Curriculum Vitae
David Michael Brienza
Updated May 24, 2016

Biographical

Business address and contact information:	University of Pittsburgh 6425 Penn Ave. Suite 401 Pittsburgh, PA 15206
	Telephone: (412) 624-6383 Fax: (412) 624-6501 E-mail: Dbrienza@pitt.edu
	E-mail: Dave@Brienza.com

Education

Undergraduate

1982-1986	University of Notre Dame Notre Dame, Indiana	BS	1986	Electrical Engineering

Graduate

1986-1991	University of Virginia	MS	1988	Electrical Engineering
	Charlottesville, Virginia	Ph.D.	1991	Electrical Engineering

Appointments and Positions
Academic

1986-1987	University of Virginia Department of Electrical Engineering Charlottesville, Virginia	Graduate Teaching Assistant
1987-1991	University of Virginia Rehabilitation Engineering Center Charlottesville, Virginia	Research Assistant
1991-1998	University of Pittsburgh School of Health and Rehab Sciences Pittsburgh, Pennsylvania	Assistant Professor (Tenure stream)
1998-2006	University of Pittsburgh School of Health and Rehab Sciences Pittsburgh, Pennsylvania	Associate Professor (Tenure)
1999-2006	University of Pittsburgh Department of Bioengineering Pittsburgh, Pennsylvania	Associate Professor (Secondary appointment)
2001-2005	University of Pittsburgh Rehabilitation Engineering Research Center on Wheeled Mobility	Director
2002-present	Xi'an Jiaotong University School of Life Sciences Xi'an, China	Adjunct Professor
2004-2015	University of Pittsburgh Rehabilitation Engineering Research Center on Telerehabilitation	Director
2006-present	University of Pittsburgh School of Health and Rehab Sciences Pittsburgh, Pennsylvania	Professor (Tenure)
2006-present	University of Pittsburgh Department of Bioengineering Pittsburgh, Pennsylvania	Professor (Secondary appointment)
2007-2014	University of Pittsburgh Rehabilitation Engineering Research Center on Spinal Cord Injury	Director

2002-present	University of Pittsburgh McGowan Institute for Regenerative Medicine Pittsburgh, Pennsylvania	Professor (Secondary appointment)
2012-2015	Department of Rehabilitation Science and Technology, Orthotics and Prosthetics Program	Interim Director
2012-2015	University of Pittsburgh School of Health and Rehabilitation Sciences	Associate Dean for Strategic Initiatives and Planning
2014-present	Duquesne University School of Nursing	Adjunct Faculty
2015-present	University of Pittsburgh School of Health and Rehabilitation Sciences	Associate Dean for Research

Non-Academic Positions

1984, 1985	Harris Corporation Syosset, New York	Test Engineer
1986	National Security Agency Fort Meade, Maryland	Electronic Engineer
1989-1997	Pin Dot Products Niles, Illinois	Consultant on the development of seating products
1995-2000	Sentron Medical Cincinnati, Ohio	Consultant on the evaluation of seating products
1996-2000	ARTSCO Inc. Pittsburgh, Pennsylvania	Consultant on the development of cushion manufacturing systems
1996-1997	DEKA Manchester, New Hampshire	Consultant on seating products
1995-present	Various	Legal consulting Patent litigation Personal Injury
1998-1999, 2003	Hill-Rom Charleston, SC	Consultant on seating and support surface products

2000-2003	Dynamic Contours, LLC	Research Scientist, Owner
2002-2006	SADMERC	Consultant on Medicare coding policy
2003	Smith & Nephew	Consultant on Pressure Ulcer Prevention
2005-2007	AireRx, LLC	Scientific Advisory Board
2013-present	ROHO, Inc	Scientific Advisory Board

