

Publication List

Roger W. Hoerl

July, 2021

Books

1. Britz, G.C., Emerling, D.W., Hare, L.B., Hoerl, R.W., Janis, S. J., and Shade, J.E. (2000), Improving Performance Through Statistical Thinking, Quality Press, Milwaukee, WI.
2. Hoerl, R.W., and Snee, R.D. (2002), Statistical Thinking: Improving Business Performance, Duxbury Press, Pacific Grove, CA. (3rd edition published by John Wiley & Sons in 2020)
3. Snee, R.D., and Hoerl, R.W. (2003), Leading Six Sigma: A Step-by-Step Guide Based on Experience With GE and Other Six Sigma Companies, Financial Times/Prentice Hall, Upper Saddle River, NJ.
4. Snee, R.D., and Hoerl, R.W. (2005), Six Sigma Beyond the Factory Floor: Deployment Strategies for Financial Services, Health Care, and the Rest of the Real Economy, Financial Times/Prentice Hall, Upper Saddle River, NJ. Note: The China Machine Press requested and received permission to translate this book into Mandarin, and republish in China.
5. Peck, R., Casella, G., Cobb, G., Hoerl, R., Nolan, D, Starbuck, R., and Stern, H. (2006), Statistics: A Guide to the Unknown, Fourth Edition, Duxbury Press, Pacific Grove, CA.
6. Hoerl, R.W., and Neidermeyer, P.E. (2009), Use What You Have: Resolving the HIV/AIDS Pandemic, Xlibris, Bloomington, IN.
7. Snee, R.D., and Hoerl, R.W. (2016), Strategies for Formulations Development: A Step-by-Step Guide Using JMP, SAS Institute, Cary, NC.
8. Does, R.M.M., Hoerl, R.W., Kulahci, M., and Vining, G.G. (2017), Soren Bisgaard's Contributions to Quality Engineering, Westchester Publishing Services, Danbury, CT.
9. Snee, R.D., and Hoerl, R.W. (2018), Leading Holistic Improvement with Lean Six Sigma 2.0, 2nd ed., Pearson Education, London. Note: This is technically a second edition of book 3, but has been totally rewritten to focus on holistic improvement.

Book Chapters

1. Hoerl, R. (2008). "Work out", in Encyclopedia of Statistics in Quality and Reliability, Ruggeri, F., Kenett, R., and Faltin, F.W. (eds). John Wiley & Sons Ltd, Chichester, UK, pp 2103-2105.

2. Hoerl, R. (2008). "Critical-to-Quality matrices", in Encyclopedia of Statistics in Quality and Reliability, Ruggeri, F., Kenett, R., and Faltin, F.W. (eds). John Wiley & Sons Ltd, Chichester, UK, pp 457-461.
3. Antony, J., Hoerl, R.W., and Snee, R.D. (2020), "An Overview of Lean Six Sigma* ", Antony, J. (Ed.) Lean Six Sigma in Higher Education, Emerald Publishing Limited, pp. 1-11.

