

# JOSEPH R. NOLAN

## CURRICULUM VITAE

### CONTACT INFORMATION

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### EDUCATION

Ph.D.	Purdue University (Statistics)	2006
M.S.	Purdue University (Statistics)	2002
M.A.	Eastern Illinois University (Mathematics)	1999
B.A.	Eastern Illinois University (Mathematics/Education)	1998
B.S.	Eastern Illinois University (Chemistry/Education)	1998

### PROFESSIONAL APPOINTMENTS

2020-present	Professor of Statistics	Northern Kentucky University
2014-present	Director, Burkardt Consulting Center	Northern Kentucky University
2015-present	Non-affiliated Scientific Board Member	Advarra IRB*
2014-2020	Associate Professor of Statistics	Northern Kentucky University
2008-2014	Assistant Professor of Statistics	Northern Kentucky University
2006-2008	Visiting Asst. Professor of Statistics	Purdue University

\*Previously Schulman IRB prior to 2018 merger

### RESEARCH INTERESTS

Applied Statistics, Biostatistics, Experimental Design, Human Subject Protections, Methods of Teaching and Learning, Statistics in Medicine, Statistics in Sports, Statistics / Mathematics Education, Survival Analysis, Undergraduate Research in Statistics

### PUBLICATIONS

#### Refereed Journal Articles

Larson, K.C., Downing, M.S., Nolan, J., Neikirk, M. (2020). High Impact Practices Through Experiential Student Philanthropy: A Case Study of the Mayerson Student Philanthropy Project and Academic Success at Northern Kentucky University. *Journal of College Student Retention*, DOI: 10.1177/1521025120952083.

Eid, W., Sapp, E.H., McCreless, T., Nolan, J.R., Flerlage, E. (2020). Prevalence and Characteristics of Patients with Primary Severe Hypercholesterolemia in a Multidisciplinary Healthcare System. *The American Journal of Cardiology*, 132, 59-65.

- Nolan, J.R., McConville, K.S., Addona, V., Tittle, N.L., Pearl, D.K. (2020). Mentoring Undergraduate Research in Statistics: Reaping the Benefits and Overcoming the Barriers. *Journal of Statistics Education*, 28(2): 140-153.
- Greive, R.M., Hill, M., Boyle, M., Nolan, J. (2020). Posterior approach total shoulder arthroplasty: A retrospective analysis of short-term results. *Orthopedics*, 43(1): e15-e20.
- Brooks, A., Hammons, J., Nolan, J., Dufek, S., Carter, M. (2019). The Purpose of Research: What Undergraduate Students Say. Revisions resubmitted to *Scholarship and Practice of Undergraduate Research (SPUR)*, 3(1), 39-47.
- Greive, R.M., Spanyer, J., Nolan, J., Rodgers, R., Hill, M. (2019). Improving orthopedic patient outcomes: A model to predict 30- and 90-day readmission rates following total joint replacement. *Journal of Arthroplasty*. In Press. DOI: 10.1016/j.arth.2019.05.051
- Canfield, J., Harley, D., Teasley, M., Nolan, J. (2017) Validating the McKinney-Vento Act implementation scale: examining the factor structure and reliability. *Children & Schools*, 39(1), 53-60.
- Canfield, J., Nolan, J., Harley, D., Hardy, A., Elliot, W. (2016). Using a person-centered approach to examine the impact of homelessness on school absences. *Children and Adolescent Social Work Journal*, 33(3), 199-205.
- Nolan, J., Cole, T., Wroughton, J., Riffe, H., Clayton-Code, K. (2013). Assessment of risk factors for truancy of children in grades K-12 using survival analysis. *Journal of At-Risk Issues*, 17(2), 23-30.
- Wroughton, J., Nolan, J. (2012). Pinochle poker: an activity for counting and probability. *Journal of Statistics Education*, 20(2).
- Doyle, J., Nolan, J., Whiteman, H. (2010). Effects of relative size on growth rate and time to metamorphosis in mole salamanders. *Journal of Herpetology*, 44(4), 601-609.
- Weaver, C., Martin, B., Jackson, G., McCabe, G., Nolan, J., McCabe, L., Barnes, S., Reinwald, S., Boris, M., Peacock, M. (2009). Antiresorptive effects of phytoestrogen supplements compared to estradiol or residronate in postmenopausal women using <sup>41</sup>Ca methodology. *Journal of Clinical Endocrinology & Metabolism*, 94(10), 3798-3805.
- Cheong, J., Martin, B., Jackson, G., Elmore, D., McCabe, G., Nolan, J., Barnes, S., Peacock, M., Weaver, C. (2007). Soy isoflavones do not affect bone resorption in postmenopausal women: a dose-response study using a novel approach with <sup>41</sup>Ca. *Journal of Clinical Endocrinology & Metabolism*, 92(2), 577-582.