Memberships in Professional and Scientific Societies

1986-2000	IEEE	Member
1988-present	Rehabilitation Engineering and Assistive Technology Association of North America (RESNA)	Member Fellow (2007)
1992-1997	Pittsburgh Assistive Technology Association	Member
1993-2000	IEEE Engineering in Medicine and Biology Society	Member
1995-2007, 2009-2016	National Pressure Ulcer Advisory Panel	Member
1995-2003	Sigma Xi Scientific Research Society	Full Member
2001-2002	Association for the Advancement of Wound Care (AAWC)	Member
2004-present	American Institute for Medical and Biological Engineering	Fellow (elected)
2007-present	American Telemedicine Association	Member
2009-2010	Biomedical Engineering Society	Member
2011-present	American Congress of Rehabilitation Medicine	Member

Leadership Positions

National Pressure Ulcer Advisory Panel

- Collaborating Organization Representative (RESNA);
- Research Committee Co-chair (1996-98, 2001-2002);
- Board Member (2001-2003) (2004-2006) (2010-2012) (2013-2015); elected for 4 terms; Research Committee Chair (2003-2005)

Rehabilitation Engineering and Assistive Technology Association of North America (RESNA)

- Special Interest Group-09 Vice Chair (1995-96);
- Special Interest Group-09 Chair (1997-99);
- Board of Directors (2001-04)
- Vice Chair Wheelchair Standards subcommittee on seat cushions (1999-2000)
- Assistive Technology Standards Board (2003-present)

American Institute for Medical and Biological Engineering

- Nominations, Sub-committee on Rehab Engineering – Chair (2007-2009)
- Nominations Executive Committee – Member (2009-2013)

Biomedical Engineering Society

- 2009 Conference Track Chair (Orthopedics and Rehab Engineering)

Pittsburgh Assistive Technology Association

- President (1994)

Sigma Xi Scientific Research Society

- Pittsburgh Chapter Secretary (1994-96);
- Vice-President (1997-98);
- President (1999-2001)

School of Health and Rehabilitation Sciences

- SHRS Space Utilization Committee – Chair (1998-2015)
- Executive Committee – Secretary, 1995

Honors

2007 Selected Fellow of the Rehabilitation Engineering and Assistive Technology Association of North America (RESNA)

2006 Advances in Skin and Wound Care Peer Reviewer of the Year Award

2004 Rehabilitation Engineering and Assistive Technology Association of North America (RESNA) Certificate of Appreciation

2004 Elected Fellow of the American Institute for Medical and Biological Engineering (AIMBE)

2003 RESNA Distinguished Service Award

2001 Elected to the Board of Directors of the Rehabilitation Engineering and Assistive Technology Association of North America (RESNA)

2001 Elected to National Pressure Ulcer Advisory Board of Directors. Reelected for second term in 2004.

1997 Chair of 1997 Annual RESNA Conference, Pittsburgh, PA June 20-24, 1997

1996 RESNA Sore Butts Cushion Design Competition, First Place

1996 Guest editor of *IEEE Transactions on Rehabilitation Engineering*, Special Issue on Soft Tissue Biomechanics

1995 The PinDot Award for outstanding paper published in *Assistive Technology*

1992 NIDRR, Mary E. Switzer, Rehabilitation Research Fellowship (Declined fellowship to assume position at the University of Pittsburgh.)

Publications

Refereed Articles (Student-Authors are *italicized*)

Krishnan S, Karg P, Boninger M, **Brienza D.** Association between presence of pneumonia and pressure ulcer formation following traumatic spinal cord injury. J Spinal Cord Med. 2016; doi: 10.1080/10790268.2016.1180099.

Jonathan S Akins, Ph.D.; Jaxon J Vallely; Patricia E Karg, MS; Kara Kopplin; Amit Gefen, PhD; Prerna Poojary-Mazzotta; **David M Brienza, PhD.** Feasibility of freehand ultrasound to measure anatomical features associated with deep tissue injury risk. Submitted to Medical Engineering and Physics (Accepted for publication)

Krishnan S, Karg P, Boninger M, Vodovotz Y, Constantine G, Sowa G, **Brienza D**, Early detection of pressure ulcer development following traumatic spinal cord injury using inflammatory mediators, ARCHIVES OF PHYSICAL MEDICINE AND REHABILITATION (2016), doi: 10.1016/j.apmr.2016.01.003

Zanca JM, Heyn P, Horn S, Charlifue S, Hsieh CH, **Brienza DM**, Chen Y, Dyson-Hudson T, Backus D; (2015) Secondary Complications and Aging Task Force of the ACRM Spinal Cord Injury Interdisciplinary Special Interest Group. Arch Phys Med Rehabil. 2015 Nov;96(11):2089-90. Doi: 10.1016/j.apmr.2015.03.001. Epub 2015 Jul 21.

