**Anastasia Ivanova**
Department of Biostatistics
University of North Carolina at Chapel Hill
3103-C McGavran-Greenberg Hall, CB # 7420
Chapel Hill, NC 27599-7420
Work: (919) 843-8086
Fax: (919) 966-3802
E-mail: aivanova@bios.unc.edu

---

## Education

**Ph.D. in Statistics,** 1998
University of Maryland Baltimore County
*Dissertation Advisor*: Professor W. F. Rosenberger
*Dissertation title*: A Birth and Death Urn for Randomized Clinical Trials

**Ph.D. in Mathematics,** 1992
St. Petersburg State University, St. Petersburg, Russia
*Dissertation Advisor*: Professor S. M. Ermakov
*Dissertation title*: Stochastic Stability of Algorithms when Solving Partial Differential Equations with the Monte Carlo Method

**M.S. in Mathematics,** 1988
St. Petersburg State University, St. Petersburg, Russia

## Professional Experience

**Professor**
Department of Biostatistics, University of North Carolina at Chapel Hill
2018 – Present

**Associate Professor**
Department of Biostatistics, University of North Carolina at Chapel Hill
2006 – 2018

**Member**
Lineberger Comprehensive Cancer Center, University of North Carolina at Chapel Hill
2001 – Present

**Assistant Professor**
Department of Biostatistics, University of North Carolina at Chapel Hill
1999 - 2006

**Assistant Professor**
Department of Epidemiology and Biostatistics, Case Western Reserve University
Cleveland, OH

1998 – 1999
**Biostatistician**
Lombardi Cancer Center, Georgetown University, Washington, DC
1998 – 1998
**Statistician Intern**
Food and Drug Administration, Center of Biologics Evaluation and Research
1997 - 1998

## Honors and Awards

| | |
|---|---|
| 2023 | Keynote speaker at the Annual Cleveland Clinic/Ohio State U/Case Western Reserve U Joint Biostatistics Symposium, Cleveland OH April 2023. Previous years keynote speakers (2000-2021) Scott Zeger, Butch Tsiatis, Steven Piantadosi, Nancy Geller, Mike West, Donald Rubin, C.R. Rao, Cyrus Mehta, Frank Harrell, Colin Begg, Betz Halloran, Rafael Irizarry, Weng Kee Wang, Tom Louis, Donald Berry, Marie Davidian, Rebecca Betensky, Francesca Dominici, Michael Boehnke, Kathryn Roeder, and Rebecca Hubbard |
| 2020 | Elected ASA Fellow |
| 2018 | Inducted into Delta Omega Chapter, the Honorary Public Health Society, as a faculty member |
| 2006 – 2007 | Stanley S. Schor scholarship from Merck Research Laboratories to work on Adaptive Designs |
| 2003 – 2008 | Fellowship, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, Chapel Hill |
| 1983 – 1988 | Honor student scholarship, Department of Mathematics, St. Petersburg State University, St. Petersburg, Russia |

## Membership

American Statistical Association (ASA)

## Principal Investigator on Grants/Contracts

(Dollar amount is total obligated for award period listed. If funding is for a component (subcontract, project, core, etc.) dollar amount is for the component only, not the entire project.)

U24 AR076730 9/23/19 6/30/25
National Institute of Arthritis and Musculoskeletal and Skin Diseases $51,781,000.00
**Back Pain Consortium (BACPAC) Research Program Data Integration, Algorithm Development and Operations Management Center (DAC)**
Role: Co - Principal Investigator

U24 HL138998 9/23/17 6/30/25
National Heart, Lung and Blood Institute $60,789,024.00
**Data, Modeling, and Coordinating Center for PrecISE Network**
Role: Principal Investigator

U01 DK074059 8/09/10 6/30/16
National Institute of Diabetes and Digestive and Kidney Diseases $2,876,273.00
**Randomized Intervention for Children with Vesicoureteral Reflux (RIVUR)**
Role: Subcontract Principal Investigator 2014-2015, 2019

R01 DK078045 3/1/14 2/28/15
Children's Hospital of Philadelphia $29,590.00
**Risk Factors for Renal Scarring in Children After Urinary Tract Infection (CUTIE)**
Role: Subcontract Principal Investigator 2014-2015

U01 DK061700 2/1/12 1/31/13
National Institute of Diabetes and Digestive and Kidney Diseases $527,991.00
**Folic Acid for Vascular Outcome Reduction in Transplantation (FAVORIT) - Coordinating Center**
Role: Subcontract Principal Investigator 2014

1 R01 CA120082-01 9/26/06 07/31/09
National Cancer Institute
**Current Design Issues in Oncology Trials** $410,931
Role: Principal Investigator

## Bibliography

### Peer-reviewed publications, Statistical Methods

[+] student co-author


1. Li[+], L., Ivanova, A. (2024). Isotonic design for a single-arm trial with a biomarker. *Statistical Methods in Medical Research* in press
2. Chung[+], Y., Ivanova, A., Fine, J. Shape restricted additive hazards models: monotone, unimodal and U-shape hazard functions. *Statistics in Medicine* in press
3. Kanapka[+], L., Ivanova, A. (2024). A frequentist design for basket trials using adaptive lasso. *Statistics in Medicine* 43(1) 156-172. https://doi.org/10.1002/sim.9947
4. Song[+], T., LaVange, L., **Ivanova, A**. (2023). Covariate-adaptive biased coin randomization for master protocols with multiple interventions and enrichment by subgroup. *Statistics in Biopharmaceutical Research* doi: 10.1080/19466315.2023.2268313.
5. Zhao[+], B., **Ivanova, A**., Fine, J. (2023). Inference on subgroups identified based on a heterogeneous treatment effect in a post hoc analysis of a clinical trial. *Clinical Trials* 20(4) 370-379 doi.org/10.1177/17407745231173055.
6. Kanapka[+], L., **Ivanova, A**. (2023). Fully order restricted multi-arm multi-stage clinical trial design. *Statistics in Medicine* 42(17):3050-3066. DOI: 10.1002/sim.9767

7. Saha[+], P., Fine, J.P., **Ivanova, A**. (2023). CRM and partial order CRM with adaptive rescaling for dose-finding in immunotherapy trials with a continuous outcome. *Statistics in Medicine* 42:2409–2419. DOI: 10.1002/sim.9729
8. **Ivanova, A**., Rosenberger, W.F. (2023). Comment: A quarter century of methodological research in response-adaptive randomization. *Statistical Science* 38:2, 209–211, DOI: 10.1214/23-STS865A
9. **Ivanova, A.**, Lederman, S., Stark, P.B., Sullivan, G., Vaughn, B. (2022). Randomization tests in clinical trials with multiple imputation for handling missing data. *Journal of Biopharmaceutical Statistics* 32:3, 441-449, DOI: 10.1080/10543406.2022.2080695
10. Hoberman[+], S., **Ivanova, A**. (2022). The properties of entropy as a measure of randomness in a clinical trial. *Journal of Statistical Planning and Inference*, 216, 182-193, https://doi.org/10.1016/j.jspi.2021.05.009.
11. Saha[+], P., Fine, J.P., **Ivanova, A**. (2021). Consistency of the CRM when the dose-toxicity curve is not monotone and its application to POCRM. *Statistics in Medicine*, 40(8) 2073-2082.
12. Li, X., **Ivanova, A**., Tian, H., Lim, P., Liu, K. (2020). Continual reassessment method with regularization in Phase I clinical trials. *Journal of Biopharmaceutical Statistics* 30(6) 964-978.
13. **Ivanova, A**., Israel, E., LaVange, L., Peters, M., Denlinger, L.C., Moore, W.C., Bacharier, L.B., Marquis, M.A., Gotman, N.M., Kosorok, M.R., Tomlinson[+], C., Mauger, D.T., Georas, S.N., Wright, R.J., Noel, P., Rosner, G.L., Akuthota, P., Billheimer, D., Bleecker, E.R., Cardet, J.C., Castro, M., DiMango, E.A., Erzurum, S.C., Fahy, J.V., Fajt, M.L., Gaston, B.M., Holguin, F., Jain, S., Kenyon, N.J., Krishnan, J.A., Kraft, M., Kumar, R., Liu, M.C., Ly, N.P., Moy, J.N., Phipatanakul, W., Ross, K., Smith, L.J., Szefler, S.J., Teague, W.G., Wechsler, M.E., Wenzel, S.E., White, S.R. (2020). The Precision Intervention in Severe and/or Exacerbation Prone Asthma (PrecISE) adaptive platform trial: statistical considerations. *Journal of Biopharmaceutical Statistics* 30(6) 1026-1037.
14. Joshi[+], N., Nguyen[+], C., **Ivanova, A**. (2020). Multi-stage adaptive enrichment trial design with subgroup estimation. *Journal of Biopharmaceutical Statistics* 30(6) 1038-1049.
15. Chang[+], Y., Song[+], T., Monaco, J., **Ivanova, A**. (2020). Futility stopping in clinical trials, optimality and practical consideration. *Journal of Biopharmaceutical Statistics* 30(6) 1050-1059.
16. **Ivanova, A**., Qaqish, B. (2020). Power calculations for the sequential parallel comparison design with continuous outcomes. *Journal of Biopharmaceutical Statistics* 30(6) 1121-1129.

**17.** Wiener[+], L.E., **Ivanova, A**., Koch, G. (2020). Methods for clarifying criteria for study continuation at interim analysis. *Pharmaceutical Statistics* 19(5), 720-732.

**18.** Wiener[+], L.E., **Ivanova, A**., Li[+], S., Silverman[+], R., Koch, G. (2019). Randomization-based analysis of covariance for inference in the sequential parallel comparison design. *Journal of Biopharmaceutical Statistics* 29(4), 696-713.

**19.** Joshi[+], N., Fine, J., Chu, R., **Ivanova, A**. (2019). Estimating the subgroup and testing for treatment effect in a post-hoc analysis of a clinical trial with a biomarker. *Journal of Biopharmaceutical Statistics* 29(4), 685-695. PMC6677135

**20.** Xue[+], X., Foster, M., **Ivanova, A**. (2019). Rapid enrollment design for finding the optimal dose in immunotherapy trials with ordered groups. *Journal of Biopharmaceutical Statistics* 29(4), 625-634.

**21.** Bayar, M.A., **Ivanova, A**., LeTeuff, G. (2019). CRM2dim: A SAS macro to implement the dual-agent continual reassessment method. *Computer Methods and Programs in Biomedicine* 176, 211-223. PMC6579114

**22.** Silverman[+], R., **Ivanova, A**., Fine, J., Zink, R. (2019). Permutation and bootstrap tests for sequential parallel comparison design. *Statistics in Biopharmaceutical Research* 11, 44-51.

**23.** Silverman[+], R.K., **Ivanova, A**., Fine, J. (2018). Sequential parallel comparison design with binary and time to event outcomes. *Statistics in Medicine*, 37(9), 1454-1466.

**24.** Chung[+], Y., **Ivanova, A**., Hudgens, M., Fine, J. (2018). Partial likelihood estimation of isotonic proportional hazards models. *Biometrika*, 105(1), 133-148. PMC5969539

**25.** Silverman[+], R.K., **Ivanova, A** (2017). Sequential parallel comparison design with sample size re-estimation. *Journal of Biopharmaceutical Statistics*, 27(3), 416-425.

**26.** Chiuzan, C., Shtaynberger, J., Manji, G.A., Duong, J.K., Schwartz, G.K., **Ivanova, A**., Lee, S.M. (2017). Dose-finding designs for trials of molecularly targeted agents and immunotherapies. *Journal of Biopharmaceutical Statistics*, 27(3), 477-494. PMC5383533

**27.** Jia, X., **Ivanova, A.**, Lee, S.M. (2017). Selection of the initial design for the two-stage continual reassessment method. *Journal of Biopharmaceutical Statistics*, 27(3), 495-506. PMC5383510

**28.** Parke, T., Marchenko, O., Anisimov, V., **Ivanova, A**., Jennison, C., Perevozskaya, I., Song[+], G. (2017). Comparing oncology clinical programs by use of innovative designs and expected net present value optimization: which adaptive approach leads to the best result? *Journal of Biopharmaceutical Statistics*, 27(3), 457-476. PMC5383527

**29.** **Ivanova, A**., Wang[+], A., Foster, M. (2016). The rapid enrollment design for Phase I clinical trials. *Statistics in Medicine*, 35(15), 2516-2524. PMC6791120

**30.** **Ivanova, A**., Zhang, Z., Thompson, L., Yang, Y., Kotz, R.M., Fang, X. (2016). Can sequential parallel comparison design and two-way enriched design be useful in medical device clinical trials? *Journal of Biopharmaceutical Statistics*, 26(1), 167-177.