Articles Published in Peer Reviewed Journals

1. Hoerl, R.W. (1985) "Ridge Analysis Twenty-Five Years Later," The American Statistician, 39, 3, 186-192.
2. Hoerl, A.E., Kennard, R.W., and Hoerl, R.W. (1985) "Practical Use of Ridge Regression: A Challenge Met," Applied Statistics, 34, 2, 114-120.
3. Hoerl, R.W. (1986) "The Effect of Ridge Regression on the Intercept," The American Statistician, 40, 4, 329-330.
4. Hoerl, R.W., Schuenemeyer, J.H., and Hoerl, A.E. (1986) "A Simulation of Biased Estimation and Subset Selection Regression Techniques," Technometrics, 28, 4, 369-390.
5. Wai, M.P., Gelman, R.A., Fatica, M.A., Hoerl, R.W., and Wignall, G.D. (1987) "Small Angle Neutron Scattering Study on the Morphology of Seeded Emulsion Polymerized Latex Particles," Polymer, 28, 6, 918-922.
6. Hoerl, R.W. (1987) "The Application of Ridge Techniques to Mixture Data: Ridge Analysis," Technometrics, 29, 2, 161-172.
7. Wignall, G.D., Ramakrishnan, V.R., Linne, M.A., Klein, A., Sperling, L.P., Wai, M.P., Gelman, R.A., Fatica, M.A., Hoerl, R.W., Fisher, L.W., Melpolder, S.M. and O'Reilly, J.M. (1990) "The Morphology of Emulsion Polymerized Latex Particles", Molecular Crystals and Liquid Crystals Incorporating Nonlinear Optics, 180, 1, 25-29.
8. Hoerl, R.W., Hooper, J.H., Jacobs, P.J, and Lucas, J.M. (1993) "Skills For Industrial Statisticians to Survive and Prosper in the Emerging Quality Environment," The American Statistician, 47(4), 280-291.
9. Hare, L.B., Hoerl, R.W., Hromi, J.D., and Snee, R.D. (1995) "The Role of Statistical Thinking in Management," Quality Progress, February, 53-60.
10. Hoerl, R.W. (1995) "Enhancing the Bottom-Line Impact of Statistical Methods," Quality Management Journal, Summer, 58-92. (With Discussion)
11. Britz, G., Emerling, D., Hare, L.B., Hoerl, R.W., and Shade, J. (1997) "How to Teach Others to Apply Statistical Thinking," Quality Progress, June, 67-80.
12. Hoerl, R.W. (1998) "Six Sigma and the Future of the Quality Profession," Quality Progress, June, 35-42.

13. Hahn, G.J., and Hoerl, R.W. (1998) "Key Challenges for Statisticians in Business and Industry," Technometrics, 40, 3, 195-213. (With Discussion)
14. Hahn, G.J., Hill, W.J., Hoerl, R.W., and Zinkgraf, S.A. (1999) "The Impact of Six Sigma Improvement - A Glimpse Into the Future of Statistics," The American Statistician, 53, 3, 1-8.
15. Hahn, G.J., Doganaksoy, N., and Hoerl, R.W. (2000) "The Evolution of Six Sigma", Quality Engineering, 12, 3, 317-326.
16. Hoerl, R.W. (2001) "Six Sigma Black Belts: What Do They Need To Know?", Journal of Quality Technology, 33,4, 391-435. (With Discussion) Note: this article received the 2002 Brumbaugh Award from the American Society for Quality, for making the largest single contribution to the development of industrial application of quality control in 2001.
17. Hoerl, R.W. (2002) "An Inside Look at Six Sigma at GE", Six Sigma Forum Magazine, 35-44, May.
18. Silkworth, J.B., Hoerl, R.W., and Illouz, K. (2003) "No Evidence of Interaction Between PCB's and Critical Developmental Factors", The Journal of Pediatrics, 593, May. Note: This was a reviewed letter to the editor.
19. Hoerl, R.W. (2004) "So Just What is a Sigma, and Why Do I Need Six of Them?", Stats, 40 (Spring), 3-7. Note: this was the lead article of this edition of the journal, and was featured on the journal cover.
20. Hoerl, R.W. (2004) "One Perspective on the Future of Six Sigma", International Journal of Six Sigma and Competitive Advantage, Vol. 1, No. 1, 112-119.
21. Snee, R.D., and Hoerl, R.W. (2004) "Statistical Leadership", Quality Progress, 37, 10 (October), 83-85.
22. Neagu, R., and Hoerl, R.W. (2005) "A Six Sigma Approach to Predicting Corporate Defaults", Quality and Reliability Engineering International, 21: 293-309.
23. Anderson-Cook, C.M., Patterson, A.N., and Hoerl, R.W. (2005) "A Structured Problem-solving Course for Graduate Students: Exposing Students to Six Sigma as Part of Their University Training", Quality and Reliability Engineering International, 21: 249-256.
24. Snee, R.D., and Hoerl, R.W. (2007) "Integrating Lean & Six Sigma: a Holistic Approach", Six Sigma Forum Magazine, 6, 3, 15-21.
25. Snee, R.D., Hoerl, R.W., and Patterson, A.N. (2008) "In With the Right Crowd: Getting Management On Board to Support Statisticians' Roles," Quality Progress, May.*
26. Hoerl, R.W. (2008) "The Reality of Residual Analysis," Quality Progress, June, 72-75.*
27. Snee, R.D., and Hoerl, R.W. (2009) "Turning to Service Sectors: Application of Lean Six Sigma Should Be Widespread", Industrial Engineer, October, 36-40.

