistics
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EDUCATION

PhD in Statistics, Stanford University, 1982.
AB in Mathematics, Harvard University, 1978.

ACADEMIC POSITIONS

University of Pittsburgh, Pittsburgh, PA
    Professor, Department of Statistics, since 1998.
    Associate Chair, Department of Statistics, 2022-2025.
    Chair, Department of Statistics, 2000-2009, 2010-2016, 2018-2022.
    Professor, Department of Psychiatry, joint appointment, since 2004.
    Professor, Clinical and Translational Science Institute, 2010-2018.
    Associate Professor, Department of Mathematics and Statistics, 1990-1997.
    Assistant Professor, Department of Psychiatry, joint appointment, 1985-2004.
    Assistant Professor, Department of Mathematics and Statistics, 1982-1990.
Visiting Scholar
    Oxford University, Oxford, United Kingdom, 2016.
    University of California, Berkeley, CA, 2016.
    Akdeniz University, Antalya, Turkey, 2014.
    Stanford University, Stanford, CA, 1983-2013.
    University of Canterbury, Christchurch, New Zealand, 2004.
    Australian National University, Canberra, Australia, 1999.
    Carnegie Mellon University, Pittsburgh, PA, 1991-1992.
Marine Biological Laboratories, Woods Hole, MA
    Instructor, Neuroinformatics, 2002-2012.
    Instructor, Workshop on the Analysis of Neural Data, 1998-2001.
Carnegie Mellon University, Pittsburgh, PA
    Postdoctoral Fellow, Statistics Department, 1985-1988.
Stanford University, Stanford, CA
    Research and Teaching Assistant, Statistics Department, 1978-1982.
Harvard University, Cambridge, MA
    Undergraduate Instructor, Mathematics Department, 1976-1978.

ADVISORY POSITIONS

Member, FDA Advisory Committee for Psychopharmacologic Drugs, 2016-2024.
Member, NSA Statistical Advisory Group, Stanford University, 1980-2013.

HONORS

Provost's Award for Excellence in Mentoring, University of Pittsburgh, 2018.

P.R. Krishnaiah Memorial Lecturer, Pennsylvania State University, 2017.
Statistician of the Year, Pittsburgh Chapter of the ASA, 2010.
Keynote speaker, New Zealand Statistical Society Annual Meeting, 2005.
Elected member of the International Statistical Institute, 2004.

PUBLICATIONS

A. Statistics

Wallace ML, McTeague L, Graves JL, Kissel N, Tortora C, Wheeler B, Iyengar S. Quantifying Distances Between Non-Elliptical Clusters to Enhance the Identification of Meaningful Emotional Reactivity Subtypes. Data Science in Science. 2022; 1(1): 34-59.DOI: 10.1080/26941899.2022.2157349.

Iyengar S. (2021) Maximum likelihood estimation for an Ornstein-Uhlenbeck model for neural activity. *Journal of Statistical Theory and Practice*, 15: 46, doi.org/10.1007/s42519-021-00190-3.

Iyengar S. (2021) On the exceedances of exchangeable random variables. *Sankhya B*, 83: 26-35, doi:10.1007/s13571-021-00252-3.

Simsek B, Iyengar S. (2019) Computing tail areas for a high-dimensional Gaussian mixture. *Applicable Analysis and Discrete Mathematics*, 13, 871-882.

Gaunt R, Iyengar S, Olde Dalhuis A, Simsek B. (2019) An asymptotic expansion for the normalizing constant of the Conway-Maxwell-Poisson distribution. *Annals of the Institute of Statistical Mathematics*, 71: 163-180.

Simsek B, Iyengar S. (2017) On certain mathematical problems in two-photon laser scanning microscopy. *Mathematical Modeling and Analysis*, 22, 587-600.

Saunders D, Tsui LK, Iyengar S. (2017) Lower tail dependence of hitting times of two-dimensional diffusions. *Probability in the Engineering and Informational Sciences*, doi.org/10.1017/S0269964817000353.

Wallace ML, Buysse DJ, Germain A, Hall MH, Iyengar S. (2017) Variable selection for skewed model-based clustering: application to identification of novel sleep phenotypes. *J American Statistical Association*, 113, 95-110.

Simsek B, Iyengar S. (2017) Overdispersed count models for mRNA transcription. *Hacettepe J of Mathematics and Statistics*, doi:10.15672/HJMS.2017.422.

Simsek B, Iyengar S. (2017) On the distribution of photon counts with censoring in two-photon laser scanning microscopy. *J Mathematical Imaging and Vision*, 58, 47-56.

Iyengar, S. (2016) Case for fMRI data repositories. Invited commentary. *Proceedings of the National Academy of Sciences,* 113, 7699-7700.

Simsek B, Iyengar S. (2016) Approximating the Conway-Maxwell-Poisson normalizing constant. *Filomat*, 30, 953-960.

Frepoli C, Ohkawa K, Iyengar S. (2013) Theory and practice in the use of order statistics in best-estimate plus uncertainty safety analyses. In *Proceedings of the 15th International*

Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-15).

Zhao M, Batista AB, Cunningham JP, Chestek C, Alvidrez ZR, Kalmar R, Ryu S, Shenoy K, Iyengar S. (2012) An L_1-regularized logistic model for detecting short-term neuronal interactions. *J Computational Neuroscience,* 32, 479-497.

Perez-Rosello T, Baker JL, Ferrante M, Iyengar S, Ascoli GA, Barrionuevo G. (2011) Passive and active shaping of unitary responses from associational/commissural and perforant path synapses in hippocampal CA3 pyramidal cells. *J Computational Neuroscience*, 31, 159-182.