**31.** **Ivanova, A**. Paul, B., Marchenko, O., Song[+], G., Patel[+], N., Moschos, S.J. (2016). Nine-year change in statistical design, profile, and success rates of phase II oncology trials. *Journal of Biopharmaceutical Statistics*, 26(1), 141-149.

**32.** Wages, N., **Ivanova, A**., Marchenko, O. (2016). Statistical methods for drug combination oncology Phase I studies. *Journal of Biopharmaceutical Statistics*, 26(1), 150-166.

**33.** **Ivanova, A**., Deal, A. (2016). Two-stage design for phase II oncology trials with relaxed futility stopping. *Statistics and Its Interface*, 9(1), 93-98.

**34.** **Ivanova**, A., Anderson, K.M., Rosner, G.L., Rubin, E. (2015). Commentary on "Current Statistical Challenges in Oncology Clinical Trials in the Era of Targeted Therapy" by R Sridhara, K He, L Nie, YL Shen and S Tang, *Statistics in Biopharmaceutical Research*, **7**(4), 357-358.

**35.** **Ivanova, A**., Tamura, R.N. (2015). A two-way enriched clinical trial design: combining advantages of placebo lead-in and randomized withdrawal. *Statistical Methods in Medical Research*, 24(6), 871-890.

**36.** Wang[+], Y., **Ivanova, A**. (2015). Dose-finding with continuous outcome in Phase I oncology trials. *Pharmaceutical Statistics*, 14, 102-107.

**37.** Song[+], G., **Ivanova, A**. (2015). Enrollment and stopping rules for managing toxicity requiring long follow-up in Phase II oncology trials. *Journal of Biopharmaceutical Statistics*, 25(6), 1206-1214. PMC4689581

**38.** **Ivanova, A**., Song[+], G., Marchenko, O., Moschos, S. (2015). Monitoring rules for toxicity in Phase II oncology trials. *Clinical Investigation*, 5(4), 373-381.

**39.** **Ivanova, A**., Hoberman[+], S. (2015). Higher order response adaptive urn designs for clinical trials with highly successful treatments. *JRSS C*, 64, 175-189.

**40.** Wang[+], J.J., **Ivanova, A**. (2014). Dose finding with the sequential parallel comparison design. *Journal of Biopharmaceutical Statistics*, 24(5), 1091-1101.

**41.** Farnan[+], L., **Ivanova, A**., Peddada, S. (2014). Linear mixed effects models under inequality constraints with applications. *PLOS ONE*, 9(1), e84778, doi:10.1371/ journal.pone.0084778.

**42.** **Ivanova, A.**, Rosner, G.L., Marchenko, O., Parke, T., Perevozskaya, I., Wang, Y. (2014). Advances in statistical approaches in oncology drug development. *Therapeutic Innovation and Regulatory Science*, 48, 81-89.

**43.** Baer, L., **Ivanova, A**. (2013). When should the sequential parallel comparison design be used in clinical trials? *Clinical Investigation*, 3, 832-833.

**44.** **Ivanova, A.**, Xiao[+], C. (2013). Dose-finding when the target dose is on a plateau of a dose-response curve. *Pharmaceutical Statistics*, 12, 309-314.

**45.** **Ivanova, A**, Monaco, J, Stinchcombe, T. (2012). Efficient designs for phase II oncology trials with ordinal outcome. *Statistics and Its Interface*, 5, 463-469.

**46.** **Ivanova, A**., Xiao[+], C., Tymofyeyev, Y. (2012). Two-stage designs for Phase 2 dose-finding trials. *Statistics in Medicine*, 31, 2872-2881. PMC4090751

**47.** Xiao[+], C., **Ivanova, A**. (2012). Adaptive isotonic estimation of the minimum effective and peak doses in presence of covariates. *Journal of Statistical Planning and Inference*, 142, 1899-1907. PMC3375738

**48.** **Ivanova, A**., Qaqish, B.F., Schoenfeld, D. (2011). Optimality, sample size and power calculations for the sequential parallel comparison design. *Statistics in Medicine*, 30, 2793-2803.

**49.** **Ivanova, A**., Liu, K., Snyder, E., Snavely, D. (2009). An adaptive design for identifying the dose with the best efficacy/tolerability profile with application to a crossover dose-finding study. *Statistics in Medicine*, 28, 2941-2951. PMC2772210

**50.** **Ivanova, A**., Murphy, M. (2009). An adaptive first in man dose-escalation study of NGX267: Statistical, clinical, and operational considerations. *Journal of Biopharmaceutical Statistics*, 19, 247-255.

**51.** **Ivanova, A**., Flournoy, N. (2009). Comparison of isotonic designs for dose-finding. *Statistics in Biopharmaceutical Research*, 1, 101-107. PMC2821065

**52.** **Ivanova, A**., Kim[+], S. (2009). Dose-finding for binary ordinal and continuous outcomes with monotone objective function: a unified approach. *Biometrics*, 65, 307-315. PMC2819822.

**53.** Zohar, S., Lian, Q., Levy, V., Cheung, K., **Ivanova, A.**, Chevret, S. (2008). Quality assessment of phase I dose-finding cancer trials: Proposal of a checklist. *Clinical Trials*, 5, 478-486. PMC2819819.

**54.** **Ivanova, A**., Bolognese, J., Perevozskaya, I. (2008). Adaptive design based on *t*-statistic for dose-response trials. *Statistics in Medicine***,** 27, 1581-1592. PMC2825484

**55.** Salama, I., **Ivanova, A**., Qaqish, B.F. (2008). Efficient generation of constrained block allocation sequences. *Statistics in Medicine*, **27**, 1421-1428.

**56.** **Ivanova, A**., Flournoy, N., Chung[+], Y**.** (2007). Cumulative cohort design for dose-finding. *Journal of Statistical Planning and Inference*, 137, 2316-2317.

**57.** **Ivanova, A**. (2006). Escalation, up-and-down and A+B designs for dose-finding trials. *Statistics in Medicine*, **25**, 3668-3678.

**58.** Qaqish, B.F., **Ivanova, A**. (2006). Multivariate logistic models. *Biometrika*, 93, 4, 1011-1017.

**59.** **Ivanova, A**., Wang[+], K. (2006). Bivariate isotonic design for dose-finding with ordered groups. *Statistics in Medicine*, 25, 2018-2026.

**60.** **Ivanova, A**. (2006). Urn designs with immigration: useful connection with continuous time stochastic processes. *Journal of Statistical Planning and Inference*, 136, 1836-1844.

**61.** **Ivanova, A**., Biswas, A., Lurie, A. (2006). Response adaptive designs for continuous outcomes. *Journal of Statistical Planning and Inference*, 136, 1845-1852.

**62.** Coad, S., **Ivanova, A**. (2005). Sequential adaptive urn designs with elimination for comparing K>2 treatments. *Statistics in Medicine*, 24, 1995-2009.

**63.** Coad, S., **Ivanova, A**. (2005). The use of triangular test with response-adaptive treatment allocation. *Statistics in Medicine*, **24**, 1483-1493.

**64.** **Ivanova, A**., Barrier[+], R., Berger, V.W. (2005). Adjusting for observable selection bias in block randomized trials. *Statistics in Medicine*, 24, 1537-1546.

**65.** **Ivanova, A**., Qaqish, B.F., Schell, M.J. (2005). Continuous toxicity monitoring in phase I trials in oncology. *Biometrics*, 61, 540-545.

**66.** Wang[+], K., **Ivanova, A**. (2005). Two-dimensional dose finding in discrete dose space. *Biometrics*, 61, 217-222.

**67.** Berger, V.W., Zhou, Y., **Ivanova, A**., Tremmel, L. (2004). Adjusting for ordinal covariates by inducing a partial ordering. *Biometrical Journal*, 46, 48-55.

**68.** **Ivanova, A**., Wang[+], K. (2004). A nonparametric approach to the design and analysis of two-dimensional dose-finding trials. *Statistics in Medicine*, 23, 1861-1870.

**69.** **Ivanova, A**. (2003). A new dose-finding design for bivariate outcomes. *Biometric*s, 59, 1003-1009.

**70.** **Ivanova, A.** (2003). A play-the-winner-type urn design with reduced variability. *Metrika*, 58, 1-13.

**71.** **Ivanova, A.**, Haghighi, A.M., Mohanti, S.G., Durham, S.D. (2003). Improved up-and-down designs for phase I trials. *Statistics in Medicine*, 22, 69-82.

**72.** Berger, V.W., **Ivanova, A**., Knoll, M. (2003). Minimizing predictability while retaining balance through the use of less restrictive randomization procedures. *Statistics in Medicine*, 22, 3017-3028.

**73.** Berger, V.W., **Ivanova, A**. (2002). Adaptive test for ordered categorical data. *Journal of Modern Applied Statistical Methods*, 1, 269-280.

**74.** Berger, V.W., **Ivanova, A**. (2002). The bias of linear rank tests when testing for stochastic order in ordered categorical data. *Journal of Statistical Planning and Inference*, 107, 237-247.

**75.** Coad, D.S., **Ivanova, A**. (2001). Bias calculations for adaptive designs. *Sequential Analysis*, 20, 91-116.

**76.** **Ivanova, A**., Berger, V.W. (2001). Drawbacks of integer scoring of ordered categorical data. *Biometrics*, 57, 567-570.

**77.** **Ivanova, A**., Flournoy, N. (2001). A birth and death urn for ternary outcomes: Stochastic processes applied to urn models. In *Probability and Statistical Models with Applications*. (Charalambides, C.A., Koutras, M.V., Balakrishnan, N., eds.), Chapman and Hall/CRC, Boca Raton, 583-600.

**78.** **Ivanova, A**., Rosenberger, W.F. (2001). Adaptive designs for clinical trials with highly successful treatments. *Drug Information Journal*, 35, 1087-1093.

**79.** Rosenberger, W.F., Stallard, N., **Ivanova, A**., Harper, C., Ricks, M. (2001). Optimal adaptive designs for binary response trials. *Biometrics*, 57, 833-837.

**80.** **Ivanova, A**., Rosenberger, W.F. (2000). A Comparison of urn designs for randomized clinical trials of *K>2* treatments. *Journal of Biopharmaceutical Statistics*, 10, 1, 93-107.

**81.** **Ivanova, A**., Rosenberger, W.F., Durham S.D. Flournoy, N. (2000). A birth and death urn for randomized clinical trials. *Sankhya B*, 62, 104-118.

**82.** Berger, V.W., Permutt, T., **Ivanova, A**. (1998). The convex hull test for ordered categorical data. *Biometrics*, 54, 1541-1550.

**83.** Ermakov, S.M., **Ivanova, A**. (1991). Stochastic stability of difference schemes. *Vestnik*, Mathematics Series, 24, 1, 36-40.

**84.** Barabanov, A.E., **Ivanova, A**. (1991). Minimax control of a discrete object with mixed perturbations. *Automation and Remote Control*, 54, 4, 2-11.

**85.** Barabanov, A.E., **Ivanova, A**. (1990). Minimax control of a nonminimally phased object with combination perturbations. *Vestnik*, Mathematics Series, 23, 1, 10-15.