Dicianno, B. E., Fairman, A. D., McCue, M., Parmanto, B., Yih, E., McCoy, A., ... & **Brienza, D. M.** (2015). Feasibility of Using Mobile Health to Promote Self-Management in Spina Bifida. *American journal of physical medicine & rehabilitation/Association of Academic Physiatrists.*

Stone, A., **Brienza, D.,** Call, E., Fontaine, R., Goldberg, M., Hong, K. Z., ... & Sylvia, C. (2015). Standardizing Support Surface Testing and Reporting: A National Pressure Ulcer Advisory Panel Executive Summary. *Journal of Wound Ostomy & Continence Nursing*, *42*(5), 445-449.

Ziraldo, Cordelia, Alexey Solovyev, Ana Allegretti, Shilpa Krishnan, M. Kristi Henzel, Gwendolyn A. Sowa, **David Brienza**, Gary An, Qi Mi, and Yoram Vodovotz. "A Computational, Tissue-Realistic Model of Pressure Ulcer Formation in Individuals with Spinal Cord Injury." PLOS Comput Biol 11, no. 6 (2015): e1004309.

Lachenbruch, Charlie; Tzen, Yi Ting; **Brienza, David**; Karg, Patricia E.; Lachenbruch, Peter A. (2015) Relative contributions of interface pressure, shear stress, and temperature on ischemic-induced, skin-reactive hyperemia in healthy volunteers: A repeated measures laboratory study Ostomy Wound Management vol. 61(2) p. 16-25

Brienza D, Antokal S, Herbe L, et al. Friction-induced skin injuries - Are they pressure ulcers? (2014) An updated NPUAP white paper. *Journal of Wound, Ostomy and Continence Nursing.* 2014;42(1):62-64.

Zaaqoq AM1, Namas R, Almahmoud K, Azhar N, Mi Q, Zamora R, **Brienza DM,** Billiar TR, Vodovotz Y. (2014) Inducible Protein-10, a Potential Driver of Neurally Controlled Interleukin-10 and Morbidity in Human Blunt Trauma. Crit Care Med. 2014 Feb 26.

Huang W, Vodovotz Y, Kusturiss MB, Barclay D, Greenwald K, Boninger ML, Coen PM, **Brienza D**, Sowa G. (2013) Identification of Distinct Monocyte Phenotypes and Correlation with Circulating Cytokine Profiles in Acute Response to Spinal Cord Injury: A Pilot Study. PM R. 2013 Oct 17. pii: S1934-1482(13)01138-6. doi: 10.1016/j.pmrj.2013.10.006.

C. Ziraldo, A. Solovyev, A. Allegretti, S. Krishnan, M.K. Henzel, G.A. Sowa, **D. Brienza,** G. An, Q. Mi, Y. Vodovotz (2013) A computational, tissue-realistic model of pressure ulcer formation in individuals with spinal cord injury. Journal of Critical Care. 02/2013; 28(1):e23.

Turkovich, M., Hu, J., Van Roosmalen, L., & **Brienza, D.** (2013). Computer simulations of obesity effects on occupant injury in frontal impacts. International Journal of Crashworthiness, 18(5), 502-515.