## Editorials

- Hayat, M.J., Staggs, V.S., Schwartz, T.A., Higgins, M., Azuero, A., Budhathoki, C., Chandrasekhar, R., Cook, P., Cramer, E., Dietrich, M.S., Garnier-Villarreal, M., Hanlon, A., He, J., Hu, J., Kim, M., Mueller, M., Nolan, J.R., Perkhounkova, Y., Rothers, J., Schluck, G., Su, X., Templin, T.N., Weaver, M.T., Yang, Q., Ye, S. (2019). Moving nursing beyond  $p < .05$ . *International Journal of Nursing Studies*, 95, A1-A2.

Additional re-printings in:

Research in Nursing & Health 42:244-245. DOI: 10.1002/nur.21954

Nursing Outlook. In press. DOI: 10.1016/j.outlook.2019.06.010

Research and Theory for Nursing Practice: An International Journal, 33(3):217-221.

DOI: 10.1891/1541.6577.33.3.217

## Book Reviews

Nolan, J. (2017). Review of: Handbook of Statistical Methods and Analyses in Sports. *Book Reviews, Journal of the American Statistical Association*, 112:520, 1771-1783. Electronic reference: <https://doi.org/10.1080/01621459.2017.1411709>.

## Refereed Conference Papers

Truta, T.M., Kain, P., Atnafu, T., Campan, A., Nolan, J., Appelman, A. (2019). Twitter Streaming API Data Collection for Infrequent Keywords. Accepted for 2019 IEEE International Conference on Big Data. Los Angeles, CA, Dec. 9-12.

Campan, A., Atnafu, T., Truta, T.M., Nolan, J. (2018). Is Twitter Streaming API Data Collection Useful for Academic Research?" 2018 IEEE International Conference on Big Data. Seattle, WA, Dec. 10-13.

## PRESENTATIONS

### Invited Presentations

Downing, M., Larson, K., Nolan, J., Neikirk, M., Polion, D. (2021). High Impact Practices Through Student Philanthropy: A Case Study of the Mayerson Student Philanthropy Project and Academic Success at Northern Kentucky University. NKU Board of Regents Meeting (January).

Nolan, J. (2017, 2018). Statistics in Epidemiology. Jewish Hospital Research Week, Cincinnati, OH.

Nolan, J., Tintle, N., McConville, K., Addona, V., Pearl, D. (2017). Mentoring Undergraduate Research Students: Benefits and Barriers. United States Conference on Teaching Statistics, State College, PA.

Glore, M., Mowery, B., Minzner, M., Carter, M., and Nolan, J. (2016). Counting the Annual Visitors to the Great Parks of Hamilton County. CINSAM Seminar Series, Highland Heights, KY.

Nolan, J. (2016). Research Experiences for Undergraduate Statistics Majors. Electronic Conference on Teaching Statistics Northern Kentucky Regional Conference at Georgetown College, Georgetown, KY.

Wroughton J., Nolan J. (2011). *Pinochle poker: an activity to solidify concepts in counting and probability*. CAUSE Activity Webinar Series, September 27, 2011.

### Refereed Conference Presentations

Gieske, M., Ellis, J., Lockwood, M., Schmitt, G., Kloecker, G., Budhani, I., Nolan, J., Williams, V., Alkapalan, D., Calhoun, R. (2021) A Programmatic Approach Yields Good Results in a Community Lung Cancer Screening Program with Endemic Histoplasmosis. Society of Thoracic Surgery Annual Meeting (January).

Greiwe, R.M., Hill, M., Nolan, J., Harm, R. (2019) Posterior Approach Shoulder Arthroplasty: A retrospective analysis of 1 year results. International Congress of Shoulder and Elbow Surgery (ICES). 2019 Annual Meeting. Buenos Aires, Argentina, Sep. 17-20.

Nolan, J., (2019). Statistical Consulting: With Undergraduates! United States Conference on Teaching Statistics (USCOTS), Birds of a Feather Session, Pennsylvania State University, State College PA.