Frepoli C, Iyengar S. (2011) A comparison of non-parametric tolerance limits with linear combinations of order statistics in safety analysis. *Proceedings of ICAPP 2011*, 1392-1401.

Driscoll J, Shih A, Iyengar S, Field J, White G, Squier JA, Cauwenberghs G, Kleinfeld D. (2011) Photon counting, censor corrections, and lifetime imaging for improved detection in two-photon microscopy. *J Neurophysiology*, 105, 3106-3113.

Zhao M, Iyengar S. (2009) Nonconvergence in logistic and Poisson models for neural spiking. *Neural Computation*, 22, 1231-1244.

Paninski L, Brown EN, Iyengar S, Kass RE. (2009) Statistical models of spike trains. In *Stochastic Methods in Neuroscience*, C Laing, G Lord, editors. Oxford, 272-298.

Chen JT, Iyengar S, Brent D. (2007) Constraint estimation for the population attributable risk. *J Applied Probability and Statistics*, 2, 251-265.

Mullowney P, Iyengar S. (2008) Parameter estimation for a leaky integrate-and-fire neuronal model from ISI data. *J Computational Neuroscience,* 24, 179-194.

Iyengar S. (2007) Invited comment on paper by Ramsay, et al. *J Royal Statistical Society, B*, 69, 785.

Czanner G, Grün S, Iyengar S. (2005) Theory of the snowflake plot and its relations to higher-order analysis methods. *Neural Computation*, 17, 1456-1479.

Chen T, Hoppe F, Iyengar S, Brent D. (2003) A hybrid logistic model for case-control studies. *Methodology and Computing in Applied Probability*, 5, 419-426.

Iyengar S. (2000) Diffusion models for neural activity. *Statistics for the 21st Century.* CR Rao, G Szekely, editors. Marcel-Dekker, 233-250.

Iyengar S, Kvam P, Singh H. (1999) Fisher information in weighted distributions. *Canadian J Statistics*, 27, 833-841.

Iyengar S, Mazumdar M. (1998) A saddle point approximation for certain multivariate tail probabilities. *SIAM J Scientific Computing,* 19, 1234-1244.

Iyengar S, Liao Q. (1997) Modeling neural activity using the generalized inverse Gaussian distribution. *Biological Cybernetics*, 77, 289-295.

Iyengar S. (1996) Parameter estimation for a diffusion approximation to Stein's model. *Computation in Cellular and Molecular Biological Systems.* R Cuthbertson, M Holcombe, R Paton, editors, 265-277.

Mendoza-Blanco J, Tu XM, Iyengar S. (1996) Bayesian inference on prevalence using a missing-data approach with simulation-based techniques: applications to HIV screening. *Statistics in Medicine*, 15, 2161-2176.

Iyengar S, Zhao PL. (1994) Maximum likelihood estimation for weighted distributions. *Probability and Statistics Letters*, 21, 37-47.

Greenhouse JB, Iyengar, S. (1993) Sensitivity analysis and diagnostics. *Handbook of Research Synthesis.* H Cooper, L Hedges, editors. Sage, 383-398.

Iyengar S. (1993) Plackett's identity, its generalizations, and their uses. *Multiple Comparisons, Selection, Applications in Biometry.* F Hoppe, editor. Marcel-Dekker, 121-135.

Iyengar S. (1991) Much ado about meta-analysis. *Chance,* 4, 33-40.

Greenhouse JB, Fromm D, Iyengar S, Dew MA, Holland A, Kass R. (1990) The making of a meta-analysis: a quantitative review of the aphasia treatment literature. *The Future of Meta-analysis.* M Straf, K Wachter, editors. Sage Press, 29-46.

Iyengar S, Tong YL. (1989) Convexity of elliptically contoured distributions with applications. *Sankhya, Series A,* 51, 13-29.

Iyengar S. (1988) Evaluation of normal probabilities of symmetric regions. *SIAM J Scientific and Statistical Computing,* 9, 418-424.

Iyengar S, Greenhouse JB. (1988) Selection models and the file-drawer problem (with discussion). *Statistical Science,* 3, 109-135.

Iyengar S, Greenhouse JB. (1988) Discussion of the paper by Begg and Berlin. *J Royal Statistical Society Series A,* 151, 454.

Iyengar S, Patwardhan G. (1988) Recent developments in the inverse Gaussian distribution. *Handbook of Statistics 7.* P Krishnaiah, CR Rao, editors. North-Holland, 479-499.

Iyengar S. (1986) On a lower bound for the multivariate normal Mills' ratio. *Annals of Probability,* 14, 1399-1403.

Iyengar S. (1985) Hitting lines with two-dimensional Brownian motion. *SIAM J Applied Mathematics,* 45, 983-989.

Iyengar S, Solomon H. (1983) Selecting representative points in normal populations. *Recent Advances in Statistics.* H Rizvi, J Rustagi, D Siegmund, editors. Academic Press, 579-591.

B. Collaborative

Prasad KM, Muldoon B, Theis N, Iyengar S, Keshavan MS. (2023) Multipronged investigation of morphometry and connectivity of hippocampal network in relation to risk for psychosis using ultrahigh field MRI. *Schizophrenia Research*, 256: 88-97.

Theis N, Rubin J, Cape J, Iyengar S, Prasad KM. (2023) Threshold Selection for Brain Connectomes. *Brain Connectivity*, 13: 383-393, doi: 10.1089/brain.2022.0082.

Fiedorowicz JG, Merranko JA, Goldstein TR, Hower H, Iyengar S, Hafeman DM, Hunt JI, Strober M, Keller MB, Goldstein BI, Diler RS, Siddiqi S, Birmaher B. (2023) Validation

of a youth suicide risk calculator in an adult sample with bipolar disorder. *J of Affective Disorders*, in press.