Yi-Ting Tzen; **David M. Brienza**; Patricia E. Karg; Patrick J. Loughlin. (2013) Effectiveness of local cooling for enhancing tissue ischemia tolerance in people with spinal cord injury. Journal of Spinal Cord Medicine, 36(4) pp. 357-364. DOI: http://dx.doi.org/10.1179/2045772312Y.0000000085

Solovyev A, Mi Q, Tzen Y-T, **Brienza D,** Vodovotz Y (2013) Hybrid Equation/Agent-Based Model of Ischemia-Induced Hyperemia and Pressure Ulcer Formation Predicts Greater Propensity to Ulcerate in Subjects with Spinal Cord Injury. PLoS Comput Biol 9(5): e1003070. doi:10.1371/journal.pcbi.1003070

Charlie Lachenbruch, PhD; Yi-Ting Tzen, PhD; **Dave M. Brienza, PhD**; Patricia E. Karg, MS; and Peter Anthony Lachenbruch, PhD. (2013) The Relative Effects of Interface Pressure, Shear Stress, and Temperature of Tissue Ischemia: a Cross-sectional Pilot Study. Ostomy Wound Manage. 2013;59(3):25–34.

Becky L. Faett, Mary Jo Geyer, Leslie A. Hoffman, and **David M. Brienza**, "Design and Development of a Telerehabilitation Self-Management Program for Persons with Chronic Lower Limb Swelling and Mobility Limitations: Preliminary Evidence," Nursing Research and Practice, vol. 2012, Article ID 608059, 10 pages, 2012. doi:10.1155/2012/608059

Boninger, ML, **D Brienza,** S Charlifue, Y-Y Chen, K C Curley, D E Graves, S Groah, A W Heinemann, L M Hudson, A B Jackson, K L Johnson, C Z Kalpakjian, A Kusiak, K E Larson, T S Agustin, A M Sherwood, N Shinowara, T Stripling and D Tate. State of the Science Conference in Spinal Cord Injury Rehabilitation 2011: introduction. Spinal Cord advance online publication, March 27, 2012; doi:10.1038/sc.2012.13

Allegretti, Ana Luiza; Malkiewicz, Andrew; **Brienza, David M**. Measuring Interface Pressure and Temperature in the Operating Room *Advances in Skin & Wound Care*. 25(5):226-230, May 2012. doi: 10.1097/01.ASW.0000414706.33267.db

Mi, Q., Constantine, G., Megas, C., Krishnan, S., Allegretti, A., Sowa, G., **Brienza, D** and Vodovotz, Y. (2011, March). URINARY TRACT INFECTIONS PRECEDE PRESSURE ULCERS IN SPINAL CORD INJURY PATIENTS. In WOUND REPAIR AND REGENERATION (Vol. 19, No. 2, pp. A39-A39).

Jennifer L Collinger; Brad E Dicianno; Douglas J Weber; Xinyan Tracy Cui; Wei Wang; **David M Brienza**; Michael L Boninger. Integrating rehabilitation engineering technology with biologics. PM R 3, 1480 (2011)

Schein Richard M; Schmeler Mark R; Holm Margo B; Pramuka Michael; Saptono Andi; **Brienza David M.** Telerehabilitation assessment using the Functioning Everyday with a Wheelchair-Capacity instrument. Journal of rehabilitation research and development 2011;48(2):115-24

Akins JS, Karg PE, **Brienza DM**. Interface shear and pressure characteristics of wheelchair seat cushions. J Rehabil Res Dev. 2011;48(3):203–12. DOI:10.1682/JRRD.2009.09.0145

Jan Y-K; **Brienza D M**; Boninger M L; Brenes G. Comparison of skin perfusion response with alternating and constant pressures in people with spinal cord injury. Spinal cord: the official journal of the International Medical Society of Paraplegia 2011;49(1):136-41

Parmanto B, Saptono A, Pramana G, Pulantara W, Schein RM, Schmeler MR, McCue MP, & **Brienza DM**. (2010). VISYTR: Versatile and Integrated System for Telerehabilitation. *Telemedicine and E-health, 16*(9), 939-944.

