

BIOGRAPHICAL SKETCH

NAME Bisera, Joe	POSITION TITLE Director, Biomedical Engineer		
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
University of Calif., Los Angeles	BSE	1962	Engineering
University of Southern California	MSEE	1966	Electrical Engineering

A. Positions and Honors

Positions and Employment

1964-1966	Project Engineer, Research & Development, LTV-Ling Altec, Inc.
1966-1968	Project Engineer, Research & Develop, Spacelabs, Inc.
1969-1970	Senior Project Engineer, Medical Instrumentation, Statham Instruments
1970-1981	Chief Biomedical Engineer, Critical Care Medicine, University of Southern California
1982-1990	Research Asst. Professor, Medicine, UHS/The Chicago Medical School
1982-1994	Director, Biomedical Eng, Medicine, UHS/The Chicago Medical School
1991-1994	Research Associate Professor, Medicine, UHS/The Chicago Medical School
1994	Research Professor, Medicine, UHS/The Chicago Medical School
1994-2007	Vice President Biotech. Research, Engineering, The Institute of Critical Care Med Palm Springs, CA
1995-2000	Assoc. Clinical Professor, Anesthesiology, USC School of Medicine
2000-Present	Clinical Professor, Anesthesiology, Keck School of School of Medicine, USC
2007-Present	Director of Biomedical Engineering, The Institute of Critical Care Medicine

19 Patents, 4 pending

B. Selected Peer-reviewed Publications

1. Bisera J, Weil MH, Carrington JH, Palley N and Shubin H: Automated infusion pump. *Med Biolog Engng* 1976;14:25-30.
2. Bisera J, Weil MH, Carrington JH, Palley N and Chaffee M: Vascular interface system for automation of hemodynamic monitoring and therapy. *Med and Biolog Engng Computing* 1978;16:278-284.
3. Bisera J, Weil MH, Michaels S, Bernada A and Stein B: An "oncometer" for clinical measurement of colloid osmotic pressure of plasma. *Clin Chem* 1978;24:1586-1589.
4. Weil MH, Bisera J, Trevino RP, Rackow EC. Cardiac output and end-tidal carbon dioxide. *Crit Care Med* 1985;13(11):907-909.
5. Bisera J, Weil MH. Monitor for an intravenous injection system. *Acute Care* 1985;10:112-115.
6. Deshmukh HG, Weil MH, Rackow EC, Trevino R, Bisera J. Echocardiographic observations during cardiopulmonary resuscitation: A preliminary report. *Crit Care Med* 1985;13(11):904-906.
7. Gudipati R, Weil MH, Bisera J, Deshmukh H, Rackow EC. Expired carbon dioxide: A noninvasive monitor of cardiopulmonary resuscitation. *Circulation* 1988;77(1):234-239
8. von Planta I, Weil MH, von Planta M, Bisera J, Bruno S, Gazmuri RJ, Rackow EC. Cardiopulmonary resuscitation in the rat. *J Appl Physiol* 1988;65:2641-2647.
9. von Planta M, Weil MH, Gazmuri RJ, Bisera J, Rackow EC. Myocardial acidosis associated with CO₂ production during cardiac arrest and resuscitation. *Circulation* 1989;80(3):684-692.