Ghane M, Trambaiolli L, Bertocci M, Martinez-Rivera FJ, Chase H, Brady T, Skeba A, Graur S, Bonar L, Iyengar S, Quirk G, Rasmussen S, Haber S, Phillips ML. (2023) Specific patterns of endogenous functional connectivity are associated with persistent harm avoidance in OCD. *Biological Psychiatry*, in press.

Morgan JK, Santosa H, Conner KK, Fridley RM, Forbes EE, Iyengar S, Joseph HM, Huppert TJ. (2023) Mother-child neural synchronization is time linked to mother-child positive affective matching. *Social Cognitive and Affective Neuroscience*, in press.

Hafeman DM, Merranko J, Joseph HM, Goldstein TR, Goldstein BI, Levenson J, Axelson D, Monk K, Sakolsky D, Iyengar S, Birmaher B. (2022) Early indicators of bipolar risk in preschool offspring of parents with bipolar disorder, *Journla of Child Psychology and Psychiatry*, doi.org/10.1111/jcpp.13739.

Lima Santos JP, Bertocci M, Bebko G, Goldstein T, Kim T, Iyengar S, Bonar L, Gill M, Merranko J, Yendiki A, Birmaher B, Phillips ML, Versace A. (2022) White Matter Correlates of Early-Onset Bipolar Illness and Predictors of One-Year Recurrence of Depression in Adults with Bipolar Disorder. *Journal of Clinical Medicine*,11: 3432.

Lima Santos JP, Kontos AP, Holland CL, Suss SJ Jr., Stiffler RS, Bitzer HB, Colorito AT, Shaffer M, Skeba A, Iyengar S, Manelis A, Brent DA, Shirtcliff EA, Ladouceur CD, Phillips ML, Collins MW, Versace A.(2022) The role of puberty and sex on brain structure in adolescents with anxiety following concussion. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, doi.org/10.1016/j.bpsc.2022.09.013.

Manelis A, Halchenko YO, Bonar L, Stiffler R, Satz S, Miceli R, Ladouceur CD, Bebko G, Iyengar S, Swartz HA, Phillips ML. (2022) Working memory updating in individuals with bipolar and unipolar depression: fMRI study. *Translational Psychiatry*, 12: 441, doi.org/10.1038/s41398-022-02211-6.

Manelis A, Halchenko YO, Satz S, Ragozzino R, Iyengar S, Swartz HA, Levine MD. (2022) The interaction between depression diagnosis and BMI is related to altered activation pattern in the right inferior frontal gyrus and anterior cingulate cortex during food anticipation. *Brain and Behavior*, e2695. doi.org/10.1002/brb3.2695.

Bertocci M, Afriyie-Agyemang Y, Rozovsky R, Iyengar S, Stiffler R, Aslam H, Bebko G, Phillips ML. (2022) Altered patterns of central executive, default mode and salience network activity and connectivity are associated with current and future depression risk in two independent young adult samples. *Molecular Psychiatry*, doi: 10.1038/s41380-022-01899-8.

Chakraborty S, Bhatia T, Antony N, Roy A, Shriharsh V, Sahay A, Brar JS, Iyengar S, Singh R, Nimgaonkar VL, Deshpande SN.(2022) Comparing the Indian Autism Screening Questionnaire (IASQ) and the Indian Scale for Assessment of Autism (ISAA) with the Childhood Autism Rating Scale-Second Edition (CARS2) in Indian settings. *PLoS One*, 2022 Sep 19;17(9):e0273780. doi: 10.1371/journal.pone.0273780. PMID: 36121860; PMCID:

PMC9484635.

Santos JPL, Kontos AP, Maillard S, Eagle SE, Holland CL, Suss SJ, Abdul-Waalee H, Stiffler RL, Bitzer HB, Blaney NA, Colorito AT, Santucci CG, Brown A, Kim T, Iyengar S, Skeba A, Diler RS, Ladouceur CD, Phillips ML, Brent D, Collins MW, Versace A. (2021) White matter abnormalities associated with prolonged recovery in adolescents following concussion. *Frontiers in Neurology*, doi.org/10.3389/fneur.2021.681467.

Baranger DAA, Halchenko YO, Satz S, Ragozzino R, Iyengar S, Swartz HA, Manelis A. (2021) Aberrant levels of cortical myelin distinguish individuals with depressive disorders from healthy controls. *NeuroImage: Clinical*, 32:102790. doi:10.1016/J.NICL.2021.102790.

Herschell A, Kolko DJ, Scudder AT, Taber-Thomas S, Schaffner KF, Hart JA, Mrozowski SJ, Hiegel SA, Iyengar S, Metzger A, Jackson CB. (2021) A Statewide Randomized Controlled Trial to Compare Three Models for Implementing Parent Child Interaction Therapy. *Journal of Clinical Child and Adolescent Psychology*, in press.

Fournier JC, Bertocci M, Ladouceur CD, Bonar L, Monk K, Abdul-Waalee H, Versace A, Santos JPL, Iyengar S, Birmaher B, Phillips ML. Neural Function During Emotion Regulation and Future Depressive Symptoms in Youth at Risk for Affective Disorders. *Neuropsychopharmacology*, 46, 1340-1347, doi: 10.1038/s41386-021-01001-w.

Baranger DAA, Halchenko YO, Satz S, Ragozzino R, Iyengar S, Swartz HA, Manelis A. (2021) Protocol for a machine learning algorithm predicting depressive disorders using the T1w/T2w ratio. *MethodsX*, 8, 101595, doi: 10.1016/j.mex.2021.101595.