Schein RM, Schmeler MR, Saptono A, and **Brienza D**. Patient Satisfaction with Telerehabilitation Assessments for Wheeled Mobility and Seating. 2010 *Assistive Technology, 22*(4), 215-222

Lim S., Kim J., Ikpeama U., Porach E., Lynch R.D., **Brienza D.M.** Quantitative approach of Remote Accessibility Assessment System (RAAS) in telerehabilitation. *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*. 2010 vol. 6159 LNCS

Brienza D, Kelsey S, Karg P, Allegretti A, Olson M, Schmeler M, Zanca J, Geyer MJ, Kusturiss M, Holm M. A randomized clinical trial on preventing pressure ulcers with wheelchair seat cushions. J Am Geriatr Soc. 2010 Dec;58(12):2308-14. Epub 2010 Nov 10.

Schein Richard M; Schmeler Mark R; Holm Margo B; Saptono Andi; **Brienza David M.** Telerehabilitation wheeled mobility and seating assessments compared with in person. *Archives of physical medicine and rehabilitation* 2010;91(6):874-8

Tzen YT, **Brienza DM**, Karg P, Loughlin P. Effects of local cooling on sacral skin perfusion response to pressure: Implications for pressure ulcer prevention. *Journal of Tissue Viability,Volume 19, Issue 3, August 2010, Pages 86-97*

Schein RM. Schmeler MR. **Brienza D**. Saptono A. Parmanto B. Development of a service delivery protocol used for remote wheelchair consultation via telerehabilitation. *Telemedicine Journal & E-Health. 14(9):932-8, 2008 Nov.*

Kim J. **Brienza DM**. Lynch RD. Cooper RA. Boninger ML. Effectiveness evaluation of a remote accessibility assessment system for wheelchair users using virtualized reality. *Archives of Physical Medicine & Rehabilitation. 89(3):470-9, 2008 Mar.*

Jan YK, **Brienza DM**, Geyer MJ and Karg T. Wavelet analysis of sacral skin blood flow response to alternating pressure. Arch Phys Med Rehabil Vol 89, January 2008

W. Call, **David M. Brienza**, Mary Ellen Posthauer Development of Uniform Terminology for Support Surfaces Evan Journal of WOCN 01/2007 34(Supplement):S75-S76.

Kim, JB and **Brienza, DM**; Development of a remote accessibility assessment system through three-dimensional reconstruction technology. *Journal of Rehabilitation Research and Development* 2006; 43(2): 257–272.

Berlowitz DR. **Brienza** DM. Are all pressure ulcers the result of deep tissue injury? A review of the literature. [Review] [27 refs**]** [Journal Article. Review] *Ostomy Wound Management. 53(10):34-8, 2007 Oct.*

Jan, YK and **Brienza DM**. Technology for Pressure Ulcer Prevention. Topics in Spinal Cord Injury. Spring 2006; 11(4): 30-41.

Elicia M. Kohlenberg, Jeanne Zanca, **David M. Brienza,** Michelle A. Levasseur, Michael G. Sowa Spectroscopic detection of the blanch response at the heel of the foot: a possible diagnostic for stage I pressure ulcers. Proc SPIE 09/2005

Jan YK, **Brienza DM**, and Geyer MJ. Analysis of week-to-week variability in skin blood flow measurements using wavelet transforms. *Clinical Physiology and Functional Imaging* 2005; 25(5): 253-262.

Brienza DM, Geyer MJ, and Jan YK**.** A comparison of changes in rhythms of sacral skin blood flow in response to heating and indentation. *Archives of Physical Medicine and Rehabilitation*. 2005 June; (86)6: 1245-1251.

Brienza, David M. PhD; Geyer, Mary Jo PhD, PT, CWS, CLT-LANA. Using Support Surfaces to Manage Tissue Integrity. *Advances in Skin & Wound Care.* 18(3):151-157, April 2005

Geyer MJ, Jan YK, **Brienza DM**, and Boninger ML. Using wavelet analysis to characterize the thermoregulatory mechanisms of sacral skin blood flow. Journal of Rehabilitation Research and Development 2004; 41(6):797-806.