[+]student co-author

**Peer-reviewed publications, Public Health and Medicine**

**86.** Ebach, D, Bausvaros Kappelman, M. High body mass index and response to Anti-TNF therapy in pediatric Crohn disease. *American Journal of Gastroenterology*. In press

**87.** Grover, N, Hucks, G, Riches, M.L., Ivanova, A., Moore, D., Shea, T.C., Seegars, M.B., Armistead, P.M., Kasow, K.A., Beaven, A.W., Dittus, C., Coghill, J.M., Jamieson, K.J., Vincent, B.G., Wood, W.A., Cheng, C., Morrison, J.K., West, J., Cavallo, T, Dotti, G., Serody, J.S., Savoldo, B. (2024). Anti-CD30 CAR T cells as consolidation after autologous haematopoietic stem-cell transplantation in patients with high-risk CD30+ lymphoma: a phase 1 study. *Lancet Haematology* https://doi.org/10.1016/S2352-3026(24)00064-4

**88.** Zhao[+], B., Ivanova, A, Shaikh, N. (2024). Antimicrobial prophylaxis for vesicoureteral reflux: which subgroups of children benefit the most? *Pediatric Nephrology* https://doi.org/10.1007/s00467-024-06291-y

**89.** Oldan, J.D., Giglio, B.C., Smith, E., Zhao, W., Bouchard, D.M., Ivanovic, M., Lee, Y.Z. Collichio, F.A., Meyers, A., Wallack, D.E., Abernethy-Leinwand, A., Long, P.K., Trembath, D.J., Googe, P.B., Kowalski, M.H., **Ivanova, A**., Ezzell, J., Feinberg, N., Thomas, N.E., Wong, T.Z., Ollila, D.W., Li, Z., Moschos, S.J. (2023). Increased tryptophan, but not increased glucose metabolism, predict resistance of pembrolizumab in stage III/IV melanoma *OncoImmunology*

**90.** Kappelman, M.D, Wohl, D.A., Herfarth, H.H., Firestine, A.M., Adler, J., Ammoury, R.F., Aronow, J.E., Bass, D.M., Bass, J.A., Benkov, K., Tobi, C.B., Boccieri, M.E., Boyle, B.M., Brinkman, W.B., Cabera, J.M., Chun, K., Colletti, R.B., Dodds, C.M., Dorsey, J.M., Ebach, D.R., Entrena, E., Forrest, C.B., Galanko, J.A., Grunow, J.E., Gulati, A.S., **Ivanova, A**., Jester, T.W., Kaplan, J.L, Kugathasan, S., Kusek, M.E., Leibowitz, I.H., Linville, T.M., Lipstein, E.A., Margolis, P.A., Minar, P., Rios, Z.M., Moses, J., Olano, K.K., Osaba, L., Palomo, P.J., Pappa, H.P., Park, K.T., Pashankar, D.S., Pitch, L., Robinson, M., Samson, C.M., Sandberg, K.C., Schuchard, J.R., Seid, M., Shelly, K.A., Steiner, S.J., Strople, J.A., Sullivan, J.S., Tung, J., Wali, P., Zikry, M., Weinberger, M., Saeed, S.A., Bousvaros, A.. (2023). Comparative Effectiveness of Anti-TNF in Combination with Low Dose Methotrexate vs Anti-TNF Monotherapy in Pediatric Crohn's Disease: a Pragmatic Randomized Trial. *Gastroenterology*

**91.** Mauck, M., Lotz, J., Psioda, M., Carey, T.S., Clauw, D., Majumdar, S., Marras, W.S., Vo, N., Aylward, A., Hoffmeyer, A., Zheng, P., **Ivanova, A**., McCumber, M., Carson, C., Anstrom, K., Bowden, A.E., Dalton, D., Derr, L., Dufour, J., Fields, A., Fritz, J., Hassett, A., Harte, S.E., Hue, T.F., Krug, R., Loggia, M.L., Mageswaran, P., McLean, S.A., Mitchell, U.H., O'Neill, C., Pedoia, V., Quirk, D.A., Rhon, D., Rieke, V., Shah, L., Sowa, G., Spiegel, B., Wasan, A.D., Wey, H.W., LaVange, L. (2023). The Back Pain Consortium (BACPAC) research program: structure, research priorities, and methods. *Pain Medicine*

**92.** Gbolahan, O., O'Neil, B., McRee, A., Sanoff, H., Fallon, J., Smith, P., **Ivanova, A**., Moore, D., Dumond, J., Asher, G. (2022). A Phase I evaluation of the effect of curcumin on dose-limiting toxicity and pharmacokinetics of irinotecan in participants with solid tumors. *Clinical and Translational Science* 15(5): 1304-1315.

**93.** Woods, J.D., Zeidner, J.F., Van Deventer, H.W., Jamieson, K., Matson, M., Zhang, J., Pulley, W., Brenizer, T., Muss, H., Nyrop, K.A., Vohra, S.N., Deal, A.M., Ivanova, A., Foster, M.C. (2022). Phase Ib trial of lenalidomide as post-remission therapy for older adults with acute myeloid leukemia: safety and longitudinal assessment of geriatric functional domains. *Journal of Geriatric Oncology* 13, 4, 499-504.

**94.** Voorhees, T.J., Zhao[+], B., Oldan, J., Hucks, G., Khandani, A., Dittus, C., Smith, J., Morrison, J.K., Cheng, C.J., Ivanova, A., Park, S., Shea, T.C., Beaven, A.W., Dotti, G., Serody, J., Savoldo, B., Grover, N. (2022). Pre-therapy metabolic tumor volume associates with response to CD30 CAR T cells in Hodgkin lymphoma *Blood Advances* 6(4):1255-1263.

**95.** Georas, S.N., Wright, R.J., Ivanova, A., Israel, E., LaVange, L.M., Denlinger, L.C., Bacharier, L.B., Moore, W.C., Peters, M.C., Mauger, D.T., , Akuthota, P., Carr, T.F., Kumar, R., O'Neal, W.K., Phipatanakul, W., Szefler, S.J., Aronica, M.A., Bacharier, L.B., Burbank, A., Castro, M., Cinelli, A., Comhair, S.A., Covar, R.A., Crotty-Alexander, A., DiMango, E.A., Erzurum, A.C., Fahy, J.V., Fajt, M.L., Gaston, B.M., Hoffman, E.C., Holguin, F., Jackson, D.J., Jain, D., Jarjour, N.N., Ji, Y., Kenyon, N.J., Kosorok, M.R., Kraft, M., Krishnan, J.A., Liu, A.H., Liu, M.C., Ly, N.P., Marquis, A., Martinez, F.D., Moy, J.N., Ortega, V.E., Peden, D.B., Ross, K., Smith, L.J., Teague, W.G., Tulchinsky, A.F., Vijayanand, P., Wechsler, M.E., Wenzel, S.E., White, S.R., Zeki, A.A., Noel, P. (2022). The Precision Interventions for Severe and/or Exacerbation-Prone (PrecISE) Asthma Network: An overview of Network organization, procedures, and interventions. *Journal of Allergy and Clinical Immunology* 149(2):488 – 516, https://doi.org/10.1016/j.jaci.2021.10.035 NIHMS1766170

**96.** Ziedner, J., Vincent, B.G., Ivanova, A., Moore, D., McKinnon, K.P., Wilkinson, A.D., Mukhopadhyay, R., Mazziotta, F., Knaus, J.A., Foster, M.C., Coombs, C.C., Jamieson, K., Van Deventer, H., Webster, J.A., Prince, G.T., DeZern, A.E., Smith, B.D., Levis, M.J., Montgomery, N.D., Luznik, L., Serody, J.S., Gojo, I. (2021). Phase II study of immune checkpoint blockade with pembrolizumab after high dose cytarabine in relapsed/refractory acute myeloid leukemia (AML). *Blood Cancer Discovery* (2) (6) 616-629; DOI: 10.1158/2643-3230.

**97.** Trembath, D.G., Ivanova, A., Krauze, M.T., Kirkwood, J.M., Nikolaishvilli-Feinberg, N., Moschos, S.J. (2021). Melanoma-specific expression of the tumor suppressor proteins p16 and PTEN is a favorable prognostic factor in established melanoma brain metastases. *Melanoma Research* 31(3): 264-267.

**98.** Israel, E., Denlinger, L.C., Bacharier, L.B., LaVange, L.M., Moore, W.C., Peters, M.C., Georas, S.N., Wright, R.J., Mauger, D.T., Noel, P., Akuthota, P., Bach, J., Bleecker, E.R, Cardet, J.C., Carr, T.F., Castro, M., Cinelli, A., Comhair, S.A., Covar, R.A., Crotty-Alexander, A., DiMango, E.A., Erzurum, A.C., Fahy, J.V., Fajt, M.L., Gaston, B.M., Hoffman, E.C., Holguin, F., Jackson, D.J., Jain, D., Jarjour, N.N., Ji, Y., Kenyon, N.J., Kosorok, M.R., Kraft, M., Krishnan, J.A., Kumar, R., Liu, A.H., Liu, M.C., Ly, N.P., Marquis, A., Martinez, F.D., Moy, J.N., O'Neal, W.K., Ortega, V.E., Peden, D.B., Phipatanakul, W., Ross, K., Smith, L.J., Szefler, S.J., Teague, W.G., Tulchinsky, A.F., Vijayanand, P., Wechsler, M.E., Wenzel, S.E., White, S.R., Zeki, A.A., Ivanova, A. (2021). PrecISE: Precision Medicine in Severe Asthma, an adaptive platform trial with

biomarker ascertainment. *Journal of Allergy and Clinical Immunology* 47(5):1594-1601, doi: 10.1016/j.jaci.2021.01.037.

**99.** Foster, M.C., Savoldo, B., Lau, W., Rubinos, C.A., Grover, N., Armistead, P.M., Coghill, J.M., Hagan, R.S., Morrison, J.K., Cheng, C., Laing, S., Ivanova, A., West, J., Foster, A., Serody, J., Dotti, G. (2021). Utility of Safety Switch to Abrogate CD19.CAR T Cell-Associated Neurotoxicity. *Blood* 137(23), 3306-3309.

**100.** Voorhees, T., Ghosh, N., Grover, N., Block, J., Cheng, C., Morrison, K., **Ivanova, A**., Dotti, G., Serody, J., Savoldo, B., and Beaven, A. (2020). Long term remission in multiple relapsed enteropathy associated T-cell lymphoma following CD30 CAR-T cell therapy. *Blood Advances* 4(23): 5925–5928.

**101.** Ramos, C.A., Grover, N.S., Beaven, A.W., Lulla, P.D., Wu, M.F., **Ivanova, A**., Wang, T., Shea, T.C., Rooney, C.M., Dittus, C., Park, S.I., Gee, A.P., Eldridge, P.W., McKay, K.L., Mehta, B., Cheng, C.J., Buchanan, F.B., Grilley, B.J., Morrison, K., Brenner, M.K., Serody, J.S., Dotti, G., Heslop, H.E., Savoldo, B. (2020). Anti-CD30 CAR-T cell therapy in relapsed and refractory Hodgkin lymphoma. *Journal of Clinical Oncology* 38 (32), 3794-3804.

**102.** Liu, Y., Lyu, J., Burdett, K.B., Sibley, A.B., Hatch, A.J., Starr, M.D., Brady, J.C., Hammond, K., Marmorino, F., Rossini, D., Goldberg, R.M., Falcone, A. Cremolini, A., Owzar, K., **Ivanova, A**., Moore, D.T., Lee, M.S., Sanoff, H.K., Innocenti, F., Nixon, A.B. (2020). Prognostic and predictive biomarkers in metastatic colorectal cancer patients receiving regorafenib. *Molecular Cancer Therapeutics* 19, 2146–54.

**103.** Tucker, K., Staley, S.A., Gehrig, P.A., Soper, J.T., Boggess, J.F., **Ivanova, A**., Rossi, E. (2020). Defining the learning curve for successful staging with sentinel lymph node biopsy for endometrial cancer among surgeons at an academic institution. *International Journal of Gynecological Cancer* 30(3):346-351.

**104.** Nadkarni, M.D., Mattoo, T.K., Gravens-Mueller, L., Carpenter, M.A., **Ivanova, A**., Moxey-Mims, M., Greenfield, S.P., Mathews, R. (2020). Laboratory findings in children with vesicoureteral reflux treated with antimicrobial prophylaxis. *Clinical Pediatrics* 59(3):259-265.