Diler RS, Merranko JA, Hafeman DM, Goldstein TR, Goldstein BI, Hower H, Gill MK, Axelson DA, Ryan ND, Strober MA, Keller MB, Yen S, Hunt, Weinstock LM, Iyengar S, Birmaher BB. (2021) Higher Socioeconomic status and less parental psychopathology improve prognosis in youths with Bipolar Disorder. *Journal of Affective Disorders*, in press.

Birmaher B, Hafeman D, Merranko J, Zwicker A, Goldstein B, Goldstein T, Axelson D, Monk K, Hickey MB, Sakolsky D, Iyengar S, DIler R, Nimgaonkar V, Uher R. (2021) Role of polygenic risk score in the familial transmission of bipolar disorder in youth. *JAMA Psychiatry*, doi:10.1001/jamapsychiatry.2021.3700.

Fournier J, Forand N, Wang Z, Li Zhexuan, Iyengar S, DeRubeis RJ, Shelton R, Amsterdam J, Jarrett RB, Vittengl JR, Segal Z, Dimidjian S, Shea MT, Dobson KS, Hollon SD. (2022) Initial severity and depressive relapse in cognitive behavioral therapy and antidepressant medications: An individual patient data meta-analysis. *Cognitive Therapy and Research*, https://doi.org/10.1007/s10608-021-10281-x.

Prasad K, Rubin J, Mitra A, Lewis M, Theis N, Muldoon B, Iyengar S, Cape J. (2022) Structural covariance networks in schizophrenia: A systematic review Part I. *Schizophrenia Research*, 240, 1-21. doi.org/10.1016/j.schres.2021.11.035.

Prasad K, Rubin J, Mitra A, Lewis M, Theis N, Muldoon B, Iyengar S, Cape J. (2022) Structural covariance networks in schizophrenia: A systematic review Part I. *Schizophrenia Research*, 240, 176-191. https://doi.org/10.1016/j.schres.2021.11.036.

Tsui FR, Shi L, Ruiz V, Ryan ND, Biernesser C, Iyengar S, Walsh CG, Brent DA. (2021) Natural Language Processing and Machine Learning of Electronic Health Records for Prediction of First-time Suicide Attempts. *J of the American Medical Informatics Association*, in press.

Brent DA, Porta G, Rozenman MS, Gonzalez A, Schwartz KTG, Lynch FL, Dickerson JF, Iyengar S, Weersing VR. (2020) Brief behavioral therapy for pediatric anxiety and depression in primary care: a follow-up. J American Academy of Child and Adolescent Psychiatry, 59: 856-867. https://doi.org/10.1016/j.jaac.2019.06.009

Bhatia T, Gujral S, Sharma V, Kumari N, Wood J, Wesesky M, Jones J, Davis L, Iyengar S, Haas GL, Nimgaonkar VL, Deshpande SN. (2020) Adjunctive yoga training for persons with schizophrenia: who benefits? *Acta Psychiatrica*, in press, doi.org/10.1017/neu.2020.44.

Chakraborty S, Bhatia T, Sharma V, Antony N, Das D, Sahu S, Shriharsh V, Brar JS, Iyengar S, Nimgaonkar VL, Deshpande SN. (2020) Protocol for development of the Indian autism screening questionnaire; the screening version of the Indian scale for Assessment of Autism. *Indian J of Psychological Medicine*, doi.org/10.1177/0253717620969068.

Haszto CS, Stanley JA, Iyengar S, Prasad KM. (2020). Regionally distinct alterations in membrane phospholipid metabolism in schizophrenia: A meta-analysis of phosphorus magnetic resonance spectroscopy studies. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, 5, 264-280.

Shalev A, Merranko J, Gill MK, Goldstein T, Liao F, Goldstein BI, Hower H, Ryan N, Strober M, Iyengar S, Keller M, Yen S, Weinstock LM, Axelson D, Birmaher B. (2020). Longitudinal Course and Risk Factors Associated with Psychosis in Bipolar Youth. *Bipolar Disorders*, 22, 139-154.

Birmaher B, Merranko JA, Gill MK, Hafeman D, Goldstein T, Goldstein B, Hower H, Strober M, Axelson D, Ryan N, Yen S, Diler R, Iyengar S, Kattan MW, Weinstock L, Keller M. (2020) Predicting Personalized Risk of Mood Recurrences in Youths and Young Adults With Bipolar Spectrum Disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*, DOI: 10.1016/j.jaac.2019.12.005.

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Manelis A, Iyengar S, Swartz HA, Phillips ML. (2020) Prefrontal cortical activation during working memory task anticipation contributes to discrimination between bipolar and unipolar depression. *Neuropsychopharmacology*, 45, 956-963.

Bertocci MA, Bergman J, Santos J, Iyengar S, Bonar L, Gill MK, Abdul-waalee H, Bebko G, Stiffler R, Lockovich J, Aslam H, Ladouceur CD, Merranko J, Diler R, Birmaher B, Versace A, Phillips ML. (2020) Emotional regulation neural circuitry abnormalities in adult Bipolar Disorder: Dissociating effects of long-term depression history from relationships with present symptoms. *Translational Psychiatry*, in press.

Melhem NM, Porta G, Oquendo MA, Zelazny J, Keilp JG, Iyengar S, Burke A, Birmaher B, Stanley B, Mann JJ, Brent DA. (2019) Severity and variability of depression symptoms predicting suicide attempt in high-risk individuals. *JAMA Psychiatry*, 76, 603-613.