Zanca, JM; **Brienza, DM**; Ammer, ML; Bennett, RG; Lyder, CH; and the National Pressure Ulcer Advisory Board. Systematic Review of Acknowledged Funding Sources in Pressure Ulcer Literature. *Advances in Skin & Wound Care.* 18(2):84-91, 2005 Mar.

LoPresti, EF; **Brienza, DM**. Adaptive Software for Head-Operated Computer Controls. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*. Vol. 12, No. 1, March 2004; pp. 102-111.

Geyer, MJ; **Brienza, DM**; Bertocci, GE; Crane, B; Hobson, DA; Karg, PE; Schmeler, M; Trefler, E. Wheelchair Seating: A State of the Science Report. *Assistive Technology*. Vol. 15, No. 2, Winter 2003; pp. 120-128.

Cooper, RA; Boninger, ML; **Brienza, DM**; van Roosmalen, L; Koontz, AM; LoPresti, E; Speath, DM; Bertocci, GE; Guo, S; Buning, ME; Schmeler, M; Geyer, MJ; Fitzgerald, SG; Dan, D. Pittsburgh Wheelchair and Seating Biomechanics Research Program. *Journal of the Society of Biomechanisms* Japan. 27(3):144-157.

Geyer, MJ; **Brienza, DM**; *Chib, V; Wang, J*. Quantifying Fibrosis in Venous Disease: Mechanical Properties of Lipodermatosclerosis and Healthy Tissues. *Advances in Skin and Wound Care.* April 2004; 17(3):131-142.

Zanca, J; **Brienza, DM;** Berlowitz, D; Richard, G; Bennett, R. Pressure Ulcer Research Funding in America: Creation and Analysis of an Online Database. *Advances in Skin and Wound Care*. Jul-Aug 2003; 16(4):190-7.

LoPresti, EF; **Brienza, DM**; Angelo, J; Gilbertson L. Neck Range of Motion and Use of Computer Head Controls**.** *Journal of Rehabilitation Research and Development*. Vol. 40, No. 3, May/June 2003; pp. 199-212.

LoPresti, EF; **Brienza, DM**; Angelo, JA. Head-Operated Computer Controls: Effect of Control Method on Performance for Subjects With and Without Disability. *Interacting with Computers*. 14 (2002):359-377**.**

Geyer, MJ; **Brienza, DM**; Karg, PE; Kelsey, S; Trefler, E. A randomized control trial to evaluate pressure-reducing seat cushions for elderly wheelchair users. *Advances in Skin and Wound Care*. May/June 2001; 14(3):120-129.

Brienza, DM; Karg, PE; *Geyer, MJ*; Kelsey, S; Trefler, E. The relationship between pressure ulcer incidence and buttock-seat cushion interface pressure in at-risk elderly wheelchair users. *Archives of Physical Medicine and Rehabilitation.* 2001 Apr; 82(4):529-533.

National Pressure Ulcer Advisory Panel Board of Directors. Summary Editors: Cuddigan, J; Berlowitz, DR; Ayello, EA. Pressure Ulcers in America: Prevalence, Incidence, and Implications for the Future. *Advances in Skin and Wound Care*. 2001; 14(4):208-215.

Cooper, RA; Fitzgerald, SG; Boninger, ML; **Brienza, DM**; Shapcott, N; Cooper, R; Flood, K. Telerehabilitation: Expanding Access to Rehabilitation Expertise. *Proceedings of the IEEE*. Vol. 89, No. 8, 2001.

Cooper, RA; **Brienza, DM**. Master of Science in Rehabilitation Science and Technology at the University of Pittsburgh. 12 *Technology and Disability.* (2000):107-117.

Brienza, DM; *Geyer, MJ*. Understanding Support Surface Technology. *Advances in Skin and Wound Care*. 2000; 13(5):237-44.

Yue, L; Aissaoui, R; **Brienza, DM**; Dansereau, J. Determination of generic body-seat interface shapes by cluster analysis. *IEEE Transactions on Rehabilitation Engineering*. 2000 8(4):481-489.