28. Hoerl, R.W., and Snee, R.D. (2009) "Post-Financial Meltdown: What Do the Services Industries Need From Us Now?", Applied Stochastic Models in Business and Industry, 25, 509-521. (With Discussion)
29. Hoerl, R.W., and Gardner, M.M. (2010) "Lean Six Sigma, Creativity, and Innovation," International Journal of Lean Six Sigma, 1, 1, 30-38.
30. Hoerl, R.W., and Snee, R.D. (2010) "Statistical Thinking and Methods in Quality Improvement: A Look Towards the Future," Quality Engineering, 22, 3, 119-129. (With Discussion)
31. Hoerl, R.W., & Snee, R.D., (2010) "The Next Big Thing," Six Sigma Forum, 9, 2, 5-7.
32. Hoerl, R.W. and Snee, R.D. (2010) "Moving the Statistics Profession Forward to the Next Level," The American Statistician, 64, 1, 10-14.
33. Hoerl, R.W. and Snee, R.D. (2010) "Closing the Gap; Statistical Engineering Can Bridge Statistical Thinking With Methods and Tools," Quality Progress, May, 52-53.*
34. Hoerl, R.W. and Snee, R.D. (2010) "Tried and True; Organizations Put Statistical Engineering to the Test and See Real Results," Quality Progress, June, 58-60.*
35. Snee, R.D., and Hoerl, R.W. (2010) "What's the Next Big Thing in Quality Management?" The Quality Management Forum, 2010, 36, 3.
36. Snee, R.D., and Hoerl, R.W. (2010) "Further Explanation; Clarifying Points About Statistical Engineering," Quality Progress, December, 68-72.
37. Snee, R.D., and Hoerl, R.W. (2011) "Engineering an Advantage," Six Sigma Forum Magazine, 2011, 10, 2 (February), 6-7.
38. Snee, R.D., and Hoerl, R.W. (2011) "Proper Blending; The Right Mix Between Statistical Engineering and Applied Statistics," Quality Progress, June, 46-49.*
39. Jensen, W., Anderson-Cook, C., Costello, J.A., Doganaksoy, N., Hoerl, R.W., Janis, S., O'Neil, J., Rodebaugh, B. & Snee, R.D. (2011), "Statistics to Facilitate Innovation: a Panel Discussion," Quality Engineering, 24, 1, 2-19.
40. Anderson-Cook, C.M., Lu, L., Clark, G., DeHart, S.P., Hoerl, R., Jones, B., MacKay, R.J., Montgomery, D.C., Parker, P.A., Simpson, J., Snee, R., Steiner, S., Van Mullekom, J., Vining, G.G., and Wilson, A.G. (2012), "Statistical Engineering – Forming the Foundations," Quality Engineering, 24, 110-132.
41. Anderson-Cook, C.M., Lu, L., Clark, G., DeHart, S.P., Hoerl, R., Jones, B., MacKay, R.J., Montgomery, D.C., Parker, P.A., Simpson, J., Snee, R., Steiner, S., Van Mullekom, J., Vining, G.G., and Wilson, A.G. (2012), "Statistical Engineering – Roles for Statisticians and the Path Forward," Quality Engineering, 24, 133-152.
42. Snee, R.D., and Hoerl, R.W. (2012), "Leadership – Essential for Developing the Discipline of Statistical Engineering," Quality Engineering, 24, 2, 162-170.