- Nolan, J. (2019). Statistical Consulting: Staffing with Undergraduates. United States Conference on Teaching Statistics (USCOTS), Posters & Beyond Session, Pennsylvania State University, State College PA.
- Kulkarni, M., Bills, P., Farmer, A., Carter, M., Nolan, J. (2018). Real Kids in Real Time: Teachers Learning From Live Demonstrations of NGSS-Aligned Science Lessons. National Association for Research in Science Teaching (NARST) International Conference.
- Kulkarni, M., Bills, P., Nolan, J., Carter M. (2017). Elementary inservice teacher uptake of reform-based science teaching practice of a university STEM professional development program. NARST Annual Conference Proceedings, [https://www.narst.org/annualconference/NARST\\_2017\\_Abstracts.pdf](https://www.narst.org/annualconference/NARST_2017_Abstracts.pdf).
- Nolan, J., Agard, D. (2017). Undergraduate Research Using Statistics in Sports. United States Conference on Teaching Statistics (USCOTS), Birds of a Feather Session, Pennsylvania State University, State College PA.
- Miller, C. and Nolan, J. (2016). Challenges to integrity of online statistics courses. Electronic Conference on Teaching Statistics. (Screencast)
- Nolan, J., Freudenberg, L., Heard, C. (2015). Connecting statistics with healthcare: a survey of statistical methods and their use in nursing research journals. United States Conference on Teaching Statistics (USCOTS), Posters & Beyond Session, Pennsylvania State University, State College PA.
- Lancaster, M., Haik, K., Doyle, M., Kulkarni, M., Nolan, J., Becknell, A., Hudson, N., and Kotnik, K. (2015). Data mining to explore trends in undergraduate retention and graduation rates at NKU. Joint Statistics Meetings, Seattle WA.
- Nolan, J., Freudenberg, L., Heard, C. (2015). Connecting statistics with healthcare: a survey of statistical methods and their use in nursing research journals. United States Conference on Teaching Statistics (USCOTS), Posters & Beyond Session, Pennsylvania State University, State College PA.
- Nolan, J. (2013). A change in perspective: creating asynchronous classroom equivalents. United States Conference on Teaching Statistics (USCOTS), Posters & Beyond Session, North Carolina State University, Cary NC.
- Wroughton, J., Nolan, J. (2011). Pinochle poker: active learning for counting and probability. United States Conference on Teaching Statistics (USCOTS), Posters & Beyond Session, North Carolina State University, Cary NC.
- Wroughton, J., Nolan, J. (2010). Pinochle poker: active learning for counting and probability. Scholarship for Teaching and Learning Conference, Lexington KY.
- Nolan, J., Wroughton, J. (2009). It will only take five minutes: time efficient alternative learning tools to enhance student understanding. United States Conference on Teaching Statistics (USCOTS), Posters & Beyond Session, Ohio State University, Columbus OH.
- Reinwald, S., Martin, B., McCabe, G., Jackson, G., Nolan, J., Peacock, M., Barnes, S., Weaver, C. (2006). Antiresorptive effects of various commercial isoflavone supplements compared to estradiol or residronate in postmenopausal women using <sup>41</sup>Ca methodology. *Journal of Bone and Mineral Research*, 21(S1), S125.
- Cheong, J., Nolan, J., Jackson, G., Martin, B., Elmore, D., McCabe, G., Barnes, S., Peacock, M., Weaver C. (2004). Dose response study of soy isoflavones on bone

resorption in postmenopausal women. *Journal of Bone and Mineral Research*, 19(S1), S173.

Cheong, J., Jackson, G., Martin, B., Elmore, D., Nolan, J., Peacock, M., McCabe, G., Weaver, C. (2003). Bone resorption in postmenopausal women using  $^{41}\text{Ca}$  technology. *Journal of Bone and Mineral Research*, 18(S1), S288.

### **Contributed Presentations**

Stanley, E., Kotnik, K., Freudenberg, L., Grimes, R., Bezold, Z., Glore, M., Nolan, J. (2015). Statistically speaking: empowering researchers in Northern Kentucky. Celebration of Student Research, Northern Kentucky University, Highland Heights KY.

Hodgson, T., Waters, M., Nolan, J. (2014, 2013). Flipping the classroom: a workshop for high school teachers. Roles: Presenter, technology consultant for the participants.

Nolan, J. (2012). Statistics in sports at NKU. Miami Conference on Statistics in Sports, Miami OH.