Wang, J; **Brienza, DM**; Yuan, Y-W; Karg, PE; Xue, Q. A Compound Device for Biomechanical Analysis of Buttock Soft Tissue in vivo. *Journal of Rehabilitation Research and Development.* 2000; 37(4):433-443.

Brienza, DM; Lin, CT; Karg, PE. A method for custom contoured cushion design using interface pressure measurements. *IEEE Transactions on Rehabilitation Engineering*. 1999; 7(1):99-108.

Brienza, DM; Brubaker, CE. A steering linkage for short wheelbase vehicles: Design and evaluation in a wheelchair power base. *Journal of Rehabilitation Res & Dev*. 1999; 36(1).

Brienza, DM; Karg, PE. Seat cushion optimization: A comparison of interface pressure and tissue stiffness characteristics for spinal cord injured and elderly patients. *Archives of Physical Medical and Rehabilitation*. April 1998; (79):388-394.

Brienza, DM; Karg, PE; Brubaker CE. Seat cushion design for elderly wheelchair users based on minimization of soft tissue deformation using stiffness and pressure measurements. *IEEE Transactions on Rehabilitation Engineering*. 1996; 4(4):320-328.

Brienza, DM; Chung, K-C; Brubaker, CE; *Wang, J*; Karg, PE; Lin, CT. A system for the analysis of seat support surfaces using surface shape control and simultaneous measurement of applied pressures. *IEEE Transactions on Rehabilitation Engineering*. 1996; 4(2):103-113.

Brienza, DM; Angelo, J. A force feedback joystick and control algorithm for wheelchair obstacle avoidance. *Disability and Rehabilitation*. 1996; 18(3):123-129.

Brienza, DM; Angelo, J; Henry, K. Consumer participation in identifying research and development priorities for power wheelchair input devices and controllers. *Assistive Technology*. 1995; 7(1):55-62.

Brienza, DM; Chung, K-C; Brubaker, CE; Kwaitkowski , RJ. Design of a computer-controlled seating device for research applications. *IEEE Transactions on Rehabilitation Engineering*. 1993; 1(1):63-67.

Brienza, DM; Iñigo, RM; Chung, K-C; Brubaker, CE. Seat support surface optimization using force feedback. *IEEE Transactions on Biomedical Engineering.* 1993; 40(1):95-104.

Brienza, DM; Brubaker, CE; McLaurin, CA; Chung, K-C. A manufacturing system for contoured foam cushions. *Journal of Rehabilitation Res & Dev*. 1992; 29(4):32-40.

Brienza, DM; Chung, K-C; Brubaker, CE. Computer design and fabrication of custom contoured seating. *Medical Design and Material*. 1991; 1(1):32-41.

2. Reviews, invited published papers, proceedings of conferences and symposia, monographs, book chapters, and books

Invited Published Papers

Development of a Modular Graduate Curriculum in Rehabilitation Science and Technology. Trefler, E; Boninger, M; Brienza, DM; Cooper, RA; Shapcott, NG; Hobson, DA; Robinson, CJ. **Technology Special Interest Section Quarterly**, 1997; 7(1):3-4.

Introduction to *Soft Tissue Interfaces in Rehabilitation:* Guest Editorial. Sanders, JE; Silver-Thorn, MB; Brienza, DM. **IEEE Transactions on Rehabilitation Engineering**, 1996; 4(4):285-288.

Pressure Mapping. David Brienza, **Advance for Providers of Post-Acute Care**. May/June 2005

Development of a Modular Graduate Curriculum in Rehabilitation Science and Technology. Trefler, E; Boninger, M; Brienza, DM; Cooper, RA; Shapcott, NG; Hobson, DA; Robinson, CJ. **Technology Special Interest Section Quarterly**, 1997; 7(1):3-4.

Books and Book Chapters

Pressure ulcers in people with spinal cord injury. Brienza D and Karg P. Pressure Ulcers in America: Prevalence, Incidence, and Implications for the Future: 2nd Edition, ed. Pieper B. National Pressure Ulcer Advisory Panel; Washington, DC: NPUAP; 2012. p. 107-12.