**105.** Shaikh, N., Rajakumar, V., Peterson, C., Gorski, J., **Ivanova, A**., Gravens-Muller, L., Miyashita, Y., Smith, K., Mattoo, T., Pohl, H., Mathews, R., Greenfield, S., Docimo, S., Hoberman, A. (2020). Cost-utility of Antimicrobial Prophylaxis for Treatment of Children with Vesicoureteral Reflux. *Frontiers in Pediatrics, section Pediatric Urology* 7, article 530.

**106.** Karachaliou, G.S., Ayvali, F., Collichio, F.A., Lee, C.B., **Ivanova, A**., Ollila, D.W., Moschos, S.J. (2020). Chemotherapy following PD1 inhibitor blockade in patients with unresectable stage III/stage IV metastatic melanoma: a single academic institution experience. *Oncology* 98(3):174-178.

**107.** Copeland, A., Foster, M.C., Muluneh, B., Xenakis, J.G., **Ivanova, A**., Frankfurt, O., Clayton, M., Black, A., Rapchak, B., Wehbie, R.S. (2019). The utility of a telemedicine platform to monitor adherence and adverse effects of tyrosine kinase inhibitors. *Leukemia and Lymphoma*, 60(7):1842-1844.

**108.** Davis, J. M., **Ivanova, A**., Chung, Y., Shaw, J. R., Rao, K. V., Ptachcinski, J. R., Sharf, A. A., Serody, J. S., Armistead, P. M., Wood, W. A., Coghill, J. M., Jamieson, K. J.,

Vincent, B. G., Riches, M. L., Shea, T. C., and Alexander, M. D. (2019). Evaluation of a test-dose strategy for pharmacokinetically-guided busulfan dosing for hematopoietic stem cell transplant. *Biology of Blood and Marrow Transplantation*, 25(2), 391-397.

**109.** Herfarth, H., Barnes, E. L., Valentine, J. F., Hanson, J., Higgins, P., Isaacs, K. L., Jackson, S., Osterman, M. T., Anton, K., **Ivanova, A**., Long, M. D., Martin, C., Sandler, R. S., Abraham, B., Cross, R. K., Dryden, G., Fischer, M., Harlan, W., Levy, C., McCabe, R., Polyak, S., Saha, S., Williams, E., Yajnik, V., Serrano, J., Sands, B. E. and Lewis, J. D. (2018). Methotrexate Is Not Superior to Placebo in Maintaining Steroid-Free Response or Remission in Ulcerative Colitis. *Gastroenterology*, 155(4), 1098-1108.e9.

**110.** Bostom, A., Pasch, A., Madsen, T., Roberts, M., Franceschini, N., Steubl, D., Garimella , P., Ix, J., Tuttle, K., **Ivanova, A**., Shireman, T., Gohh, R., Merhi, B., Jarolim, P., Kusek, J., Pfeffer, M., Liu, S., Eaton, C. (2018). Serum calcification propensity and fetuin-A: biomarkers of cardiovascular disease in long-term kidney transplant recipients. *American Journal of Nephrology* 48(1), 21-31.

**111.** Bostom, A., Steubl, D., Garimella, P. S., Franceschini, N., Roberts, M. B., Pasch, A., Ix, J. H., Tuttle, K. R., **Ivanova, A**., Shireman, T., Kim, S. J., Gohh, R., Weiner, D. E., Levey, A. S., Hsu, C. Y., Kusek, J. W., and Eaton, C. B. (2018). Serum Uromodulin: a biomarker of long-term kidney allograft failure. *American Journal of Nephrology*. 47(4), 275-282.

**112.** Sanoff, H. K., Goldberg, R. M., Ivanova, A., O'Reilly, S., Kasbari, S. S., Kim, R. D., McDermott, R., Moore, D. T., Zamboni, W., Grogan, W., Cohn, A. L., Bekaii-Saab, T. S., Leonard, G., Ryan, T., Olowokure, O. O., Fernando, N. H., McCaffrey, J., El-Rayes, B. F., Horgan, A. M., Sherrill, G. B., Yacoub, G. H., and O'Neil, B. H. (2018). Multi-center, randomized, double-blind phase II trial of FOLFIRI with regorafenib or placebo as second-line therapy for metastatic colorectal cancer. *Cancer*. 124(15), 3118-3126.

**113.** Grilley-Olson, J., Weiss, J.M., Ivanova, A., Villaruz, L.C., Moore, D.T., Stinchcombe, T.E., Lee, C.B., Shan, J.S., Socinski, M.A. (2018). Phase 1b Study of Bavituximab plus carboplatin and pemetrexed in chemotherapy-naïve advanced nonsquamous non-small cell lung cancer. *Clinical Lung Cancer* 124(15), 3118-3126.

**114.** Gilman, A.L., Leung, W., Kean, L., Cowan, M.J., Cannon, M., Epstein, S., Barnhart, C., Shah, K., Hyland, M., Fukes, T., and Ivanova, A. (2018). Donor lymphocyte infusion and methotrexate for immune recovery after T- cell depleted haploidentical transplantation. *American Journal of Hematology* 93(2), 169-178.

**115.** Kalil, R., Carpenter, M., **Ivanova, A.**, Gravens-Mueller, L., Joseph, A., Weir, M., Pesavento, T., Bostom, A., Pfeffer, M., Hunsicker, L. (2017). The impact of hyperuricemia on long-term outcomes of kidney transplantation: analysis of the FAVORIT study. *American Journal of Kidney Disease*, 70(6), 762-769.

**116.** Gilman, A.L., Eckrich, M.J., Epstein, S., Barnhart, C., Cannon, M., Fukes, T., Hyland, M., Shah, K., Grochowski, D., Champion, E., **Ivanova, A**. (2017). Alternative donor hematopoietic stem cell transplantation for sickle cell disease. *Blood Advances*, 1(16) 2015-1221.

**117.** Mattoo, T.K., Skoog, S.J., Gravens-Mueller, L., Chesney, R.W., Hoberman, A., Mathews, R., Moxey-Mims, M., Ivanova, A., Greenfield, S.P., Carpenter, M.A. (2017).

Interobserver variability for interpretation of DMSA scans in the RIVUR trial. *Journal of Pediatric Urology*, S1477-5131(17), 30233-4.

**118.** Rossi, E., Kowalski, L.D., Scalici, J., Cantrell, L., Schuler, K., Hanna, R.K., Method, M., Ade, M., **Ivanova, A**., Boggess, J. (2017). A comparison of sentinel lymph node biopsy to lymphadenectomy for endometrial cancer staging: results of the prospective cohort FIRES trial. *Lancet Oncology*, 18(3), 384-392.

**119.** Herfarth, H.H., Jackson, S., Schliebe, B.G., Martin, C., **Ivanova, A**., Anton, K., Sandler, R.S., Long, M.D., Isaacs, K.L., Osterman, M.T., Sands, B.E., Higgins, P.D., Lewis, J.D. (2017). Investigator-initiated IBD trials in the US: Facts, obstacles and answers. *Inflammatory Bowel Diseases*, 23(1), 14-22.

**120.** Schaeffer, A.J., Chow, J.S., **Ivanova, A.**, Cui, G., Greenfield, S.P., Zerin, J.M., Hoberman, A., Mathews, R.I., Mattoo, T.K., Carpenter, M.A., Moxey-Mims, M., Chesney, R.W., and Nelson, C.P. (2017). Variation in the level of detail in pediatric voiding cystourethrogram reports. *Journal of pediatric urology*, 13(3), 257-262.

**121.** Schaeffer, A.J., Greenfield, S.P., **Ivanova, A.**, Cui, G., Zerin, J.M., Chow, J.S., Hoberman, A., Keren, R., Mathews, R., Mattoo, T.K., Carpenter, M.A., Moxey-Mims, M., Chesney, R.W., Nelson, C.P. (2017). Reliability of grading of vesicoureteral reflux and other findings on voiding cystourethrography. *Journal of Pediatric Urology*, 13(2), 192-198.

**122.** Jarolim, P., Claggett, B.L., Conrad, M.J., Carpenter, M.A., **Ivanova, A**., Bostom, A.G., Kusek, J.W., Hunsicker, L.G., Jacques, P.F., Gravens-Mueller, L., Finn, P., Solomon, S., Weiner, D.E., Levey, A.S., Pfeffer, M.A. (2017). B-type natriuretic peptide and cardiac troponin I are associated with adverse outcomes in stable kidney transplant recipients. *Transplantation*, 101(1), 182-190.

**123.** Chong, P., van Duin, D., Bangdiwala[+], A., **Ivanova, A.**, Miller, W., Weber, D., Gilligan, P., Shea, T. (2016). Vancomycin-resistant enterococcal bloodstream infections in hematopoietic stem cell transplant recipients and patients with hematologic malignancies: impact of daptomycin minimum inhibitory concentrations of 3-4 mg/L. *Clinical Therapeutics*, 38(11), 2468-2476.

**124.** Park, S., Grover, N., Olajide, O., Asch, A., Wall, J., Richards, K., Sobol, A., Deal, A., **Ivanova, A**., Foster, M., Muss, H., Shea, T. (2016). A phase II trial of bendamustine in combination with rituximab in older patients with previously untreated diffuse large B-cell lymphoma. *British Journal of Haematology*, 175(2), 281-289.

**125.** Shaikh, N., Wald, E.R., Keren, R., Gotman, N., **Ivanova, A.**, Carpenter, M.A., Moxey-Mims, M., Hoberman, A. (2016). Predictors of non-Escherichia coli urinary tract infection. *Pediatric Infectious Disease Journal*, 35(11), 1266-1268.

**126.** Shaikh. N., Hoberman, A., Keren, R., **Ivanova, A**., Ziesman, H.A., Cui, G., Mattoo, T.K., Bhatnagar, S., Nadkarni, M., Moxey-Mims, M., Primack, W. (2016). Utility of sedation for young children undergoing dimercaptosuccinic acid renal scans. *Pediatric Radiology*, 46(11), 1573-1578.

**127.** Shaikh, N., Mattoo, T.K., Keren, R., **Ivanova, A**., Cui, G., Moxey-Mims, M., Majd, M., Ziessman, H.A., Hoberman, A. (2016). Early antibiotic treatment for pediatric febrile urinary tract infection and renal scarring. *JAMA Pediatrics*, 170(9), 848-854.

**128.** Wiess, J., Villaruz, L., O'Brien, J., **Ivanova, A**., Lee, C., Grilley-Olson, J., Pollack, G., Gorman, R., Socinski, M.A., Stinchcombe, T. (2016). Results of a phase II trial of carboplatin, pemetrexed and bevacizumab for the treatment of never or former/light smoking patients with stage IV NSCLC. *Clinical Lung Cancer*, 17(2), 128-132.

**129.** Shaikh, N. Hoberman, A., Chesney, R.W., Keren, R., **Ivanova, A**., Gotman, N., Moxey-Mims, M., Wald, E.R. (2016). Predictors of antimicrobial resistance among pathogens causing urinary tract infection in children. *Pediatrics*, 171, 116-121.

**130.** Nelson, C.P., Hoberman, A., Shaikh, N., Keren, R., Mathews, R., Greenfield, S., Mattoo, T., Gotman, N., **Ivanova, A**., Moxey-Mims, M., Carpenter, M., Chesney, R. (2016). Patterns of antimicrobial resistance and urinary tract infection recurrence in the RIVUR cohort. *Pediatrics*, 137(4), 1-9.

**131.** Shaikh, N. Hoberman, A., Keren, R., Gotman, N., Docimo, S., Mathews, R., Bhatnagar, S., **Ivanova, A**., Mattoo, T., Moxey-Mims, M., Carpenter, M., Pohl, H., Greenfield, S. (2016). Recurrent urinary tract infections in children with bladder and bowel dysfunction. *Pediatrics*, 137(1), 1-7.

**132.** Matto, T.K., Chesney, R.W., Greenfield, S.P., Hoberman, A., Keren, R., Mathews, R., Gravens-Mueller, L., **Ivanova, A**., Carpenter, M.A., Moxey-Mims, M., Majd, M., Ziessman, H.A. (2016). Renal scarring in the randomized intervention for children with vesicoureteral reflux (RIVUR) trial. *Clinical Journal of the American Society of Nephrology*, 11(1), 54-61.