Kennard BD, Goldstein T, Foxwell AA, McMakin DL, Wolfe K, Biernesser C, Moorehead A, Douaihy A, Zullo L, Wentroble E, Owen V, Zelazny J, Iyengar S, Porta G, Brent D. (2019) As safe as possible (ASAP): a brief app-supported inpatient intervention to prevent post-discharge suicidal behavior in hospitalized, suicidal adolescents. *American J. Psychiatry*, in press.

Ginsburg GS, Becker EM, Keeton CP, Kendall PC, Iyengar S, Sakolsky D, Albano A, Peris T, Compton SN, Piacentini J. (2018) Results from the Child/Adolescent Anxiety Extended Long-term Study (CAMELS): Primary Anxiety Outcomes. *Journal of the American Academy of Child and Adolescent Psychiatry*, 57, 471-480.

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Bhatia T, Wood J, Iyengar S, Narayanan SS, Beniwal RP, Prasad KM, Chen K, Yolken RH, Dickerson F, Gur RC, Gur RE, Deshpande SN, Nimgaonkar VL. (2017) Emotion discrimination in humans: its association with HSV-1 infection and its improvement with antiviral treatment. *Schizophrenia Research*, doi.org/10.1016/j.schres.2017.08.001.

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Birmaher B, Gill MK, Axelson DA, Goldstein BI, Goldstein TR, Yu H, Liao F, Iyengar S, Diler RS, Strober M, Hower H, Yen S, Hunt J, Merranko JA, Ryan ND, Keller MB. (2014) Longitudinal trajectories and associated baseline predictors in youth with bipolar spectrum disorders. *American J Psychiatry*, 171, 990-999.

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SN, Iyengar S, Sullivan K, Caporino N, Peris T, Birmaher B, Rynn M, March J, Kendall PC. (2014). Naturalistic follow-up of youths treated for pediatric anxiety disorders. *JAMA Psychiatry*, 71, 310-318.

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cortex. *J Neurophysiology*, 94, 3009-3022.

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Birmaher B, Brent DA, Kolko D, Baugher M, Bridge J, Holder D, Iyengar S, Ulloa RE. (2000) Clinical outcome after short-term psychotherapy for adolescents with major depressive disorder. *Archives of General Psychiatry*, 57, 29-36.

Brent D, Holder D, Kolko D, Birmaher B, Baugher, M, Roth C, Iyengar S, Johnson B. (1997) A clinical psychotherapy trial for adolescent depression comparing cognitive, family, and supportive therapy. *Archives of General Psychiatry*, 54, 877-885.

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Goldston D, Kovacs M, Obrosky MS, Iyengar S. (1995) A longitudinal study of life events and metabolic control among youths with insulin-dependent diabetes mellitus. *Health Psychology*, 14, 409-414.

Kovacs M, Drash A, Mukerji P, Iyengar S. (1995) Biomedical and psychiatric risk factors for retinopathy among children with IDDM. *Diabetes Care*, 18, 1592-1599.

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Kovacs M, Goldston D, Obrosky MS, Iyengar S. (1992) Intellectual development and academic performance of children with insulin-dependent diabetes mellitus: a longitudinal study. *Developmental Psychology*, 28, 676-684.

Kovacs M, Goldston D, Obrosky DS, Iyengar S. (1992) Prevalence and predictors of pervasive noncompliance with medical treatment among youths with insulin-dependent diabetes mellitus. *J American Academy of Child and Adolescent Psychiatry*, 31, 1112-1119.

Ryan ND, Birmaher B, Perel J, Dahl R, Meyer V, Al-Shabbout M, Iyengar S, Puig-Antich J. (1992) Neuroendocrine response to L-5 hydroxytryptophan challenge in prepubertal major

depression. *Archives of General Psychiatry*, 49, 843-851.

Ryan ND, Williamson D, Iyengar S, Orvashel H, Reich T, Dahl RE, Puig-Antich, J. (1992) A secular increase in child and adolescent onset affective disorder. *J American Academy of Child and Adolescent Psychiatry*, 31, 600-605.

Kovacs M, Iyengar S, Goldston D, Obrosky MS, Stewart J, Marsh J (1990) Psychological functioning of children with insulin-dependent diabetes mellitus. *J Pediatric Psychology*, 15, 619-632.

Kovacs M, Iyengar S, Goldston D, Obrosky MS, Stewart J, Marsh J. (1990) Psychological functioning among mothers of children with insulin-dependent diabetes mellitus: a longitudinal study. *J Consulting and Clinical Psychology*, 58, 189-195.

Antoinette T, Iyengar S, Puig-Antich J. (1990) Is locked seclusion necessary for children under the age of 14 ? *American J Psychiatry*, 147, 1283-1289.

Puig-Antich J, Goetz D, Davies M, Kaplan T, Davies S, Ostrow L, Asnis L, Twomey J, Iyengar S, Ryan ND. (1989) A controlled family history study of pre-pubertal major depressive disorder. *Archives of General Psychiatry*, 46, 406-418.

Ryan ND, Puig-Antich J, Ambrosini P, Rabinovich H, Nelson B, Iyengar S, Twomey J. (1987) The clinical picture of major depression in children and adolescents. *Archives of General Psychiatry*, 44, 854-861.

C. Book Reviews

Iyengar S. (1997) *Statistical Inference-Based on the Likelihood* by A Azzalini. *J American Statistical Association.* 92, 1220-1221.

Iyengar S. (1997) *A Course in Stochastic Processes* by D Bosq and HT Nguyen. *J American Statistical Association.* 92, 1651.

Iyengar S. (1998) *Multivariate Models and Dependence Concepts* by H Joe. *Technometrics.* 40, 348-349.