43. Snee, R.D., and Hoerl, R.W. (2012), "Inquiry on Pedigree; Do You Know the Quality of Your Data?" Quality Progress, December, 66-68. Note: The China Quality Association requested and received permission to translate this article into Mandarin, and republish in China.*
44. Snee, R.D., and Hoerl, R.W. (2012), "Going on Feel: Monitor and Improve Process Stability to Make Customers Happy", Quality Progress, May, 39-41. Note: The China Quality Association requested and received permission to translate this article into Mandarin, and republish in China.*
45. Hoerl, R.W., and Snee, R.D. (2013), "One Size Does Not Fit All: Identifying the Right Improvement Methodology", Quality Progress, May 2013, 48-50.*
46. Snee, R.D., De Veaux, R.D., and Hoerl, R.W. (2014) "Follow the Fundamentals: Four Data Analysis Basics Will Help You Do Big Data Projects the Right Way". Quality Progress, January, 24-28. Note: The China Quality Association requested and received permission to translate this article into Mandarin, and republish in China.
47. DiBenedetto, A., Hoerl, R.W., and Snee, R.D. (2014) "Solving Jigsaw Puzzles: Addressing Large, Complex, Unstructured Problems", Quality Progress, June, 50-53.*
48. Hoerl, R.W., Snee, R.D., and De Veaux, R.D. (2014) "Applying Statistical Thinking to 'Big Data' Problems", Wiley Interdisciplinary Reviews: Computational Statistics, July/August, 221-232. (doi: 10.1002/wics.1306).
49. Hoerl, R.W., and Snee, R.D. (2015) "Guiding Beacon: Using Statistical Engineering Principles for Problem Solving", Quality Progress, June, 52-54.*
50. Snee, R.D., and Hoerl, R.W. (2015) "Moving Quality Beyond the Factory Floor With Holistic Improvement", Industry Week, September 8, 2015 (Featured "Top Story" in special online publication on continuous improvement).
51. Hardin, J., Hoerl, R., Horton, N.J., Nolan, D., Baumer, B., Hall-Holt, O., Murrell, P., Peng, R., Roback, D., Temple Lang, D., and Ward, M.D. (2015) "Data Science in Statistics Curricula: Preparing Students to 'Think with Data'", The American Statistician, 69, 4, 343-353.
52. Snee, R.D., Hoerl, R.W., and Bucci, G. (2016) "A Statistical Engineering Strategy for Mixture Problems with Process Variables", Quality Engineering, 28, 3, 263-279.
53. De Veaux, R.D., Hoerl, R.W., and Snee, R.D. (2016) "Big Data and the Missing Links", Statistical Analysis and Data Mining, 9:6, 411-416. DOI: 10.1002/sam.11303
54. Hoerl, R.W., and Snee, R.D. (2017) "Statistical Engineering: An Idea Whose Time Has Come?", The American Statistician, 71, 3, 209-219.
55. Antony, J., Hoerl, R.W., and Snee, R.D. (2017) "Lean Six Sigma: Yesterday, Today, and Tomorrow", The International Journal of Quality & Reliability Management, 34,7, 1073-1093.