**133.** McRee, A.J., Sanoff, H.K., Carlson, C., **Ivanova, A.**, O'Neil, B.H. (2015). A phase I trial of mFOLFOX6 combined with the oral PI3K inhibitor BKM120 in patients with advanced refractory solid tumors. *Investigational New Drugs*, 33(6), 1225-1231.

**134.** Shea, T., Walko, C., Chung$^{+}$, Y., **Ivanova, A**., Sheets, J., Rao, K., Gabriel, D., Comeau, T., Wood, W., Coghill, J., Armistead, P., Sarantopoulos, S., Serody, J. (2015). Phase I/II Trial of dose escalated Busulfan delivered by prolonged continuous infusion in allogeneic transplant patients. *Biology of Blood and Marrow Transplantation*, 21(12), 2129-2135.

**135.** Baron, J.A., Barry, E.L., Mott, L.A., Rees, J.R, Sandler, R.S, Snover, D.C, Bostick, R.M., **Ivanova, A**., Ahnen, D.J., Beck, G.J., Bresalier, R.S., Burke, C.A., Church, T.R., Cruz-Correa, M., Figueiredo, J.C., Goodman, M., Kim, A.S., Robertson, D.J., Rothstein, R., Shaukat, A., Seabrook, M.E., Summers, R.W. (2015). A Clinical Trial of Calcium and Vitamin D for the Prevention of Colorectal Adenomas. *New England Journal of Medicine*, 373(15), 1519-1530.

**136.** Sanoff, H.K., Kim, R., **Ivanova, A.**, Alistar, A., McRee, A.J., O'Neil, B.H. (2015). Everolimus and pasireotide for advanced and metastatic hepatocellular carcinoma. *Investigational New Drugs*, 33, 505-509.

**137.** Keren, R., Shaikh, N., Pohl, H., Gravens-Mueller, L., **Ivanova, A**., Zaoutis, L., Patel, M., deBerardinis, R., Parker, A., Bhatnagar, S., Haralam, M., Pope, M., Kearney, D., Sprague, B., Barrera, R., Viteri, B., Egigueron, M., Shah, N., Hoberman, A. (2015). Risk factors for recurrent urinary tract infection and renal scarring. *Pediatrics*, 136, e13-e21.

**138.** Weir, M., Gravens-Muller, L., Costa, N., **Ivanova, A**., Manitpisitkul, W., Bostom, A. G., Diamantidis, C. J. (2015). Safety events in kidney transplant recipients: results from the

Folic Acid for Vascular Outcome Reduction in Transplant (FAVORIT) Trial. *Transplantation*, 99, 1003-1008.

**139.** McRee, A., Davies, J., Sanoff, H., Goldberg, R., Bernard, S., Dees, E., Keller, K., **Ivanova, A**., O'Neil, B. (2014). A phase I trial of everolimus in combination with 5-FU/LV, mFOLFOX6 and mFOLFOX6 plus panitumumab in patients with refractory solid tumors. *Cancer Chemotherapy and Pharmacology*, 74(1), 117-123.

**140.** Barry, E.L., Mott, L.A., Rees, J.R., Melamed, M.L., Ivanova, A., Sandler, R.S., Ahnen, D.J., Bresalier, R.S., Summers, R.W., Bostick, R.M., Baron, J.A. (2014). Calcium supplementation increases blood creatinine levels in a randomized controlled trial. *PLoS One*, 9(10), e108094.

**141.** Weiss, J.M., Villaruz, L.C., Socinski, M.A., **Ivanova, A**., Grilley-Olson, J., Dhruva, N., Stinchcombe, T. (2014). A single-arm phase II trial of pazopanib in patients with advanced non-small cell lung cancer with non-squamous histology with disease progression after bevacizumab containing therapy. *Lung Cancer*, 86, 288-290.

**142.** Carpenter, M., John, A., Weir, M., Smith, S., Hunsicker, L. Kasiske, B.L., Kusek, J. W., Bostom, A., **Ivanova, A**., Levey, A.S, Solomon, S., Pesavento, T., Weiner, D.E. (2014). Blood pressure, cardiovascular disease and death in the Folic Acid for Vascular Outcome Reduction in Transplantation trial. *Journal of the American Society of Nephrology*, 24 1554-1562.

**143.** Bhatnagar, S., Hoberman, A., Kearney, D.H., Shaikh, N., Moxey-Mims, M.M., Chesney, R.W., Carpenter, M.A., Greenfield, S.P., Keren, E., Mattoo, T.K., Mathews, R., Gravens-Mueller, L., **Ivanova, A**. (2014). Development and impact of an intervention to boost recruitment in a multi-center pediatric randomized clinical trial. *Clinical Pediatrics*, 53(2), 151-157. PMC408635

**144.** Rossi, E., Jackson, A., **Ivanova, A**., Boggess, J. (2013). Detection of sentinel lymph nodes for endometrial cancer with robotic assisted fluorescence imaging: cervical versus hysteroscopic injection. International *Journal of Gynecological Cancer*, 23, 1704-1711.

**145.** Raftery, L., Tepper, J.E., Goldberg, R.M., Blackstock, A.W., Aklilu, M., Bernard, S.A., **Ivanova, A.**, Davies, J.M., O'Neil, B.H. (2013). A Two-cohort Phase 1 study of weekly oxaliplatin and gemcitabine, then oxaliplatin, gemcitabine, and erlotinib during radiotherapy for unresectable pancreatic carcinoma. *American Journal of Clinical Oncology*, 36(3), 250-253.

**146.** Kimple, R.J., Horton, J.K., Sartor, C.I., Halle, J., Carey, L., Ollila, D.W., **Ivanova, A.**, Chiu, W.M., Shields, J.M., Livasy, C.A., Dees, C. (2012). Phase I study and biomarker analysis of lapatinib and concurrent radiation for locally advanced breast cancer. *The Oncologist*, 17(12), 1496-503.

**147.** Foster, M.C., Amin, C., Voorhees, P.M., van Deventer, H.W., Richards, K.L., **Ivanova, A.,** Whitman, J., Chiu, W.M., Barr, N.D., Shea, T. (2012). A Phase I, dose escalation study of clofarabine in combination with fractionated gemtuzumab ozogamicin in patients with refractory or relapsed acute myeloid leukemia. *Leukemia and Lymphoma*, 53(7), 1331-1337, PMID: 22149206

**148.** Weiner, D.E., Carpenter, M.A., Levey, A.S., **Ivanova, A.**, Cole, E.H., Hunsicker, L., Kasiske, B.L., Kim, J.S., Kusek, J.W., Bostom, A.G. (2012). Kidney function and risk of

cardiovascular disease and mortality in stable kidney transplant recipients: post-hoc analysis of the FAVORIT trial. *American Journal of Transplantation*, 12(9), 2437-2445.

**149.** Carey, L.A., Rugo, H.S., Marcom, P.K., Mayer, E.L., Esteva, F.J., Ma, C.X., Liu, M.C., Storniolo, A.M., Rimawi, M.F., Forero-Torres, A., Wolff, A.C., Hobday, T.J., **Ivanova, A.**, Chiu, W.K., Ferraro, M., Burrows, E., Bernard, P.S., Hoadley, K.A., Perou, C.M., Winer, E.P. (2012). TBCRC 001: randomized Phase II study of cetuximab in combination with carboplatin in stage IV triple negative breast cancer. *Journal of Clinical Oncology*, 30(21), 2615-2623.

**150.** Rossi, E., **Ivanova, A.**, Boggess, J.F. (2012). Robotically assisted fluorescence-guided lymph node mapping with ICG for gynecologic malignancies: a feasibility study. *Gynecologic Oncology*, **124**, 78-82.

**151.** Beaven, A., Shea, T., Moore, D., Feldman, **Ivanova, A**., Ferraro, M., Ford, P., Smith, J., Goy, A. (2012). A Phase I study evaluating Ibritumomab Tiuxetan (Zevalin®) in combination with Bortezomib (Velcade®) in relapsed/refractory mantle cell and low grade B cell Non Hodgkin Lymphoma. *Leukemia and Lymphoma*, 53(2), 254-258.

**152.** Davies, J.M., Dhruva, N.S., Walko, C.M., Socinski, M.A., Bernard, S., Hayes, D.N., Kim, W.Y., **Ivanova, A.**, Keller, K., Hilbun, L.R., Chiu, M., Dees, E.C., Stinchcombe, TE. (2011). A phase I trial of sorafenib combined with cisplatin/etoposide or carboplatin/pemetrexed in refractory solid tumor patients. *Lung Cancer*, 71(2), 151-155 PMID: 20580118

**153.** Sanoff, H.K., Davies J., Walko, C., Buie L., Chiu, W.K., **Ivanova A.**, O'Neil, B., Stinchcombe, T.E., Keller, K., Dees, E.C. (2011). A Phase I trial of Vinflunine and Premetrexed in refractory solid tumors. *Investigational New Drugs*, 29(1), 131-136. PMID: 19830387

**154.** Sanoff, H.K., Davies J., Walko, C., Irvin, W., Buie L., Keller, K., **Ivanova A.**, Chiu, W.K., O'Neil, B., Stinchcombe, T.E., Dees, E.C. (2011). A phase I evaluation of the combination of vinflunine and erlotinib in patients with refractory solid tumors. *Investigational New Drugs*, 29(5), 978-983. PMID: 20387090

**155.** Irvin, W.J., Orlowski, R.Z., Chiu, M., Carey, L.A., Collichio, F.A., Perou, C., **Ivanova, A.**, Dees, E.C. (2010). Phase II Study of Bortezomib and Pegylated Liposomal Doxorubicin in the Treatment of Metastatic Breast Cancer. *Clinical Breast Cancer*, 10(6), 465-470. PMID: 21147690

**156.** O'Neil, B.H., Raftery, L., Calvo, B.F., Chakravarthy, B.H., **Ivanova, A.**, Myers, M.O., Kim, H.J., Chan, E., Wise, P.E., Caskey, L.S., Bernard, S.A., Sanoff, H.K., Goldberg, R.M., Tepper, J.E. (2010). A phase I Study of Bortezomib in Combination with Standard 5-fluorouracil and External Beam Radiotherapy for the Treatment of Locally Advanced or Metastatic Rectal Cancer. *Clinical Colorectal Cancer*, 9(2), 119-125. PMID: 20378507

**157.** Singh, S.S., Mehedint, D.C., Ford, O.H., Jeyaraj, D.A., Pop, E.A., Maygarden, S.J., **Ivanova, A.**, Chandrasekhar, R., Wilding, G.E., Mohler, JL. (2009). Comparison of ACINUS, Caspase-3 and TUNEL as Apoptotic Markers in Determination of Tumor Growth Rates of Clinically Localized Prostate Cancer using Image Analysis. *The Prostate*, 69, 1603-1610.

**158.** Knovich, M.A., Il'yasova, D., **Ivanova, A.,** Molnar, I. (2008). The Association between Serum Copper and Anemia in the Adult NHANES II Population. *British Journal of Nutrition*, 99, 1226-1229. PMID: 18533287

**159.** Il'asova, D., **Ivanova, A.**, Morrow, J.D., Cesari, M., Pahor, M. (2008). Correlation between two markers of inflammation, serum C-reactive protein (CRP) and interleukin-6 (IL-6) and indices of oxidative stress in patients with high risk of cardiovascular disease. *Biomarkers*, 13, 41-51. PMID: 17852073

**160.** Dees, E.D., O'Neil, B.H., Lindley, C.M., Collichio, F., Carey, L.A., Collins, J., Riordan, W.J., **Ivanova, A**, Esseltine, D., Orlowski, R.Z. (2008). A Phase I and Pharmacologic Study of the Combination of Bortezomib and Pegylated Liposomal Doxorubicin in Patients with Refractory Solid Tumors. *Cancer Chemotherapy and Pharmacology*, 63, 99-107. PMID: 18327587

**161.** Wlassoff, W.A., Sivashinski, M.S., **Ivanova, A.**, Appelbaum, J.G., Salganik, R.I. (2007). Hydrogen peroxide overproduced in breast cancer cells can serve as anticancer prodrug stimulating hydroxyl radicals produced apoptosis under the effect of tamoxifen-ferrocene conjugate. *Journal of Pharmacy and Pharmacology*, 59, 1549-1553.