10. von Planta M, von Planta I, Weil MH, Bruno S, Bisera J, Rackow EC. End tidal carbon dioxide as an haemodynamic determinant of cardiopulmonary resuscitation in the rat. *Cardiovasc Res* 1989; 23(4):364-368.
11. Tang W, Weil MH, Gazmuri RJ, Bisera J, Rackow EC. Reversible impairment of myocardial contractility due to hypercarbic acidosis in the isolated perfused rat heart. *Crit Care Med* 1991;19:218-224.
12. Tang W, Weil MH, Gazmuri RJ, Sun S, Duggal C, Bisera J. Pulmonary ventilation/perfusion defects induced by epinephrine during cardiopulmonary resuscitation. *Circulation* 1991;84(5):2101-2107.
13. Maldonado FA, Weil MH, Tang W, Bisera J, Gazmuri RJ, Johnson B, D'Alessio A. Myocardial hypercarbic acidosis reduces cardiac resuscitability. *Anesthesiology* 1993;78(2):343-352.
14. Tang W, Weil MH, Sun S, Gazmuri RJ, Bisera J. Progressive myocardial dysfunction after cardiac resuscitation. *Crit Care Med* 1993;21(7):1046-1050.
15. Tang W, Weil MH, Noc M, Sun S, Gazmuri RJ, Bisera J. Augmented efficacy of external CPR by intermittent occlusion of the ascending aorta. *Circulation* 1993;88(1):1916-1921.
16. Desai VS, Weil MH, Tang W, Yang G, Bisera J. Gastric intramural PCO₂ during peritonitis and shock. *Chest* 1993;104:1254-1258.
17. Tang W, Weil MH, Sun S, Noc M, Gazmuri RJ, Bisera J. Gastric intramural PCO₂ as monitor of perfusion failure during hemorrhagic and anaphylactic shock. *J Appl Physiol* 1994;76(2):572-577.
18. Tang W, Weil MH, Sun S, Kette D, Kette F, Gazmuri R, O'Connell F, Bisera J. Cardiopulmonary resuscitation by precordial compression but without mechanical ventilation. *Am J Respir Crit Care Med* 1994;150:1709-1713.
19. Noc M, Weil MH, Gazmuri R, Sun S, Bisera J, Tang W. Ventricular fibrillation voltage as a monitor of the effectiveness of cardiopulmonary resuscitation. *J Lab Clin Med* 1994;124:421-426.
20. Noc M, Weil MH, Gazmuri R, Sun S, Tang W, Bisera J. Spontaneous gasping during cardiopulmonary resuscitation without mechanical ventilation. *Am J Respir Crit Care Med* 1994;150:861-864.
21. Desai VS, Weil MH, Tang W, Gazmuri R, Bisera J. Hepatic, renal and cerebral tissue hypercarbia during sepsis and shock in rats, *J Lab Clin Med* 1995;4:456-461.
22. Gazmuri RJ, Weil MH, Bisera J, Tang W, Fukui M, McKee D. Myocardial dysfunction after successful resuscitation from cardiac arrest. *Crit Care Med* 1996;24(6):992-1000.
23. Sato Y, Weil MH, Tang W, Sun S, Xie J, Bisera J. Esophageal PCO₂ as a monitor of perfusion failure during hemorrhagic shock. *J Appl Physiol* 1997;82(2):558-562.
24. Tang W, Weil MH, Schock RB, Sato Y, Lucas J, Sun SJ, Bisera J. Phased chest and abdominal compression-decompression: A new option for cardiopulmonary resuscitation. *Circulation* 1997;75(5):1335-1340.
25. Xie J, Weil MH, Sun SJ, Tang W, Sato Y, Jin X, Bisera J. High power defibrillation increases the severity of post-resuscitation myocardial dysfunction. *Circulation* 1997;96:683-688.
26. Sato Y, Weil MH, Sun S, Tang W, Xie J, Noc M, Bisera J. Adverse effects of interrupting precordial compression for repetitive electrical defibrillation. *Crit Care Med* 1997 ;25(5):733-736.
27. Nakagawa Y, Weil MH, Tang W, Sun S, Yamaguchi H, Jin X, Bisera J. Sublingual capnometry for diagnosis and quantitation of circulatory shock. *Am J Respir Crit Care Med* 1998;157:1838-1843.
28. Noc M, Weil MH, Tang W, Sun S, Parnat A, Bisera J. Electrocardiographic prediction of the success of cardiac resuscitation. *Crit Care Med* 1999;27(4):708-714.
29. Weil MH, Nakagawa Y, Tang W, Sato Y, Ercoli F, Finegan R, Grayman G, Bisera J. Sublingual capnometry: A new noninvasive measurement for diagnosis and quantitation of severity of circulatory shock. *Crit Care Med* 1999;27(7):1225-1229.
30. Tang W, Weil MW, Sun S, Yamaguchi H, Povoas HP, Marn Parnat A, Bisera J. The effects of biphasic and conventional monophasic defibrillation on postresuscitation myocardial function. *J Am Coll Cardiol*. 1999;34(3):815-822.
31. Parnat A, Weil MH, Tang W, Yamaguchi H, Marn Parnat A, Sun S, Bisera J. Effects of hyper- and hypoventilation on gastric and sublingual PCO₂. *J Appl Physiol* 1999;87(3):933-937.
32. Parnat A, Weil MH, Sun S, Tang W, Yamaguchi H, Bisera J. Atrial function during cardiac arrest caused by ventricular fibrillation. *Chest* 2000;117:1118-1123.
33. Marn-Parnat A, Weil MH, Tang W, Parnat A, Bisera J. Optimizing timing of ventricular defibrillation. *Crit Care Med* 2001;29(12):2360-2365.
34. Tang W, Weil MH, Sun S, Povoas HP, Klouche K, Kamohara T, Bisera J. A comparison of biphasic and monophasic waveform defibrillation after prolonged ventricular fibrillation. *Chest* 2001;120(3):948-954.