Nolan, J., McCabe, G. (2007). Using  $^{41}\text{Ca}$  to assess treatment effects on bone turnover: statistical methods. Seventh Annual Meeting and Symposium, Purdue University & University of Alabama at Birmingham Botanicals Research Center, West Lafayette IN.

Nolan, J., McCabe, G. (2006). Using  $^{41}\text{Ca}$  to assess treatment effects on bone turnover: statistical methods. Sixth Annual Meeting and Symposium, Purdue University & University of Alabama at Birmingham Botanicals Research Center, Birmingham AL.

Jackson, G., Elmore, D., Nolan, J., Einstein, J., McCabe, G., Martin, B., Cheong, J., Wastney, M., Hillegonds, D., Weaver, C. (2005). The basics of  $^{41}\text{Ca}$  measurements in human urine by AMS. 10<sup>th</sup> International Conference on Accelerator Mass Spectrometry, Berkeley CA.

Nolan, J., Jackson, G., McCabe, G. (2005). Statistical Models for  $^{41}\text{Ca}$  Bone Turnover Data, 5th Annual Meeting and Symposium, Purdue University & University of Alabama at Birmingham Botanicals Research Center, West Lafayette IN.

### **EXPERT REVIEW**

American Journal of Nursing – Biostatistical review of medical manuscripts, 2019-present

BMJ Open (<http://bmjopen.bmj.com/>) – Biostatistical review of a medical manuscripts, 2018-present

### **RESEARCH ACTIVITIES IN PROGRESS**

Kloecker, G., Ellis, J., Nolan, J., Korbee, L., Calhoun, R., Logan, B., Flora, D., Flora, D., Hartman, P. (TBD). Social Distancing To Avoid SARS-Cov-2 Infection in Cancer and Non-Cancer Patients. TBD. In preparation.

Geiske, M.R., Ellis, J.A., Lockwood, M.E., Schmitt, G.M., Kloecker, G., Budhani, I.A., Nolan, J., Williams, V., Alkapalan, D., Calhoun, R.F. (2021). A Programmatic Approach Yields Good Results in a Community Lung Cancer Screening Program with Endemic Histoplasmosis. *Annals of Thoracic Surgery*. Submitted 2/5/21.

Almasri, M., Kohrs, B., Fleckenstein, C.M., Nolan, J., Wendt, A., Hasan, S.S. (2021). Reverse shoulder arthroplasty in patients 85 years old greater: safety and effectiveness stratified by age and diagnosis. *J Shoulder Elbow Surg*. In preparation.

Hasan, S.S., Ajayi A., Hajjar, M., Fleckenstein, C.M., Nolan, J., Wendt, A. (2021). Arthroscopic repair of retracted massive rotator cuff tears with and without augmentation using a collagen scaffold patch: A preliminary study of early outcomes and tendon healing. TBD. In preparation.

Eid, W., Sapp, E.H., Flerlage, E., Nolan, J. (2021). Lower-intensity Statins Contributing to Gaps in Care for Patients with Primary Severe Hypercholesterolemia. Journal of the American Heart Association. Submitted 3/18/21.

Greiwe, R.M., Kohrs, B., Nolan, J. (2020). Posterior Approach Total Shoulder Arthroplasty: Minimum Two-Year Outcomes. Journal of Shoulder and Elbow Surgery. Submitted 11/18/20

## **TEXTBOOK DEVELOPMENT**

Nolan, J. *Applying Statistics to Healthcare: Turning Variability Into Useful Decisions*. Textbook has been used in teaching STA 614 since 2013.

## **GRANT ACTIVITY**

Title: Project FLIP: Using Video Podcasts for Mathematics Instruction and Intervention  
Organization: KY Council on Post-Secondary Education  
Program: Improving Educator Quality  
PI: Theodore Hodgson (NKU) and Co-PI: Renee Campoy (Murray State University)  
Role: Technology Consultant  
2013 Amount: \$273,456 (university match of \$130,796, Funded)  
2014 Amount: \$119,969 (university match of \$71,671, Funded)

Title: City of Cincinnati Youth Study  
Organization (Program): City of Cincinnati (Youth Commission of Cincinnati)  
Amount Requested: \$162,689 (not funded, 2013)  
PI: James P. Canfield (NKU) and Co-PI: Dana Harley (NKU), Willie Elliott (NKU)  
Role: Statistical Analysis (included funding for two students in the Burkardt Consulting Center)