**162.** Stinchcombe, T.E., Socinski, M.A., Walko, C.M., O'Neil, B.H., Collichio, F.A., **Ivanova, A.**, Mu, H., Hawkins, M.J., Goldberg, R.M., Lindley, C., Dees, E.C. (2007). Phase I and Pharmacokinetic Trial of Carboplatin and Albumin-bound Paclitaxel, ABI-007 (Abraxane®) on Three Treatment Schedules in Patients with Solid Tumors. *Cancer Chemotherapy and Pharmacology*, 60, 759-766.

**163.** Kelly, H., Kimmick, G., Dees, E.C., Collichio, F., Gatti, L., Sawyer, L., **Ivanova, A.**, Dressler, L., Graham, M.L., Carey, L.A. (2006). Response and cardiac toxicity of trastuzumab given in conjunction with weekly paclitaxel after doxorubicin/cyclophosphamide. *Clinical Breast Cancer*, **7**(3), 237-243.

**164.** Schroeder, J.C., Bensen, J.T., Su, J., Mishel, M., **Ivanova, A.**, Smith, G., Godley, P., Fontham, E., Mohler, J.L. (2006). The North Carolina-Louisiana Prostate Cancer Project (PCaP): Methods and design of a multidisciplinary population-based cohort study of racial differences in prostate cancer outcomes. *The Prostate*, 66(11), 1162-1176.

**165.** Carson, S.S., Kress, J.P., Rodgers, J.O., Vinayak, A., Campbell-Bright, S., Levitt, J., Bourdet, S., **Ivanova, A**., Henderson, A.G., Pohlman, A., Chang, L., Rich, P.B., Hall, J. (2006). A randomized trial of intermittent lorazepam versus propofol with daily interruption in mechanically ventilated patients. *Critical Care Medicine*, 34, 1326-1332.

**166.** Socinski, M.A., **Ivanova, A**., Bakri, K., Wall, J., Baggstrom, M.Q., Hensing. T.A., Meras, A., Tynan, M., Beaumont, J., Peterman, A.H., Niell, H.B. (2006). A randomized phase II trial comparing every-3-week carboplatin/paclitaxel with every-3-week carboplatin and weekly paclitaxel in advanced non-small cell lung cancer, *Annals of Oncology*, 17, 104-109.

**167.** Konrad, T.R., Howard, D.L., Edwards, L., **Ivanova, A**., Carey, T. (2005). Physician-patient racial concordance, continuity, and patterns of care for hypertension. *American Journal of Public Health*, 95, 2186-2190.

**168.** Orlowski, R.Z., Voorhees, P.M., Garcia, R.A., Hall, M.D., Kudrik, F.J., Allred, T., Johri, A.R., Jones, P.E., **Ivanova, A**., Van Deventer, H.W., Gabriel, D.A., Shea, T.C., Mitchell, B.S., Adams, J., Esseltine, D., Trehu, E.G., Green, M., Lehman, M.J., Natoli,

S., Collins, J.M., Lindley, C.M., Dees, E.C. (2005). Phase I Trial of the Proteasome inhibitor bortezomib and pegylated liposomal doxorubicin in patients with advanced hematologic malignancies, *Blood*, 105, 3058-3065.

**169.** Il'yasova, D., Morrow, J.D., **Ivanova, A**., Wagenknecht, L.E. (2004). Epidemiological marker for oxidant status: comparison of the ELISA and the gas hromatography/mass spectrometry assay for urine 3-dinor-5,6-dihydro-15-F2t-isoprostane. *Annals of Epidemiology*, 14(10), 793-797.

**170.** Peck, M.D., Kessler, M., Cairns, B.A., Chang, Y.H., **Ivanova, A**., Schooler, W. (2004). Early enteral nutrition does not decrease hypermetabolism associated with burn injury. *Journal of Trauma*, 57(6), 1143-1149.

**171.** Schwartz, G., Il'yasova, D., **Ivanova, A**. (2003). Urinary cadmium, impaired fasting glucose, and diabetes in the NHANES III. *Diabetes Care*, 26 (2), 468-470.

**172.** Melki, S.A., Safar, A., Martin, J., **Ivanova, A**., Adi, M. (1999). Potential acuity pinhole: A simple method to measure potential visual acuity in patients with cataracts, comparison to PAM. *Ophthalmology*, 106, 7-14.

**Peer-Reviewed Book Chapters**

**173.** **Ivanova, A**., Jiang, Q., Marchenko, O., Zink, R.C. (2018). Safety monitoring and analysis in oncology trials. In *Statistical Approaches in Oncology Clinical Development* (Roychoudhury, S., Lahiri, S. eds.). Taylor & Francis Group, LLC.

**174.** Song, G., Wages, N., **Ivanova, A**., Zhang, Z., Marchenko, O. (2018). Phase I trials. In *Analysis of Clinical Trials Using SAS* (Dmitrienko, A., Koch, G. eds.), 2nd ed.

**175.** **Ivanova, A**., Oron, A. (2013). Up-and-down and escalation designs. In *Methods and Applications of Statistics in Clinical Trials, Volume 1: Concepts, Principles, Trials and Design*, Hoboken: John Wiley & Sons, Inc., 353-361.

**176.** **Ivanova, A**. (2008). Escalation and up-and-down designs. In *Encyclopedia of Clinical Trials*, Hoboken: John Wiley & Sons, Inc.

**177.** **Ivanova, A**. (2008). Phase I trials in oncology. In *Encyclopedia of Clinical Trials*, Hoboken: John Wiley & Sons, Inc.

**178.** **Ivanova, A**., Flournoy, N. (2008). Phase I clinical trials. Chapter 1 in *Statistical Advances in the Biomedical Sciences: Clinical Trials, Epidemiology, Survival Analysis, and Bioinformatics* (A. Biswas, S. Datta, J. Fine, M. Segal eds.). John Wiley, 3-15.

**179.** Kuznetsova, O., **Ivanova, A**. (2007). Allocation in randomized clinical trials. Chapter 8 in *Pharmaceutical Statistics using SAS* (C., D'Agostino, R., Dmitrienko, A., eds), SAS Publishing, pp 213-235.

**180.** **Ivanova, A**. (2006). Dose-finding in oncology - non-parametric methods. Chapter 4 in *Dose Finding in Drug Development* (N. Ting, ed.). Springer-Verlag, 49-58.

**Non Peer-Reviewed Publications**

**Ivanova, A**., Tamura, R. (2013). Letter to the Editor. *Journal of Biopharmaceutical Statistics*, **23**, 709-710

**Ivanova, A**., Bunce, L. (2010). Design of Phase I trials. Chapter 11 in *Oncology Clinical Trials: Successful Design, Conduct and Analysis* (K. Kelly, S. Halabi eds.). Demos Medical Publishing, 57-64.

**Ivanova, A**., Flournoy, N. (2006). Up-and-down designs in toxicity studies. Chapter 11 in *Statistical Methods for Dose-Finding Experiments* (S. Chevret, ed.). John Wiley, 115-130.

Hu, F., **Ivanova, A**. (2004). Adaptive design. In *Encyclopedia of Biopharmaceutical Statistics*, 2nd edition, Marcel Dekker.

**Ivanova, A**. (2002). On phase I trials design: Letter to the editor. *Controlled Clinical Trials*, **23**, 182-183.

Berger, V.W., **Ivanova, A.** (2001). Permutation tests for phase III clinical trials. Chapter 14 in *S–PLUS in the Pharmaceutical Industr*y (Millard, S. Kruase, A., eds.), Springer-Verlag, 349-375.

**Manuscripts under review at a refereed journal**

Rudisill, M.A., Miller, J.A., Clark, S., Yogarajah, M., **Ivanova, A**., Auten, J., Coombs, C.C, Jamieson, K.K., VanDeventer, H., Foster, M.C., Zeidner, J.F. Retrospective analysis of the addition of cladribine to cytarabine and daunorubicin (7+3) in newly diagnosed adverse-risk acute myeloid leukemia. *Journal of Oncology Pharmacy Practice*. Submitted.

Song, F., Stucchi, S., Tsahouridis, O., Walhart, T., Hardy, B., Gilbert, T., Graves, L.M., Herring, L.E., Savoldo, B., Ma, X., Woodcock, M., Milner, J., Ivanova, A., Pearce, H., Xu, Y., Dotti G. A multi-kinase inhibitor screen identifies inhibitors preserving stem-cell-like chimeric antigen receptor T cells. Submitted

Moses, J,…, . Kappelman, M.D. Low anti-tnf levels during maintenance phase are associated with treatment failure in children with Crohn's disease. Submitted

Zhao[+], B., Fine, J., Ivanova, A. Finding the best subgroup with differential treatment effect with multiple outcomes. Submitted

Li[+], L., Ivanova, A. Order restricted designs for biomarker-stratified trials. Submitted

Chang[+], Y., Ivanova, A., Albanes, D., Fine, J., Shin, Y.E. The proportional risks model for cause-specific hazards in nested case-control studies. Submitted

Chung[+], Y., Ivanova, A., Fine, J. Additive isotonic proportional hazards models. *Statistics in Biosciences* Submitted.

Kanapka[+], L., Ivanova, A. Dynamic borrowing methods for basket trials with order restrictions Submitted

**Articles in Russian**

**Ivanova, A**. (1992). Stochastic stability of algorithms with discrete time. In *The Monte Carlo Methods in Computational Mathematics*, 66-70. (In Russian)

**Ivanova, A**. (1991). Stochastic stability of algorithms when solving partial differential equations with the Monte Carlo method. *Publications of St. Petersburg State University*. (In Russian)

**Ivanova, A**., Sushkov, Y.A. (1990). Multi-state systems with binary-polar functional elements. *Computational Cybernetics*, **25**, 38-42. (In Russian)

## Software

http://cancer.unc.edu/biostatistics/program/ivanova/

Easy to use software for Phase II oncology trials, including continuous boundary for toxicity monitoring, Simon's and Fleming's two-stage designs, two-stage design with relaxed stopping for futility and two-stage design for ordinal outcomes.

*This website receives 60 unique visits per day on average which amounts to 22000 unique visits annually*.

## Teaching

### Graduate Courses Taught

| | |
|---|---|
| Design and Analysis of Clinical Trials (jointly with L. LaVange 2007-2010) | Fall 2007, 2008, 2009, 2010, 2012, 2014 (41 students), 2016 (22 students), 2018 (30 students), 2021 (28 students), 2023 (44 students) |
| Probability and Statistical Inference I | Fall 2000, 2002, 2003, 2004, 2005, 2011, 2013, 2015 (25 students), 2017 (32 students), 2019 (38 students), 2020 (40 students), 2022 (65 students) |
| Nonparametric Statistics (Case Western Reserve) | Spring 1999 |