Iyengar S. (2013) *Understanding the New Statistics: Effect Sizes, Confidence Intervals, and Meta-Analysis* by G Cumming. *J American Statistical Association.* 108, 357-358.

D. Mathematical Reviews

1125747, 1165229, 1165927, 1199789, 1243519, 1275050, 1326530, 1343009, 1371964, 1391171, 1408130, 1414141, 1436648, 1659047, 1448309, 1659219, 1710638, 1775066, 1820144, 1869859, 1891744, 1917421, 1917800, 1938944, 1968953, 1987321, 2001302, 1957198, 2019130, 2045318, 2054802, 2151558, 2225067, 2275420, 2397501, 2414357, 2444331, 2481572, 2525259, 2665482, 2773782, 2855519, 3041264, 3088476, 3092421, 3252780, 3188354, 3299751, 3252646, 3338024, 3443491, 3493328, 3684650, 3740528, 3851765, 3873920, 3905447, 4030297, 4100838, 4113235, 4254531, 4340991, 4440175.

ADVISING AND TEACHING

A. Postdoctoral Fellows (years, present position)

Tuhao Chen (1998-2000, Professor, Mathematics and Statistics, Bowling Green State U)
Jungeun Heo (2000-2002, Staff researcher, KISTI, South Korea)

Paul Mullowney (2005-2006, Senior Research Scientist, Sensory Inc., Denver, CO)

Reuben Muchemedzi (2006-2007, deceased 2007)

Edward Bein (2007-2009, Associate, Abt Associates, New York, NY)

Scott Compton (2007-2013, Associate Professor, Psychiatry and Psychology, Duke U)

Mengyuan Zhao, (2010-2011, VP, Business Analytics Manager, JP Morgan & Co.)

Meredith Wallace (2010-2016, Associate Professor, U Pitt Medical School)

Jungtaek Kim (since 2022)

B. PhD Students

Primary adviser for 29 students (graduation year, current position; * for Mellon Fellow):

Qiming Liao (1995, Head, Oncology Statistics, AbbVie)

Sa Shen (1997, Director, Biostatistical Services, University of Illinois, Urbana-Champaign)

Silviu Bacanu (1998, Associate Professor, Psychiatry, Virginia Commonwealth U)

Aurele Houngbedji (2000, co-adviser; Risk Manager, International Financial Corp.)

Oded Meyer (2000, Teaching Professor, Mathematics and Statistics, Georgetown U)

Youngju (Lee) Nielsen (2001, Assistant Professor, Sungkyunkwan U)

Gabriela Czanner (2004, Senior Lecturer, Liverpool John Moores U)

Melissa Ziegler (2006, Senior Biostatistician, College of Health Sciences, U Delaware)

Lulu Ren (2006, Director of Biostatistics, Esperion Therapeutics)

Adriana Lopez (2008, Lecturer, Universidad Pedagogica y Tecnologica de Colombia)

Wonho Ha (2009, Statistician, Proctor and Gamble)

Kaleab Abebe (2009, Professor, U Pitt School of Medicine)

Yao Zhang (2010, Vice President, Core Modeling, JP Morgan)

Mengyuan Zhao (2010, VP, Business Analytics Manager, JP Morgan Chase)

Mihaela Obreja (2010, co-adviser; Senior Manager, Amgen)

Nan Zhou (2011, Senior Quantitative Strategist, Quest Partners)

Hao Wang (2011, co-adviser; Senior Biostatistics Manager, Kite Pharma)

Wenjing Qi (2014, Postdoctoral Associate, Duke University)

Jieyu Fan (2014, Area Vice President, Advanced Analytics, Data Science, John Hancock)

Scott Rothenberger (2014, co-adviser; Assistant Professor, U Pitt Medical School)

Martin Houze (2015, co-adviser; Senior Decision Analyst, Gateway Health)

*Burcin Simsek (2016, Senior Research Biostatistician, Bristol-Myers-Squibb)

Yafei Wei (2016, Software Engineer, LinkedIn)

*Brian McGill (2017, Senior Data Scientist, Capital One)

Zhang Zhang (2017, Data Scientist, IQVIA)

*Bowen Yi (2018, Quantitative Analytics & Model Development Analyst, PNC Bank)

Xiaonan Zhu (2019, Senior Statistician, U Pitt School of Public Health)

Xing Gao (2020, Senior Specialist, Model Development, BNY-Mellon)

Ying-Kai Huang (2021, co-adviser, Economist, Snap, Inc.)

Now advising Zhexuan Li and Mingyuan Xu.

External member of PhD thesis committees in Biomedical Engineering, Computer Science, Economics, Education, History and Philosophy of Science, Industrial Engineering, Information Science, Mathematics, and Philosophy at University of Pittsburgh.

External member of PhD thesis committees in Department of Statistics, Carnegie Mellon University; Mathematics and Statistics, University of Canterbury, Christchurch, NZ; Pondicherry University, India.

C. Others

Masters thesis adviser for Nelly Leon (1985).

Adviser for undergraduate projects and First Experiences in Research:
Margaret Kenney (2002), Janine Wilcox (2003), Laura Riley (2005), Helena Tzou (2007), Niva Pandya (2019), Suprotik Debnath (2019), Shibendu Mandal (2023), Alesia Rengle (2024).

Mentor for four high school students:
Rachel Puda (1999), Kazuma Parkinson (2017), Joey Breslau (2019) Vipin Bhat (2022).

E. Courses Taught

Undergraduate: Introductory Statistics, Statistical Computing, Multivariate Analysis, Intermediate Probability and Statistics, Stochastic Processes.