Title: Evaluating the Faces Without Places Programing  
Organization (Program): William T. Grant Foundation (Social Settings Research)  
Amount Requested: \$450,000 (not funded, 2013)  
PI: James P. Canfield (NKU)  
Role: Statistical Analysis

Title: Developing a Partnership between Kenton County Schools and Northern Kentucky University to Address Homelessness  
Organization (Program): Institute for Education Sciences (CFDA 84.305H)  
Amount Requested: \$184,548 (not funded, 2012)  
PI: James P. Canfield (NKU) and Co-PI: Kim Banta (Kenton County Schools)  
Role: Data preparation and statistical analysis

Title: Support for the operation of a statistics undergraduate research group at NKU  
Organization: Center for Undergraduate Research in Mathematics (CURM)  
PI: Joseph R. Nolan (NKU)

Amount Requested: \$15000 (\$3000 for each of three students and \$6000 to fund release time)

Status: Not Funded (2012, 2013)

## HONORS AND AWARDS

Faculty Award: Excellence in Undergraduate Research Mentoring, NKU	2016
Faculty Award: Online Faculty Member of the Year Award, NKU	2014
Purdue University Graduate Student Award for Outstanding Teaching	2004
Purdue University Murphy Award for Excellence in Teaching Finalist	2004
National Science Foundation VIGRE Fellowship, Purdue University	2003-2004
Andrews Fellowship, Purdue University	1999-2001
Edson H. Taylor Senior Award, Eastern Illinois University	1998
Livingston C. Lord Scholar, Eastern Illinois University	1996
Deans Honors List, Eastern Illinois University	1993-1998

## CERTIFICATIONS

CITI Certifications	2011-current
PRIM&R Ethical Research Oversight Course	2015
Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans Course on Research Ethics (TCPS 2: Core)	2015
Graduate Teaching Certificate, Purdue University	2003
Illinois State Teacher Certification for Grades 6-12 Mathematics & Chemical Science Endorsements	1998-current

## ATTENDANCE AT PROFESSIONAL CONFERENCES

United States Conference on Teaching Statistics, State College PA, 2019.  
Electronic Conference on Teaching Statistics, 2018.  
United States Conference on Teaching Statistics, State College PA, 2017.  
Electronic Undergraduate Statistics Research Conference, 2016.  
Electronic Conference on Teaching Statistics, 2016.  
First Electronic Undergraduate Statistics Research Conference, 2015  
United States Conference on Teaching Statistics, State College PA, 2015.  
Electronic Conference on Teaching Statistics, 2014.  
United States Conference on Teaching Statistics, Cary NC, 2013.  
KYMAA Annual Meeting, Louisville KY, 2012.  
United States Conference on Teaching Statistics, Cary NC, 2011.  
United States Conference on Teaching Statistics, Columbus OH, 2009.

## TEACHING EXPERIENCE

### Courses Taught at Northern Kentucky University

MAT/STA 110	Introductory Probability	10 sections
STA 113	Introduction to Probability & Statistics	2 sections
STA 205/212	Elementary Statistics	17 sections
STA 213	Statistics for Business Applications II	4 sections
STA 250	Probability and Statistics I	4 sections
STA 292	Undergraduate Research: Stats in Sports (Team-taught)	20 <i>students</i>
STA 312	Elementary Survey Sampling	3 sections

STA 314	Design and Analysis of Experiments	4 sections
STA 316	Regression Analysis	3 sections
STA 340	Probability II	1 sections
STA 360	Statistical Computing	4 sections
STA 370/470	Statistical Consulting I and II (BCC Consultants)	56 <i>students</i>
STA 392	Undergraduate Research in Statistics	2 students
STA 399/499	Independent Study: Survival Analysis	2 students
STA 614	Statistics for Healthcare Research (Online, Some Team-taught)	51 sections

### Courses Taught at Purdue University

STAT 225	Introduction to Probability Models	10 sections
STAT 502	Experimental Statistics II	5 sections
STAT 502Z	Experimental Statistics II (Online)	2 sections
STAT 511	Statistical Methods for Engineers	5 sections
STAT 512	Applied Regression Analysis	9 sections
STAT 512Q	Applied Regression Analysis (Online)	1 sections
STAT 517	Statistical Inference	1 sections
STAT 490B	Introduction to Bioinformatics (Team-Taught)	1 sections

### Mentored Undergraduate Research: Statistics in Sports

Collaborations with Dr. David Agard. Posters viewable at <http://www.nku.edu/~nolanj1/SIS.htm>

Berryman, E. (2020). Analysis of Draft vs. Academy System in Soccer. Sponsor: NKU UR-STEM Program.