### Student Supervision

| Student Name | Year Graduated | Degree | Short Title |
|---|---|---|---|
| Camille Liu | ongoing | PhD | Multi-stage biomarker-stratified trials |
| Tianhao Song | ongoing | PhD | Competing risks in observational studies |
| Yen Chang | ongoing | PhD | Competing risks in nested case-cohort studies |
| Lang Li | ongoing | PhD | Optimal design for clinical trials with a subgroup |
| Beibo Zhao | ongoing | PhD | Subgroup estimation with multiple outcomes |
| Lauren Kanapka | 2024 | PhD | Order-restricted basket trials |
| Pooja Saha | 2021 | PhD | Dose-finding design for immunotherapy trials |
| Tianhao Song | 2021 | MS | Optimal futility stopping in two-stage trials |
| Camille Liu | 2021 | MS | Applying the CompEx algorithm to data |
| Yixiao Dong | 2021 | MS | Dose-finding designs for virology trials |
| Yen Chang | 2019 | MS | Futility stopping in clinical trials |
| Neha Joshi | 2019 | PhD | Clinical trials with adaptive enrichment |
| Xiaoqiang Xue | 2019 | DrPH | Models for enrollment in clinical trials |
| Julie Dorais | 2018 | MS | Models for longitudinal and event time data |
| Rachel Silverman (jointly with J Fine) | 2017 | PhD | Clinical trial with enrichment by response |
| Beibo Zhao | 2017 | MS | Methods for pharmacovigilance |
| Yunro Chung (jointly with J Fine) | 2016 | PhD | Order restricted inference with continuous covariate |

| | | | |
|---|---|---|---|
| Steven Hoberman (jointly with M Kosorok) | 2014 | PhD | Response adaptive designs and entropy |
| Yunfei Wang (jointly with E Lange) | 2014 | DrPH | Dose-finding with delayed outcome |
| Jonela Rogers | 2013 | BSURE | 5-year change in Phase II oncology trials |
| Neerali Patel | 2013 | BSURE | Current Phase I oncology trials |
| Gouchen Song | 2013 | DrPH | Sequential designs with delayed outcome |
| Krishna Chotneeru | 2013 | MPH | Methods for high placebo response |
| Jessie Wang | 2013 | MS | Multi-arm trials when placebo response is high |
| Benjamin Gellman | 2011 | BSURE | Methods for triple-blind Phase I trials |
| Laura Lapkauskaite (jointly with S Peddada) | 2011 | PhD | Order restricted estimation and testing with correlated data |
| Changfu Xiao | 2011 | PhD | Adaptive designs for Phase II trials |
| Yufan Zhao | 2007 | MS | Dose-finding for umbrella dose-response |
| Se Hee Kim | 2007 | MS | Optimal allocation to find PEAK dose |
| Shenghua Mao | 2006 | MS | Improving dose selection trials |
| Yeounsung Chung | 2005 | MS | Zoom-in designs for dose-finding |
| Nathan Carter | 2004 | MS | Escalation designs |
| Kai Wang | 2003 | PhD | Bayesian two-dimensional dose-finding |
| Robert Barrier | 2002 | MS | Adjusting for selection bias |

**Doctoral Dissertation Committee Member**

| **Student Name** | **Year Graduated** | **Department** |
|---|---|---|
| Emily Shives | ongoing | Biostatistics |
| Daniel De Marchi | ongoing | Biostatistics |
| Elaine Kowalewski | ongoing | Biostatistics |
| M. Polinkovsky | ongoing | Biostatistics |
| John Sperger | 2023 | Biostatistics |
| Beth Weiner | 2019 | Biostatistics |
| Jing Yu | 2019 | Biostatistics |
| Siying Li | 2017 | Biostatistics |
| Jung In Kim | 2017 | Biostatistics |
| Hengrui Sun | 2016 | Biostatistics |
| Byeongyeob Choi | 2016 | Biostatistics |
| Natnaree Aimyong | 2014 | Biostatistics |
| Kelley Wekheye | 2014 | Biostatistics |
| Emily Colby | 2012 | Biostatistics |
| Michael Hussey | 2012 | Biostatistics |
| Lily Wang | 2004 | Biostatistics |
| Szu-Yun Leu | 2003 | Biostatistics |
| Michael Klotsman | 2003 | Epidemiology |
| Dora Ilyasova | 2001 | Epidemiology |

**Student Funded on my Projects (with Ivanova as Principle Investigator)**

| Student Name | Years Funded | Project |
|---|---|---|
| Yue Jiang | 2017-2019 | PrecISE |
| Chalmer Tomlinson | 2019-2020 | PrecISE |
| Tianhao Song | 2021-present | PrecISE |
| Noah Won | 2021-2023 | PrecISE |
| Mingwei Fei | 2022 | PrecISE |

## Service

**Nationwide service (non NIH related)**

ASA Deming Lectureship Committee, 2019 – 2022 Chair, 2023-2025 Member
ASA Biopharmaceutical Section working group on Clinical Trial Designs with Re-randomization, Chair (and founder), 2016 – 2018
NC ASA chapter President, 2016
NC ASA chapter Vice President, 2015
Steering committee for 2014, 2015 and 2016 FDA/Industry Statistics Workshop
The academic advisor to Oncology subgroup under the Drug Information Association (DIA) Adaptive Designs Scientific Working Group, 2013 – 2018
The academic advisor to Cytel's Dose Finding Consortium, 2012 – 2018

**Nationwide service (NIH related)**

Member, Hematology Data and Safety Monitoring Board (DSMB), National Institutes of Health, National Heart Lung and Blood Institute, 2007 – present
Member, DSMB for the BLOCK-SAH trial, EPPIC Net, NINDS, 2023 – present
NHLBI-CONNECTS (Collaborative Network of Networks for Evaluating COVID-19 and Therapeutic Strategies), Statistics and Data Analysis Committee 2020 – 2021
The NIH Special Emphasis Panel/Scientific Review Group, reviewer 2021

**Editorial Service**

Associate Editor, *Statistics in Medicine*, 2006 – present
Associate Editor, *Biometrics*, July 1, 2011 – December 31, 2013
Guest Associate Editor for the special Gary Koch Festschrift Issue of *Statistics in Biopharmaceutical Research*, 2011
Guest Editor for the special Trends and Innovations in Clinical Trial Statistics (TICTS) Issue of *Journal of Biopharmaceutical Statistics*, 2016
Guest Editor for the special Duke Industry Statistics Symposium (DISS) Issue of *Journal of Biopharmaceutical Statistics*, 2018
Guest Editor for the special DISS Issue of *Journal of Biopharmaceutical Statistics*, 2020

**UNC Academic Committees**

School or University-wide committees
SPH Appointments, Promotions, and Tenure, 2019 – 2022
SPH UCRF-SPH student award, 2016 - present
SPH Conflict of Interest Committee/Research Council, school-wide committee, 2016 – 2020

SPH Advisory Committee for Diversity Programs and Recruitment, 2012 – 2019
SPH Task Force on Scientific Review of IRB Applications, University-wide, 2013 – 2014

UNC's Lineberger Comprehensive Cancer Center (LCCC) committees
Protocol Review Committee, LCCC, 1999 – present
Search committee, LCCC, 2004, 2006, 2007, 2008, 2009, 2011, 2012, 2014.
Member, Data and Safety Monitoring Committee, LCCC, 1999 – present

Departmental level committees
CSCC director search committee (chair), 2021
BIOS department chair search committee, 2020
Communications committee (chair), 2014 – 2021
Diversity committee, 2016 – 2019
Social committee, 2008 – 2016
Examination committee, 2000 – present
Biostatistics Summer Undergraduate Research and Education (BSURE) program committee (chair), 2008 – 2014
Search committee, Department of Biostatistics, 2001, 2011, 2014
New MPH program at St. Petersburg State University, Russia (Fogarty), 2004 – 2005.
Stochastic Processes Course Committee, Department of Statistics and the Department of Biostatistics, 1999

**Referee (selected list)**

*Annals of Statistics; Biometrika; Biometrics; Biostatistics; Journal of the Royal Statistical Society B; Journal of the American Statistical Association; Journal of Biopharmaceutical Statistics; Journal of Clinical Oncology; Journal of Statistical Planning and Inference; Statistics and Probability Letters; Statistics in Medicine.*

## Presentations

**Invited Presentations (presented or coauthored)**

Ivanova, A. Dose-finding designs, is Bayesian better? DISS, Durham, NC, April 2024
Ivanova, A. and Kanapka, L., A frequentist design for basket trials using adaptive lasso. The International Society for Biopharmaceutical Statistics (ISBS) 7th Symposium, Baltimore, March 2024.
Ivanova, A. and Saha, P., Dose finding with adaptive rescaling. The International Society for Biopharmaceutical Statistics (ISBS) 7th Symposium, Baltimore, March 2024.
Ivanova, A., How to design the best biomarker-guided clinical trial? Department of Statistics, George Mason University, Fairfax VA, November 2023.
Ivanova, A. Testing treatment effect in the biomarker negative subgroup. JSM, Toronto, Canada, Aug 2023.
Ivanova, A. Testing treatment effect in the biomarker negative subgroup. Model-Oriented Analysis and Optimal Design (mODa13), University of South Hampton, UK, July 2023.

Ivanova, A. Dose-finding designs, is Bayesian better? Dose Finding and Other Topics in Drug Development In Honor of Dr. Naitee Ting's 70th Birthday, Storrs, CT, June 2023

Ivanova, A. Testing treatment effect in the biomarker negative subgroup, is it too costly? ASA/FDA Forum on Cancer Clinical Trial Design and Analysis Considerations in Evaluating Treatment Effect in Marker Negative Population, virtual, May 2023

Ivanova, A. Five lessons learned from the PrecISE trial, a platform biomarker stratified trial, keynote speaker, Annual Cleveland Clinic/Ohio State U/Case Western Reserve U Joint Biostatistics Symposium, Cleveland OH April 2023.

Lang, A., Ivanova, A. Biomarker-stratified trials, DISS, virtual, March 2023.

Ivanova, A. Randomization tests in clinical trials with multiple imputation for handling missing data. ENAR, Nashville TN, March 2023.

Ivanova, A, Saha, P. Dose finding with heterogeneous patient subgroups. JSM, Washington DC, August 2022.

Ivanova, A. Methodological challenges in PrecISE, 14th Annual Conference on Statistical Issues in Clinical Trial, University of Pennsylvania, virtual, April 2022.

Ivanova, A. Precision Interventions for Severe and/or Exacerbation-Prone Asthma (PrecISE), DISS, virtual, April 2021.

Ivanova, A., LaVange, L. Precision Interventions for Severe and/or Exacerbation-Prone Asthma (PrecISE) trial design. DIA, Washington DC, October 2019.

Ivanova, A. Subgroup estimation in clinical trials. mODa 12, Smolenice, Slovakia, June 2019.

Ivanova, A., Xue, X. Dose-finding designs for immunotherapy trials. DISS, Durham, NC, April 2019.

Ivanova, A. Sequential parallel comparison design for trials with high placebo response. NYU, NY, April 2019.

Ivanova, A., Wages, N. Modern Methods in Phase I and II Oncology Trials, a half-day course. DISS, Durham, NC, September 2017.

Ivanova, A. Solving clinical trial problems by using novel designs. DISS, Durham, NC, September 2017.

Ivanova, A. Rapid enrollment design for Phase I trials in oncology. 2nd Symposium on Early-phase Trial Design Methodology, Charlottesville, VA, April 2017.

Ivanova, A. Sequential Parallel Comparison Design for trials with high placebo response: overview and case studies. SCT Webinar, June 2016.

Ivanova, A. Sequential Parallel Comparison Design for trials with high placebo response: overview and case studies. Department of Biostatistics Seminar series, Columbia University. New York NY, May 2016.

Ivanova, A. Enrichment by response: Sequential Parallel Comparison Design (SPCD), overview and case studies. The 2nd Trends and Innovations in Clinical Trial Statistics conference. Durham NC, May 2016.

Ivanova, A. Statistical analysis of SPCD data. FDA-Industry meeting on SPCD. Silver Spring, MD, Mach 2016.

Ivanova, A. Sequential Parallel Comparison Design for trials with high placebo response: related statistical methodology and case studies. FDA, Silver Spring, MD, July 2015.

Ivanova, A. Sequential Parallel Comparison Design for trials with high placebo response. Design and Analysis of Experiments in Healthcare. Cambridge, UK, July 2015.

Ivanova, A. Designing a Phase 2 major depressive disorder trial to select the best design for a pivotal trial. Society for Clinical Trials meeting. Arlington VA, May 2015.

Ivanova, A. Sequential Parallel Comparison Design for dose finding. Symposium on Dose Finding Methodology. Paris, France, April 2015.

Ivanova, A. Solving clinical trials problems with novel design approaches. Discussant. ENAR. Miami FL, March 2015.

Ivanova, A. Rapid enrollment design for Phase I oncology trials. Fourth Workshop on Adaptive Early-Phase Clinical Trial Designs. Charleston SC, October 2014.

Ivanova, A. Recent developments in Phase I and II oncology trials. 2014 FDA/Industry Workshop. Washington DC, September 2014.

Ivanova, A. Phase I designs for Phase I oncology trials. Short Course, Trends and Innovations in Clinical Trial Statistics, Durham, NC, April 2014.

Ivanova, A. End point selection in Phase II oncology trials. Trends and Innovations in Clinical Trial Statistics, Durham, NC, April 2014.

Ivanova, A. Statistical methods in medical research. Short Course, Gastroenterology Congress, Moscow, Russia, March 2014.