56. Snee, R., and Hoerl, R.W. (2017) “Time for Lean Six Sigma 2.0?”, Quality Progress, May, 50-53. Note: The China Quality Association requested and received permission to translate this article into Mandarin, and republish in China.
57. Hoerl, R.W., and Snee, R.D. (2017) “Strategic Structure – The Big Picture”, Quality Progress, June, 47-51.
58. Snee, R.D., and Hoerl, R.W. (2018) “The Future of Quality”, The Journal of Quality and Participation, 40, 4 (January), 11-17.
59. Snee, R.D., and Hoerl, R.W. (2018) “Action That Matters: Practical Significance Provides a Basis for Action”, Quality Progress, May, 56-60.
60. Hoerl, R.W., and Snee, R.D. (2019) “Show Me the Pedigree”, Quality Progress, January, 16-23.
61. Jones-Farmer, L.A., and Hoerl, R.W. (2019) “A Unified Approach”, Quality Progress, May, 48-51.
62. Redman, T.C., and Hoerl, R.W. (2019) “Most Analytics Projects Don’t Require Much Data,” Harvard Business Review (online), October 3. Available at: <https://hbr.org/2019/10/most-analytics-projects-dont-require-much-data>
63. Snee, R.D., and Hoerl, R.W. (2020) “Problem Solving: It’s Not About the Tools”, Quality Progress, July, 44-46.
64. Snee, R.D., and Hoerl, R.W. (2020) “Increase the Impact: Seeking Accelerated Improvement Through Lean Six Sigma 2.0,” Quality Progress, October, 42-44.
65. Hoerl, R.W., Kuonen, D., and Redman, T.C. (2020) “To Succeed with Data Science, First Build the Bridge,” Sloan Management Review (online), October 22. Available at: <https://sloanreview.mit.edu/article/to-succeed-with-data-science-first-build-the-bridge/>
66. Hoerl, R.W. (2020) “Ridge Regression: A Historical Context,” Technometrics, 62, 4, 420-425.
67. Hoerl, R.W., and Vining, G.G (2021) “The Journey to Establish the Discipline of Statistical Engineering,” Applied Stochastic Models in Business and Industry, 37, 2, 372-383.

*These 10 publications were included in Statistical Roundtables: Insights and Best Practices (Anderson-Cook and Lu 2016), a collection of “...articles that have stood the test of time and remain relevant, informative, and educational for a broad audience.”

Anderson-Cook, C.M., and Lu, L. (2016) Statistical Roundtables: Insights and Best Practices, ASQ Quality Press, Milwaukee, WI.

Discussions and Noteworthy Publications Not Peer Reviewed

- A. Hoerl, R.W. (1991) “Time to Reach Out Beyond Our Boundaries,” Amstat News, 175, 3-4.

- B. Palm, A., and Hoerl, R.W. (1992) "Integrating SPC and APC", (Discussion of Box-Kramer), Technometrics, 34(3), 268-272.
- C. Hoerl, R.W., and Snee, R.D. (1995) Redesigning the Introductory Statistics Course, Technical Report #130, Center for Quality and Productivity Improvement, University of Wisconsin-Madison, July.
- D. Britz, G., Emerling, D., Hare, L., Hoerl, R., and Shade, J. (1996) Special Publication on Statistical Thinking, Statistics Division of American Society for Quality Control (ASQC), Spring.
- E. Hoerl, R.W. (1997) "Introductory Statistical Education: Radical Redesign is Needed, or Is It?", Newsletter of the Section on Statistical Education of the American Statistical Association (ASA), Winter.
- F. Hoerl, R.W., Hahn, G.J., and Doganaksoy, N. (1997) "Let's Stop Squandering Our Most Strategic Weapon," (Discussion of Moore), International Statistical Review, 65(2), pp.147-153.
- G. Hoerl, R.W. (1999) "We Need to Change Our Paradigm", (Discussion of Using Statistics and Statistical Thinking to Improve Organizational Performance" by Dransfield et al.), International Statistical Review, 67, 2 (August), 132-138.
- H. Hoerl, R.W. (2000) "Its Time for a change", (Discussion of Woodall), Journal of Quality Technology, 32, 4, 351-355.
- I. Hoerl, R.W. (2002) "Six Sigma: One More Chance for a Broad Leadership Role", Amstat News, 55-58, September.
- J. Hoerl, R.W. (2008) "Speaking Out and Reaching Out on Global Health Policy – the Case of HIV/AIDS," Amstat News, July, 31-32.
- K. Hoerl, R.W. (2009) Discussion of "Statistics in Pharmaceutical Development and Manufacturing," by Peterson et al., Journal of Quality Technology, 41, 2, 135-136.
- L. Hoerl, R.W. (2010) "Business/Industry Offers Dynamic Opportunity for Statisticians", Amstat News, September, 9-10. Note: As of 3/23/2015 the online version of this article had 6,034 hits.
- M. Hoerl, R.W. (2011) "The World is Calling: Should We Answer?", John F. Welch Technology Center Journal, 7, 3-4, 2-6. (Featured Article in This Edition)
- N. Hahn, G.J., Hoerl, R.W., Doganaksoy, N., and Gardner, M. (2012), "Discussion: Statistics Research in Business and Industry – The General Electric Experience," International Statistical Review, 80, 2, 219-230.
- O. Hoerl, R.W. (2012) "The World is Calling: Should We Answer?", online publication for Amstat News. This was the written version of my Deming Lecture at the 2011 Joint Statistical Meetings. As of 3/23/2015 this online article had 3,880 hits.