Henn, M. (2020). Assessing Swimming World Records. Sponsor: NKU UR-STEM Program.

List, S., Cox, A., Adheke, S. (2019). Mining College Basketball Data. Presented at 2019 Heather Bullen Summer Research Celebration (NKU). Sponsor: NKU UR-STEM Program.

Frink, C., Kalfas, D., Quillen, A. (2017). Golf Handicapping Analysis. Presented at: 2017 Heather Bullen Summer Research Celebration (NKU) and 2017 Electronic Undergraduate Research Conference. Sponsor: NKU UR-STEM Program.

McMahon, M., Taylor, C., Riera-Sanchez, J. (2016). Baseball Hall of Fame: Examining Factors for Enshrinement. Presented at: 2016 Heather Bullen Summer Research Celebration (NKU). Also presented to: 2016 Undergraduate Class Project Competition (sponsored by CAUSE) and received Third Place award. Sponsor: NKU UR-STEM Program.

List, J. (2015). The NBA draft: the effect of leaving college early. Presented at: 2015 Heather Bullen Summer Research Celebration (NKU) and 2015 First Electronic Undergraduate Statistics Research Conference (CAUSE). Sponsor: NKU Focus on Occupations, Recruiting, Community, and Engagement UR-STEM.

Hoffman, D. (2014). Investigating data mythology in major league baseball. Presented at: 2014 Heather Bullen Summer Research Celebration (NKU). Sponsor: NKU Focus on Occupations, Recruiting, Community, and Engagement UR-STEM.

Hovey, B. (2014). Major league baseball: paying more for less performance? Presented at: 2014 Heather Bullen Summer Research Celebration (NKU) and 2015 First Electronic Undergraduate Statistics Research Conference (CAUSE). Sponsor: NKU Focus on Occupations, Recruiting, Community, and Engagement UR-STEM.



Heard, C. (2013). Challenges of NCAA reclassification. Presented at: 2013 Heather Bullen Summer Research Celebration (NKU) and 2014 Posters at the Capitol (Frankfort KY). Sponsor: NKU Focus on Occupations, Recruiting, Community, and Engagement UR-STEM.

Cocco, K. (2013). Big dance: analysis of bracketology. Presented at: 2013 Heather Bullen Summer Research Celebration (NKU). Sponsor: NKU Focus on Occupations, Recruiting, Community, and Engagement UR-STEM.

Lovins, M. (2012). Effects of aging on performance in sports. Presented at: 2012 Summer Celebration of Student Research (NKU), 2013 Posters at the Capitol (Frankfort, KY), 2013 KYMAA Meetings (Transylvania University, Lexington KY). Sponsor: NKU Focus on Occupations, Recruiting, Community, and Engagement UR-STEM.

Fitter, A. (2012). Markov chain estimation of NFL scoring sequences. Presented at: 2012 Summer Celebration of Student Research (NKU), 2012 Statistics in Sports Conference Presentation (Miami University, Oxford OH), and 2013 Posters at the Capitol (Frankfort KY). Sponsor: NKU Center for Integrative Natural Science and Mathematics.

Bell, D. (2011). Estimating Playoff Success Probabilities for NBA Teams. Presented at: 2011 Summer Celebration of Student Research (NKU) and 2012 Posters at the Capitol (Frankfort KY). Sponsor: NKU Focus on Occupations, Recruiting, Community, and Engagement UR-STEM.

Colston, G. (2010). Metrics for Quantifying Success for MLB Hitters. Presented at: 2011 Posters at the Capitol (Frankfort, KY), 2011 Celebration of Student Research (NKU). Sponsor: NKU Center for Integrative Natural Science and Mathematics.

### **Mentored Undergraduate Research: Burkardt Consulting Center**

Collaborations as noted; research completed by student consultants with the BCC.

Monroe, J. (2020). Leg Mobility and Pain: A look into the statistical techniques used for projects for Dr. Noyes and his Team. Presented at: 2020 Online Celebration (NKU).

Leffler, Z. (2020). Latent Variables Associated to Hospital Efficiency. Presented at: 2020 Online Celebration (NKU).