Ivanova, A. Innovative dose-finding methods for Phase I oncology trials. FDA, Oncology, Silver Spring, MD, September 2013.

Dragalin, V., Ivanova, A. Enrichment strategies in adaptive clinical trials: theory and implementation. Short course, 2013 FDA/Industry Workshop. Washington DC, September 2013.

Ivanova, A. Sample size considerations for the sequential parallel comparisons design. 2013 FDA/Industry Workshop. Washington DC, September 2013.

Ivanova, A. Treatment selection with the sequential parallel comparison design. Fourth International Workshop in Sequential Methodologies. Athens GA, July 2013.

Ivanova, A. Adaptive dose-finding: from audiometry to sleep apnea. ICSA/ ISBS joint statistical conference. Bethesda MD, June 2013.

Ivanova, A. Designs for trials with high placebo response. Society for Clinical Trials meeting. Boston MA, May 2013.

Ivanova, A. Designs for trials with high placebo response. Department of Biostatistics, Johns Hopkins University. Baltimore MD, April 2013.

Ivanova, A. Adaptive two-stage trials with multiple treatment arms. COMPASS Consortium meeting. Philadelphia PA, April 2013.

Ivanova, A. Comparing strategies for trials with high placebo response. ENAR. Orlando FL, March 2013.

Ivanova, A. Learning with a two-stage design with multiple arms: adaptive and manageable. DIA/Industry Workshop. Bethesda MD, October 2012.

Ivanova, A. High placebo response, crossover, placebo lead-in and randomized discontinuation designs. NC TraCS Biostatistics Seminar Series for Clinical and Translational Science Investigators. UNC September 2012.

Ivanova, A. Comparing designs for trials with high placebo response 2012 FDA/Industry Workshop. Washington DC, September 2012.

Ivanova, A., Miller, E., Gallo, P. Recent Adaptive Designs in Phase 2 and Phase 3: Theory and Implementation Short course, 2012 FDA/Industry Workshop. Washington DC, September 2012.

Ivanova, A. Comparing Strategies for Trials with High Placebo Response. Biopharmaceutical Section Web-based Training Series, August 2012.

Ivanova, A. Sample size re-estimation in Phase III trials. Quintiles, Durham NC, July 2012.

Ivanova, A. Beyond the 3+3 design: methods for Phase I and II oncology trials. Quintiles, Durham NC, May 2012.

Tamura, R., Ivanova, A. A doubly enriched clinical trial design merging placebo lead-in and randomized withdrawal, ENAR, Washington DC April 2012.

Ivanova, A. Adaptive Two-Stage Designs for Multi-Arm Trials. BASS XVIII, Savannah GA, November 2011.

Ivanova, A. Adaptive dose-finding in first-in-man: case study. 2011 FDA/Industry Workshop. Washington DC, September 2011.

Ivanova, A. Beyond the 3+3 design: novel methods for oncology trials. University of Alabama Comprehensive Cancer Center, Birmingham AL, June 2011.

Ivanova, A. Adaptive designs for dose-finding trials. Duke University, December 2010.

Ivanova, A. Can we use the CRM in Phase 2 trials? GlaxoSmithKline, October 2010.

Ivanova, A. The CRM: pros, cons and misconceptions. FDA, Oncolgoy, Silver Spring, MD, September 2010.

Ivanova, A. Lymph node identification study: can we do better with optimal design? MODA9, Bertrino, Italy, June 2010.

Ivanova, A. Adaptive Dose Finding. The 4th Annual Probability and Statistics Day. UMBC, Baltimore, MD April 2010.

Ivanova, A. Dose finding in phase 2 trials. UK Medical Research Council Workshop on Dose-Finding Methodology in Early Phase Clinical Trials. Reading, UK, March 2010.

Ivanova, A. Innovative dose finding designs. 60$^{th}$ anniversary of the Department of Biostatistics, UNC Chapel Hill. Chapel Hill NC, October 2009.

Liu, K., Ivanova, A., Snyder, E., Snavely, D. Entsuah, R. Case Study: An Adaptive Design that Uses a Utility Function to Identify the Best Dose in a Crossover Setting. ASA Biopharmaceutical /FDA Industry Workshop, Washington DC, September 2009.

Ivanova, A. Adaptive dose finding in non-life threatening diseases. JSM. Washington DC, August 2009.

Ivanova, A. Design and estimation in dose-ranging studies6-th St Petersburg Workshop on Simulation, St. Petersburg, Russia, July 2009.

Ivanova, A. Adaptive dose finding. The second International Workshop in Sequential Methodologies, Troyes, France, June 2009.

Ivanova, A. Finding the dose with the best efficacy/tolerability profile. ENAR. San Antonio, TX, March 2009.

Ivanova, A. An Adaptive Design for Identifying the Dose with the Best Efficacy/Tolerability Profile. Department of Statistics, George Masson University. Fairfax, VA, February 2009.

Ivanova, A. Dose-finding adaptive trials. Society of Clinical Trials annual meeting. St. Louis, May 2008.

Liu, K., Ivanova, A., Snyder, E., Snavely, D. A Three-Period Crossover Adaptive Dose Design. Third Annual Adaptive Designs for Clinical Development. London, United Kingdom, May 2008.

Ivanova, A. Adaptive designs for dose-finding trials. Tutorial.. The 63rd annual Deming Conference on applied statistics. Atlantic City, December 2007.

Ivanova, A. Dose-finding for umbrella dose-response. Merck Research Laboratories. Philadelphia, September 2007.

Ivanova, A. Dose-finding designs for Phase II A studies. GlaxoSmithKline Biostatistics Annual Conference. Philadelphia, September 2007.

Ivanova, A. Dose-finding based on t-statistic. Merck Research Laboratories. Rahway, September 2007.

Ivanova, A. Investigation of up-and-down strategies for isotonic dose-finding. MODA8, Spain, June 2007.

Ivanova, A. Adaptive designs for dose-selection trials. Merck Research Laboratories. Rahway, February 2007.

Ivanova, A. Dose-finding in oncology. GlaxoSmithKline. Cary, May 2007.

Ivanova, A. Adaptive dose selection trials. Adaptive Designs For Clinical Development Summit, Germany, March 2007.

Ivanova, A. Unified approach to treatment assignment in dose-finding trials CBI's 1st Forum on Dose Finding Studies, Philadelphia, February 2007.

Ivanova, A. Non-parametric dose-finding designs: recent developments and examples. GlaxoSmithKline Biostatistics Annual Conference. Cary, November 2006.

Ivanova, A., Qaqish, B., Schell, M. Continuous toxicity monitoring in phase I trials in oncology. Georgetown University, Washington DC, March 2006.

Ivanova, A. Aspects of teaching Biostatistics. How to teach Epidemiology, Prevention and Biostatistics in an MPH program, Saint Petersburg State University, Saint Petersburg, Russia, May 2005.

Ivanova, A. Dose-finding in life-threatening diseases: non-parametric methods. Designing and analyzing dose response clinical trials, Philadelphia, PA, November 2004.

Ivanova, A. Analysis of primary and secondary outcomes in trials allowing stopping based on secondary outcomes. Understanding applying and not misusing statistical techniques, Gaithersburg, MD, October 2004.

Ivanova, A., Qaqish, B., Schell, M. Continuous toxicity monitoring in phase II trials in oncology. UMBC, Baltimore, MD, October 2004.

Ivanova, A. Response-adaptive designs: ethics and efficiency of estimation. Workshop on Adaptive designs, Fields Institute, Toronto, September 2003.

Berger, V., Zhou, J., Ivanova, A., Tremmel, L. Exact adjustment for ordinal covariates in randomized trials using partial orderings. ENAR, Tampa, FL, March 2003.

Coad, S., Ivanova, A. Sequential adaptive urn designs with elimination for comparing several treatments. Meeting on Response Adaptive Clinical Trials, Sandwich, UK, November 2002.

Rosenberger, W.F., Stallard, N., Ivanova, A. Optimal adaptive designs for binary response trials. Department of Biostatistics, UCLA, January 2002.

Rosenberger, W.F., Stallard, N., Ivanova, A. Optimal adaptive designs for binary response trials. Department of Statistics, University of California, Santa Barbara, February 2002.

Barrier, R., Ivanova, A. Selection bias in adaptive clinical trials. Joint Statistical Meeting, Atlanta, GA, August 2001.

Berger, V., Ivanova, A. An alternative to the complete randomized block procedure. Joint Statistical Meeting, Atlanta, GA, August 2001.

Ivanova, A. Designing an epidemiologic study. HIV and AIDS Epidemiology Meeting. St. Petersburg, May 2001.

Rosenberger, W.F., Stallard, N., Ivanova, A. Optimal adaptive designs for binary response trials. SmithKline Beecham, Philadelphia, PA March 2001.

Rosenberger, W.F., Stallard, N., Ivanova, A. Optimal adaptive designs for binary response trials. Department of Statistics, University of South Carolina, November 2001.

Rosenberger, W.F., Stallard, N., Ivanova, A. Optimal adaptive designs for binary response trials. The EMMES Corporation, Rockville, MD, November 2001.

Ivanova, A. Drop-the-loser rule in medical trials. University of Maryland, Baltimore, MD, October 2000.

Ivanova, A., Berger, V.W. Adaptive tests for ordinal categorical data. NCI, Bethesda, MD, October 2000.

Ivanova, A. Drop-the-loser rule in medical trials. University of Georgia, Athens, GA, March 2000.

Ivanova, A. Drop-the-loser rule in medical trials. Columbia University, New York, NY, February 2000.

Rosenberger, W.F., Stallard, N., Ivanova, A. Optimal adaptive designs for binary response trials. PhRMA/FDA Workshop, Washington DC, October 2000.

Ivanova, A. Drop-the-loser rule in medical trials. UNC at Chapel Hill, Chapel Hill, NC, October 1999.

Ivanova, A., Berger, V.W. Adaptive tests for ordinal data. The 1999 CCF-CWRU-OSU Statistics Symposium, Cleveland, OH, May 1999.

Berger, V.W., Ivanova, A. The conditional t-test of stochastic order is biased and least stringent for the product multinomial distribution. International Chinese Statistical Association (ICSA) Meeting, New Brunswick, NJ, May 1997.

**Other Presentations (prior to 2006)**

Coad, S., Ivanova, A. The use of triangular test with response-adaptive treatment allocation. 55th Session of the International Statistical Institute, Sydney, Australia, April 2005.

Wang, K., Ivanova, A. Bayesian designs for two-dimensional phase I trials. JSM, San Francisco, CA, August 2003.

Ivanova, A. New approach to dose-finding studies. Infectious Diseases Conference, UNC at Chapel Hill, July 2003 (invited as CFAR development grant recipient).

Wang, K., Ivanova, A. Designs for phase I trials with two agents. ENAR, Tampa, FL, March 2003.

Berger, V., Ivanova, A. Enhancing allocation concealment through less restrictive randomization procedures. ENAR, Charlotte, NC, March 2001.

Ivanova A., Berger V.W. Adaptive tests for ordinal categorical data. Joint Statistical Meeting, Baltimore, MD, August 1999.

Melki, S.A., Safar, A., Martin J., Ivanova A., Adi, M. Potential acuity pinhole: A simple method to measure potential visual acuity in patients with cataracts, comparison to PAM. Meeting of the American Academy of Ophthalmology, New Orleans, November 1998.

Ivanova, A., Durham, S. A birth and death urn for randomized clinical trials. Joint Statistical Meeting, Dallas, TX, August 1998.

Ivanova, A. A birth and death urn for randomized clinical trials. St. Petersburg Workshop on Simulation, St. Petersburg, Russia, June 1998.

Ivanova, A., Rosenberger, W.F. A birth and death urn for randomized clinical trials. Mid-Atlantic Probability and Statistics Day, Baltimore, MD, October 1997.

Ivanova, A., Rosenberger, W.F. A birth and death urn for randomized clinical trials. Graduate Student Research Day, Baltimore, MD, April 1997.

Ivanova, A. Stability of algorithms when solving partial differential equations with the Monte Carlo method, Mid-Atlantic Probability and Statistics Day, Baltimore, MD, October 1996.