Masters: Intermediate Probability, Intermediate Statistics, Linear Models, Data Mining, Meta-analysis, Discriminant Analysis, Statistical Consulting.

Doctoral: Probability, Statistics, Asymptotics, Stochastic Differential Equations, Data Mining, Meta-analysis.

GRANTS, FELLOWSHIPS, CONTRACTS

NSF, 2021-2025. IUCRC Phase 1 University of Pittsburgh: Center for Materials Data Science for Reliability and Degradation (MDS-Rely, co-PI)

NIMH, 2014-2024. Reward, Pathophysiologic Dimensions and Psychological Distress in Young Adults. [PI: Phillips]

NIMH, 2014-2017. A Statewide Trial to Compare Three Training Models. [PI: Herschell]

NIMH, 2008-2017. Course and Outcome of Bipolar Illness in Youth [PI: Birmaher]

NIMH, 2008-2013. Transdisciplinary Studies of CBT for Anxiety in Youth. [PI: Ryan]

NIMH, 2002-2007. Neurobehavioral changes in pediatric affective disorders. [PI: Ryan]

NIMH, 2002-2007. Advanced center for intervention and services research. [PI: Brent]

NIH, 2002-2006. Modeling the acute inflammatory response. [PI: Chow]

NIH, 2001-2004. The analysis of nonstationary point process data. [PI: Kass]

NIMH, 1993-2003. Behavioral neuroscience and schizophrenia. [PI: Lewis]

NIMH, 1997-2002. The psychobiology of childhood anxiety and depression. [PI: Ryan]

NIMH, 1997-2002. CADPRC for early-onset affective and anxiety disorders. [PI: Brent]

NIMH, 1997-2000. Familial pathways of early onset suicide attempt. [PIs: Brent, Mann]

NIMH, 1996-1999. Adolescent depression: treatment and outcome. [PI: Brent]

ONR, 1993-1996. Boundary crossing problems with applications to neural sciences. [PI]

NSF, SCREMS, 1994-1995. [PI: T Savits]

ONR, 1991-1994. Statistical problems in single neuron activity. [PI]

ONR, 1989-1991. Statistical methods for the neurosciences. [PI]

NIMH, 1991-1996. Psychobiology of depression in children and adolescents. [PI: Ryan]

Power Systems Research, Inc. 1989. Development of analytical techniques to assist in evaluation of power system composite reliability indices. [PI: Mazumdar]

NIMH, 1986-1990. Psychobiology of depression in children & adolescents. [PI: Puig-Antich]

University of Pittsburgh, 1983. FAS Type I summer research grant. [PI]

INVITED TALKS
A. Meetings
MICOPAM 2023, Paris, France, August 2023.
ICSA (virtual), July 2022
MDS-Rely, Pitt-CWRU, Pittsburgh, PA, March and April 2022.
Conference on Lifetime Data Science, Pittsburgh, PA, May, 2019.
ICMR, New Delhi, India, March 2019.
CDI, Western Psychiatric Institute and Clinic, Pittsburgh, PA, February 2019.
CMStatistics, Pisa, Italy, December 2018.
ICSA, Qingdao, China, July 2018.
P.R. Krishnaiah Memorial Lecture, Penn State University, May 2017.
Mathematics Department, University of Pittsburgh, March 2017.
TSIMF, Sanya, China, December 2016.
ICSA, Shanghai, China, December 2016.
ICJMS 2016, Pondicherry, India, August 2016.
ICJMS 2015, Antalya, Turkey, May 2015.
Joint Statistical Meetings, Boston, MA, August 2014.
Modeling Neural Activity, Lihue HI, June 2013.
BIOSTEC conference, Vilamoura, Portugal. February, 2012 (M. Wallace).
Congress on Advances in Nuclear Power Plants, Nice, France, May 2011 (C. Frepoli).
Coding International Workshop, Tainan, Taiwan. May, 2009.
Association for Behavioral and Cognitive Therapies, Orlando, FL. November, 2008.
American Physical Association, Denver, CO, March 2007.
IMA workshop on Biology, Dynamics, and Statistics, Minneapolis MN, August 2007.
ISBA-IMS Second World Meeting, Bormio, Italy, 2005 (D. Lee).
Point Processes and Applications. BIRS, Banff Canada, June 2003.
New Clinical Drug Evaluation Unit. Boca Raton FL, June 2002.
Interface 2002, Montreal, CA, April, 2002.
International Indian Statistical Association Conference. Hamilton ONT, October 1998.
Lukacs Symposium. Bowling Green OH, April 1998.
IMS-ENAR Spring Meeting. Pittsburgh PA, March 1998.
Joint Statistical Meetings. Chicago IL, August 1996.
Conference on Information Processing in Cells and Tissues. Liverpool UK, September 1995.
ONR Conference on Single Neuron Computation. Arlington VA, July 1993.
Joint Statistical Meetings. Boston MA, August 1992.
ONR Conference on Moments and Signal Processing. Monterey CA, April 1992.

AMS-IMS-SIAM Summer Research Conference. Seattle WA, June 1991.

Symposium on Biostatistics and Statistics. Hamilton ONT, May 1991.

EPA Conference on Statistics. Richmond VA, March 1991.

ONR Conference on New Directions in Statistics. Arlington VA, November 1990.

ONR Conference on Single Neuron Computation. Woods Hole MA, September 1990.

AMS-IMS-SIAM Summer Research Conference. Arcata CA, June 1989.

ASA Regional Meeting. Lexington KY, April 1989.

ASA Regional Meeting. Boston MA, April 1988.

NRC Workshop on the Future of Meta-Analysis. Hedgesville WV, October 1986.