Guckiean, E. (2019). Estimating Effects of Mayerson Courses on Student Success. Collaborating faculty: Larson, K. Presented at: 2019 Online Celebration (NKU).

Akinrele, K. (2019). Challenges in Analyzing K-3 Mathematics Data. Collaborating faculty: Glore, M.L. Presented at 2019 Online Celebration of Research (NKU).

Englert, J. (2019). Analyzing Outcomes of Non-Deterministic Events in Fluctuating Temporal Data. Presented at: 2019 Celebration of Student Research (NKU).

Kain, P. (2019). Methods for Analyzing Medical Data. Collaborator: Greiwe, M. Presented at: 2019 Celebration of Student Research (NKU).

Shaw, S. (2019). Statistical Analysis of Palliative Care Services for ICU Patients. Presented at: 2019 Celebration of Student Research (NKU).

Farmer, A. (2018). Analyzing the Effects of NGSS-Aligned Professional Development Sessions on Elementary Teaching Methods. Collaborating faculty: Kulkarni, M., Bills, P. Presented at: 2018 Posters at the Capitol (Frankfort, KY) and 2018 Celebration of Student Research (NKU)

Gearhart, C. (2018). Basketball: The Statistics Behind the Statistics. Collaborating faculty: Miller, C. Presented at: 2018 Celebration of Student Research (NKU).

Zieverink, R. (2017). Estimating Annual and Monthly Visitation Rates for Great Parks of Hamilton County. Collaborating faculty: Glore, M. Presented at: 2017 Celebration of Student Research (NKU).

Carter, M., Hovey, B. (2016). NKU Celebration: The Student Experience. Presented at: 2016 Heather Bullen Summer Research Celebration (NKU).

Johannemann, L. (2016). Data management for Microsoft Access. Collaborating faculty: Glore, M. Presented at: 2016 Celebration of Student Research (NKU).

Grimes, R. (2015). Simulating online social interactions. Collaborating faculty: Lancaster, M. Presented at: 2015 Celebration of Student Research (NKU) and 2015 NKU Business Services Showcase.

Freudenberg, L. (2015). Partial least squares regression. Presented at: 2015 Celebration of Student Research (NKU).

Kotnik, K. (2014). Using data mining and visualization to investigate retention in STEM. Collaborating faculty: Lancaster, M., Doyle, M., Haik, K. Presented at: 2014 CINSAM Seminar Series (NKU) and 2015 STEM Central Webinar.

### **Mentored Undergraduate Research: Other**

Farro, L., Griffith, A., House, T. (2017). The Effect of Music on the Ability to Focus. Presented at: 2017 Undergraduate Class Project Competition (sponsored by CAUSE) and received Third Place award.

Dufek, S., Farmer, A., Gearhart, C., Holton, B., Zieverink, R. (2017). Understanding Wildfires. Entry submitted to *SAS Analytics Shootout 2017* (competition).

Carter, M., Dasenbrock-Gammon, N., Farmer, A., Hovey, B., Ullrey, C., Zheng, Z. (2016). SAS Analytics: Our Aging Country. Collaborating faculty: Agard, D. Presented at: 2016 Heather Bullen Summer Research Celebration (NKU). Entry submitted to *SAS Analytics Shootout 2016* (competition).

Turner-Collins, C. (2014). Risk factors for depression in college students. Presented at: 2014 Undergraduate Class Project Competition (sponsored by CAUSE) and received First Place award.

Kotnik, K. (2013). NKU retention: examining patterns in student movement. Presented at: 2014 Celebration of Student Research (NKU). Sponsor: NKU Office of the President.

Heard, C. (2013). Consistency of response to student behavioral violations. Presented at: 2014 Celebration of Student Research (NKU).

Lovins, M. (2013). The role of socioeconomic differences in educational outcomes. Presented at: 2013 Heather Bullen Summer Research Celebration (NKU) and 2014 Posters at the Capitol (Frankfort KY). Sponsor: NKU Center for Integrative Natural Science and Mathematics.

Hardy, A. (2012). Statistics to assist in decision making in Northern Kentucky schools. Presented at: 2013 Celebration of Student Research (NKU).

Cole, T. (2011). Risk factors for truancy in K-12. Presented at: 2012 Celebration of Student Research (NKU), 2012 KYMAA Presentation (Bellarmine University, Louisville KY), and 2013 Undergraduate Statistics Project Competition (sponsored by CAUSE) receiving Honorable Mention.

