

Publication summary (Last update: November 3, 2011)

- 1 book (co-author)
- 1 book chapter (co-author)
- 23 peer-reviewed journal articles
- 42 conference papers
- ISI citation count: 74
- ISI H-index: 4
- SCOPUS citation count: 100
- SCOPUS: H-index: 5
- Google Scholar citation count (excl. books): 183
- Google Scholar H-index: 7

Books and book chapters

- [1] R. Carlson and J. E. Carlson, *Design and Optimization in Organic Synthesis: Second Enlarged and Revised Edition*. Amsterdam: Elsevier, 2nd ed., 2005.
- [2] R. Carlson and J. E. Carlson, *Comprehensive Chemometrics: Chemical and Biochemical Data Analysis*, vol. 1, ch. The Study of Experimental Factors, pp. 301–344. Amsterdam: Elsevier, 2009.

Theses and reports

- [1] J. Carlson, *Ultrasonic Characterization of Materials and Multiphase Flows*. PhD thesis, Luleå University of Technology, April 2002.
- [2] J. Carlson, “Multiphase flow measurements using ultrasound,” Licentiate thesis, Luleå University of Technology, February 2000.
- [3] J. Carlson and A. Grennberg, “A new algorithm for constructing optimal experimental designs,” Research report, Luleå University of Technology, November 1998. ISSN: 1402-1528.
- [4] J. Carlson, “Ultrasound measurements in moving multi-phase suspensions,” Master’s thesis, Luleå University of Technology, January 1998. ISSN: 1402-1617.

Peer-reviewed journal articles

- [1] R. Carlson, J. Carlson, and A. Grennberg, “A novel approach for screening discrete variations in organic synthesis,” *J. Chemometrics*, vol. 15, no. 5, pp. 455–474, 2001.
- [2] J. Carlson and P.-E. Martinsson, “A simple scattering model for measuring particle mass fractions in multiphase flows,” *Ultrasonics*, vol. 39, no. 8, pp. 585–590, 2002.
- [3] M. Nilsson, J. Carlson, E. Fernández, and J. A. Planell, “Monitoring the setting of calcium-based bone cements using pulse-echo ultrasound,” *J. Mater. Sci. Mater. in Med.*, vol. 13, no. 12, pp. 1135–1141, 2002.
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- [7] R. Carlson and J. E. Carlson, “Canonical analysis of response surfaces. a valuable tool for process development,” *Org. Proc. Res. Dev.*, vol. 9, no. 3, pp. 321–330, 2005.
- [8] R. Carlson and J. E. Carlson, “Principal properties and designs for discrete variations,” *Org. Proc. Res. Dev.*, vol. 9, no. 5, pp. 680–689, 2005.
- [9] J. E. Carlson and R. Carlson, “Prediction of molar fractions in two-component gas mixtures using pulse-echo ultrasound and PLS regression,” *IEEE Trans. Ultrason., Ferroelec., and Freq. Contr.*, vol. 53, no. 3, pp. 606–613, 2006.

- [10] J. Martinsson and J. E. Carlson, "Parametric estimation of ultrasonic phase velocity and attenuation in dispersive media," *Ultrasonics*, vol. 44, pp. e991–e994, Dec. 2006.
- [11] R. Schäfer, J. E. Carlson, and P. Hauptmann, "Ultrasonic concentration measurement of aqueous solutions using PLS regression," *Ultrasonics*, vol. 44, pp. e947–e950, Dec. 2006.
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- [13] J. E. Carlson and V.-M. Taavitsainen, "Ultrasonic measurement of the reaction kinetics of the setting of calcium sulfate cements using implicit calibration," *J. Chemom.*, vol. 22, no. 11–12, pp. 752–757, 2008.
- [14] J. Martinsson, F. Hägglund, and J. E. Carlson, "Complete post-separation of overlapping ultrasonic signals by combining hard and soft modeling," *Ultrasonics*, vol. 48, no. 5, pp. 427–443, 2008.
- [15] F. Hägglund, J. Martinsson, and J. E. Carlson, "Model-based estimation of thin multi-layered media using ultrasonic measurements," *IEEE Trans. Ultrason., Ferroelec., and Freq. Contr.*, vol. 56, no. 8, pp. 1689–1702, 2009.
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- [23] R. Carlson, G. Simonsen, A. Descomps, and J. E. Carlson, "Identification of important experimental variables in organic synthetic procedures by near-orthogonal experiments," *Org. Proc. Res. and Dev.*, 2012. Submitted.

Conference papers

- [1] R. Carlson and J. Carlson, "Strategy for screening variations in organic synthesis," in *Proc. of Chimométrie 97*, (Lyon, France), December 3–5 1997.
- [2] J. Carlson, A. Grennberg, and J. Delsing, "Multiphase flow characterized by scattering of ultrasound," in *Proc. of 9:th Int. Conf. on Flow Meas. FLOMEKO'98*, (Lund, Sweden), pp. 493–497, June 1998.
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- [5] J. Carlson, "Mass fraction measurements in multiphase flows using a clamp-on PVDF array," in *Proc. of IEEE Int. Ultrason. Symp.*, vol. 1, (San Juan, Puerto Rico), pp. 471–474, October 2000.
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Other (popular science or contributions to magazines and trade-shows)

- [1] J. E. Carlson, “Utveckling av analysmetoder för bio- och naturgas med hjälp av ultraljud,” *Nytt om Biogas*, no. 1, pp. 10–11, 2005.
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