- P. Bailer, J. Hoerl, R.W., Madigan, D. Montequila, J. And Wright, T. (2013), “Preparing Master’s Statistics Students for Success: A Perspective from Recent Graduates and Employers,” Amstat News, February, 8-9. These guidelines were formally endorsed by the ASA Board of Directors. As of 3/23/2015 this online article had 3,045 hits.
- Q. Hoerl, R.W. (2014), “Towards a Formal Discipline of Statistical Engineering”; Discussion of ‘Statistical Engineering and Variation Reduction’, by Steiner and MacKay,” Quality Engineering, 26: 61-64.
- R. Chance, B., Cohen, S., Grimshaw, S., Hesterberg, T., Hoerl, R., Horton, N., Malone, C., Nichols, R., and Nolan, D. (2014) “Curriculum Guidelines for Undergraduate Programs in Statistical Science”, published by the American Statistical Association at: <http://www.amstat.org/education/pdfs/guidelines2014-11-15.pdf>. These guidelines were formally endorsed by the ASA Board of Directors.
- S. Hoerl, R.W. (2014) “Roadmap for Smaller Statistical Programs to Incorporate 2014 Guidelines for Undergraduate Statistics Education”. This white paper, published on the ASA website (<http://www.amstat.org/education/pdfs/RoadmapSmaller.pdf>), is a companion to the 2014 ASA guidelines listed above.
- T. Snee, R.D., and Hoerl, R.W. (2015), “The Quest for Quality Continues”, JMP Forward, March, 11-12. This magazine is published by JMP/SAS whenever a new version of JMP is released; this edition was for the release of JMP 12.
- U. Snee, R.D., and Hoerl, R.W. (2015), “The Future of Quality: Getting Better All the Time”, 2015 Future of Quality Report, American Society for Quality, Milwaukee, WI. <http://asq.org/future-of-quality/>
- V. Hoerl, R.W. (2016), Discussion of “Optimizing in a Complex World: A Statistician's Role in Decision Making”, by Christine Anderson-Cook, Quality Engineering, 29:1, 51-53.
- W. Hoerl, R.W. (2016), Discussion of “Analyzing Behavioral Big Data: Methodology, Practical, Ethical, and Moral Issues”, by Schmueli, Quality Engineering, 29:1, 75-78.
- X. Hoerl, R.W., and Snee, R.D. (2017), “Statistical Engineering”, Wiley StatsRef: Statistics Reference Online, John Wiley & Sons, Ltd.
- Y. Hoerl, R.W. (2018), Discussion of “Effective Interdisciplinary Collaboration Between Statisticians and Other Subject Matter Experts,” Quality Engineering, 31,1, 177-180.
- Z. Hoerl, R.W. (2019), Discussion of “Soren Bisgaard’s Contributions to Quality Engineering: Design of Experiments”, Quality Engineering, 31,1, 154-156.
- AA. Hoerl, R.W. (2019), The Integration of Big Data Analytics into a More Holistic Approach, SAS White Paper. Available at: https://www.jmp.com/en_us/whitepapers/jmp/integration-of-big-data-analytics-holistic-approach.html.