## **SERVICE TO THE PROFESSION**

Chance Magazine, reviewer, 2018-present.  
USPROC Undergraduate Statistics Project Competition, Co-chair, 2017-present.  
Electronic Undergraduate Statistics Research Conference Co-chair, 2017-present.  
SIAM Undergraduate Research Online, reviewer, 2017.  
CAUSE Cartoon Contest, judge, 2016-present.  
Journal of Quantitative Analysis in Sports, reviewer, 2011-present.  
Electronic Undergraduate Statistics Research Conference, planning committee, 2016.  
USPROC Undergraduate Statistics Project Competition, judge, 2015.  
ASA/NCTM K-12 Statistical Project Competition, judge, 2011-2012.  
Journal of Statistics Education, reviewer, 2010.

## **SERVICE TO THE COMMUNITY**

John O'Bryan High School Mathematics Competition, co-organizer, 2011-present.  
Moody's Mega Math Challenge, judge, 2015.  
MathCounts Competition, grader, 2010-2012, 2017.  
John O'Bryan High School Mathematics Competition, grader, 2008-2011.  
Illinois State & Regional Math Contests, grader and general assistant, 1995-2006.  
Purdue STATCOM (Statistics in the Community), consultant, 2003-2005.

## **SERVICE TO THE UNIVERSITY AND DEPARTMENT**

### **Official Committees**

NKU Faculty Awards Committee, 2021.  
NKU College of Arts and Sciences Curriculum Committee, Chair, 2016-2019  
NKU Mathematics & Statistics Department Post-Tenure Review Committee, 2017-2019  
NKU Institute for Student Research and Creative Activity Planning Committee, 2016-17  
NKU University Curriculum Committee, 2010-2018.  
NKU College of Arts and Sciences Curriculum Committee, Interim Chair, 2016  
NKU College of Arts and Sciences Curriculum Committee, 2010-2019  
NKU Departmental Search Committee for Chair, 2016.  
NKU Faculty Awards Committee, 2015.  
NKU College of Arts and Sciences Search Committee for Associate Dean, 2015.  
NKU Departmental Search Committee for Data Scientist, 2014.  
NKU Mathematics & Statistics Department Scholarships Committee, 2008-2014.  
Purdue School of Science Grade Appeals Committee, 2003-2004.

### **Other**

NKU Burkardt Consulting Center, Director, 2014-present  
Academic Advising, 2015-2018 (9 students).  
Faculty Advisor to the NKU Table Top Club (RSO), 2010-present.  
NKU Statistics Program Assessment co-coordinator, 2014-2017.  
NKU Burkardt Consulting Center co-director, 2013-2014.  
MAT/STA 110 Course Coordinator, 2009-2012.  
NKU Mathematics & Statistics Department "Amazing Race" Assistant, 2009-2012.

## **MEMBERSHIPS IN PROFESSIONAL SOCIETIES**

American Statistical Association (Lifetime member)

Consortium for the Advancement of Undergraduate Statistics Education (NKU representative 2015-present)  
Council on Undergraduate Research (2016-present)  
Kappa Mu Epsilon Mathematics Honor Society (inducted 1995)  
Gamma Sigma Epsilon National Chemistry Honor Society (inducted 1997)  
Sigma Xi: The Scientific Research Society (inducted 1998)

#### **SELECT PROFESSIONAL DEVELOPMENT CONFERENCES AND WORKSHOPS ATTENDED**

Challenging Introductory Statistics Students with Collaborative Data Visualization, State College PA, 2017  
Human Subject Protection: Changes, Covington KY, 2016  
Human Subject Protection 2015, Covington KY, 2015  
Bringing Passion to your Introductory Statistics Classroom, State College PA, 2015.  
Teaching Statistics with Pedagogies using Active Learning as part of a Flipped Classroom Model, State College PA, 2015.  
Mini-Workshop on Grant Writing (NSF), Cary NC, 2013.  
Innovation in Online Instruction in Statistics, Cary NC, 2013.  
Teaching the Statistical Investigation Process with Randomization, Cary NC, 2013  
Summer Faculty Institute, NKU, 2012  
Online Faculty Institute, NKU CITE, 2012  
Workshop on Senate Bill 1 for Higher Education, NKU, 2011  
Teaching Introductory Statistics Workshop, Johnston City TN, 2008  
Active/Collaborative Learning in the College Classroom, West Lafayette IN, 2006.