35. Marn-Pernat A, Weil MH, Tang W, Pernat A, Bisera J. Optimizing timing of ventricular defibrillation. *Crit Care Med* 2001;29(12):2360-2365.
36. Pellis T, Bisera J, Tang W, Weil MH. Expanding automatic external defibrillators to include automated detection of cardiac, respiratory, and cardiorespiratory arrest. *Crit Care Med* 2002; 30(4 Suppl):S176-S178.
37. Povoas H, Weil MH, Tang W, Bisera J, Klouche K, Barbatsis A. Predicting the success of defibrillation by electrocardiographic analysis. *Resuscitation* 2002; 53:77-82.
38. Klouche K, Weil MH, Tang W, Povoas H, Kamohara T, Bisera J. A selective α -adrenergic agonist for cardiac resuscitation. *J Lab Clin Med* 2002; 140:27-34.
39. Yu T, Weil MH, Tang W, Sun S, Klouche K, Povoas H, Bisera J. Adverse outcomes of interrupted precordial compression during automated defibrillation. *Circulation* 2002; 106:368-372.
40. Yamaguchi H, Weil WM, Sun SJ, Pellis T, Jin X, Bisera J. Myocardial dysfunction after electrical defibrillation. *Resuscitation* 2002;53:289-296.
41. Klouche K, Weil MH, Sun S, Tang W, Povoas H, Kamohara T, Bisera J. Evolution of the stone heart after prolonged cardiac arrest. *Chest* 2002; 122(3):1006-1011.
42. Klouche K, Weil MH, Sun S, Tang W, Povoas H, Bisera J. Stroke volumes generated by precordial compression during cardiac resuscitation. *Crit Care Med* 2002; 30(12):2626-2631
43. Wang J, Weil MH, Kamohara T, Tang W, Sun SJ, Klouche K, Bisera J. A lazaroid mitigates post resuscitation myocardial dysfunction. *Crit Care Med* 2004; 32(2):553-558.
44. Young C, Bisera J, Gehman S, Snyder D, Tang W, Weil MH. Amplitude spectrum area: Measuring the probability of successful defibrillation as applied to human data. *Crit Care Med* 2004;32(9 Suppl):S356-S358.
45. Castillo C, Young C, Bisera J, Weil MH. Miniaturized chest compressor. *Crit Care Med* 2004;32(9 Suppl):S366-S368.
46. Li Y, Bisera J, Tang W, Weil, MH. Automated rhythm identification to guide defibrillation without interrupting CPR. *Circulation* 2006;114(18):II421. Abstract
47. Ristagno G, Castillo C, Tang W, Sun S, Bisera J, Weil MH. Miniaturized mechanical chest compressor. A new option for cardiopulmonary resuscitation. *Resuscitation* 2008; 76:191-7.
48. Li Y, Bisera J, Tang W, Weil MH. Automated Detection of Ventricular Fibrillation to Guide Cardiopulmonary Resuscitation. *Critical pathways in cardiology*. 2007 Sep, 6(3): 131-4.
49. Li Y, Bisera J, Geheb F, Tang W, Weil MH. Identifying potentially shockable rhythm without interrupting cardiopulmonary resuscitation. *Crit Care Med* 2008, 36 (1), 198- 203
50. Li Y, Ristagno G, Bisera J, Tang W, Deng Q, Weil MH. Electrocardiogram waveforms for monitoring effectiveness of chest compression during cardiopulmonary resuscitation. *Crit Care Med* 2008, 36 (1), 211-215
51. Ristagno G, Gullo A, Berlot G, Lucangelo U, Geheb E, Bisera J. Prediction of successful defibrillation in human victims of out-of-hospital cardiac arrest: a retrospective electrocardiographic analysis. *Anaesth Intensive Care* 2008;36(1):46-50.