B. **Departmental Seminars**

University of Maryland, Baltimore County, March 2024.

Bowling Green State University, Statistics Department, September 2019.

University of Buffalo, Biostatistics Department, March 2018.

University of Warwick, Statistics Department, December 2016.

Oxford University, Statistics Department, November 2016.

London School of Economics, Statistics Department, October 2016.

UC Berkeley, Statistics Department, April 2016.

UC Davis, Statistics Department, February 2016.

Temple University, Statistics Department, October 2014.

University of Pittsburgh, Cognitive Brown Bag, LRDC, September 2014.

Akdeniz University, Mathematics Department, May 2014.

University of Maryland, Baltimore County, April 2014.

IIT Ropar, Humanities and Social Sciences, May 2013.

Indian Institute of Science, Center for Neuroscience, May 2013.

Howard Hughes Medical Institute (HHMI) at Janelia Farm, January, 2011.

Columbia University, Statistics Department, October 2007.

Carnegie Mellon University and University of Pittsburgh, CNBC, February 2006.

Bowling Green State University, Statistics Department, April 2005.

Massey University, Statistics Department, May 2004.

Victoria University, Statistics Department, July 2004.

Massey University at Albany, Statistics Department, June 2004.

University of Canterbury, Department of Mathematics and Statistics, May 2004.

University of Western Ontario, Statistics Department, October 2003.

University of Pennsylvania, Statistics Department, October 2003.

Case Western Reserve University, Statistics Department, February 2003.

University of Canterbury, Department of Mathematics and Statistics, February 2003.

West Virginia University, Statistics Department, October 2001.

Carnegie Mellon University and University of Pittsburgh, CNBC, February 2001.

McGill University, Department of Mathematics and Statistics, September 2000.

Michigan State University, Statistics Department, November 1999.

Latrobe University, Statistics Department, March 1999.

University of Sydney, Statistics Department, March 1999.

Australian National University, Statistics Department, March 1999.
Ohio State University, Statistics Department, February 1996.
Purdue University, Statistics Department, October 1995.
Pennsylvania State University, Statistics Department, April 1994.
Florida State University, Statistics Department, April 1992.
North Carolina State University, Statistics Department, March 1991.
University of Pittsburgh, Biostatistics Department, October, 1988.
University of Maryland, Baltimore County, Statistics Department, October 1987.
Stanford University, Departments of Statistics and Psychology, July 1986.
Carnegie Mellon University, Statistics Department, October 1985.
Carnegie Mellon University, Statistics Department, April 1984.
University of Pittsburgh, Department of Mathematics and Statistics, March 1982.

PROFESSIONAL ACTIVITY

Served on grant review panels for the National Institutes of Health since 2000.

External reviewer for many promotion and tenure cases at other universities.

Member, committee to investigate research misconduct at another university.

Member, NZIMA Program on Hidden Markov Models steering committee, 2004-2005.

Reviewed reports for the National Academy of Sciences, the American Heart Association; and proposals to National Science Foundation, National Institutes of Health, Air Force Office of Scientific Research, MITACS (Canada), Marsden Grant (New Zealand).

Refereed articles for *Annals of Statistics, American J Psychiatry, Archives of General Psychiatry, Biometrics, Biostatistics, IEEE Transactions on Molecular, Biological and Multiscale Communications, JAMA Psychiatry, J American Statistical Association, J Computational Neuroscience, J Multivariate Analysis, J Neuroscience Methods, Neural Computation, Proceedings of the National Academy of Sciences, SIAM J Scientific Computing, Statistical Science, Statistics in Medicine, Technometrics.*

Taught meta-analysis short course with Ingram Olkin and Thomas Chalmers at University of Pittsburgh, May 1991; at Upjohn Corporation, Kalamazoo MI, October 1991.

Treasurer, Pittsburgh Chapter of the American Statistical Association, 1984-1988.

UNIVERSITY SERVICE

Member, Nominating Committee, 2023-2024.

Member, Institutional Conflict of Interest Committee, 2023-2025.

Co-organized *Science Revealed* Series with Professor Jon Rubin (Mathematics), 2020-2024.

Statistics Adviser, Center for Interventions to Enhance Community Health, 2018-2022.

Member, Mellon Fellowship Selection Committee, 2015-2016, 2020-2021.

Member, Provost's Data Science Task Force, 2019-2020.

Member, University Council on Graduate Study, 2017-2019.

Member, DSMB for studies at U Pittsburgh School of Medicine, since 2013.

Faculty adviser for Ankur, the Indian Graduate Student Association, 2012-2015.

Member, Arts and Sciences Tenure Selection Committee, 2011-2015; 2018-2022.

Member, *ad hoc* Arts & Sciences promotion and tenure committees, since 1997.

FAS Summer Grants Committee, 1993-1996; chair 1995-1996.

Planning and Budgeting System *ad hoc* Review Committee, 1995-1996.

Statistics Department liaison to College in High School Program, 1995-2001.

Applied Statistics Education Committee, since 1994.

WPIC Research Committee, since 1990.

CONSULTING

EPRI, Palo Alto, CA, 2022-2023

Charles River Associates, Boston, MA, 2017-2018.

Duquesne Light, Pittsburgh, PA, 2015.

Westinghouse LOCA Integrated Services, Cranberry, PA, 2007-2012.

Allegheny General Hospital, Department of Psychiatry, Pittsburgh, PA, 2001-2008.

NIOSH, Morgantown, WV, 2002-2005.

Carnegie Mellon University, Microwave Processing Center, Pittsburgh, PA, 2002.

Westinghouse Government Services, Electro Mechanical Division, Cheswick, PA, 2001.