Seating, Positioning and Support Surfaces. Brienza, DM; Geyer, MJ; Sprigle, S. Wound Care Essentials: Practice Principles, ed. Baranoski, S; Ayello, EA. Lippincott Williams & Wilkins, 3rd Edition. 2011

Mechanical loading and pressure ulcers. Brienza, DM; Ostrander, L. Cutaneous Ulcers and Pressure Ulcers, ed. Lee, BY and Burton, BL. Chapman and Hall, 1996; pp116-128.

Seating, Positioning and Support Surfaces. Brienza, DM; Geyer, MJ; Sprigle, S. Wound Care Essentials: Practice Principles, ed. Baranoski, S; Ayello, EA. Lippincott Williams & Wilkins, 2003; pp 187-216.

Seating, Positioning and Support Surfaces. Brienza, DM; Geyer, MJ; Sprigle, S. Wound Care Essentials: Practice Principles, ed. Baranoski, S; Ayello, EA. Lippincott Williams & Wilkins, 2nd Edition. 2008

Tissue Integrity Management, Brienza, DM, Jan, YK, and Zanca, JM. Rehabilitation Engineering. ed. Cooper,

Tissue Mechanics and Blood Flow Factors in Pressure Ulcers of Individuals with Spinal Cord Injury. Jan YK and Brienza DM. Research Signpost, 37/661 (2), Fort P.O., Trivandrum-695 023, Kerala, India

Reviews

1. Wheelchairs and seating. Brienza, DM; Cooper, RA; Brubaker, CE. **Current Opinion in Orthopedics**, 1996;7(vi).
2. Wheelchairs and seating. Cooper, RA; Brienza, DM; Brubaker, CE. **Current Opinion in Orthopaedics**, 1994; 5(vi):101-107.

Proceedings of Conferences

1. Smeresky, David, Andrew Malkiewicz, Patricia Karg, and David Brienza. "DESIGN AND EVALUATION OF A TEMPERATURE CONTROLLED AIR CELL BASED WHEELCHAIR CUSHION."
2. Brienza, DM; Allegretti, A; Karg PE; Kelsey, S; Holm, M; Schmeler, M. An RCT on Wheeled Mobility for Preventing Pressure Ulcers: A Report on Study Rationale and Design. International Seating Symposium, March7-9, 2012, Vancouver, BC, Canada.
3. Johnson M, Allegretti A, Brienza DM, Karg PE. (2011) Incidence of Pressure Ulcers in Spinal Cord Injury Patients Across Care Settings: Acute, and Inpatient- Preliminary Data The Clinical Symposium on Advances in Skin & Wound Care. September 9-12, 2011 Gaylord National Hotel & Convention Center, National Harbor, MD.
4. IMPROVING THE EFFICIENCY OF TELEREHABILITATION SERVICE DELIVERY WITH INTEGRATED SYSTEM. ndi Saptono, Health Information Management Department, Bambang Parmanto, PhD, David Brienza, PhD, Michael McCue, PhD, Rich Schein, PhD, Gede Pramana, MS, Wayan Pulantara. Telemedicine and e-Health. May 2011, 17(4): A-1-A-122. doi:10.1089/tmj.2011.9993.
5. Allegretti, A., Schein, R., Schmeler, M., & Brienza D. (2011). Using Telerehabilitation to educate remote therapists in prescribing wheeled mobility and seating devices, International Seating Symposium, Nashville, TN, USA
6. Allegretti, A., Brienza, D., Malkiewicz A. (2011). Measuring interface pressure and temperature in the operating room. A feasibility study, NPUAP, Las Vegas, NE
6. Tzen YT, Brienza DM, Karg PE, Loughlin PJ, Geyer MJ (2011). Effectiveness of local cooling on enhancing tissue ischemia tolerance in people with spinal cord injury.

Proceedings of the National Pressure Ulcer Advisory Panel Biennial Conference. Las Vegas: NPUAP Press.

7. Tzen YT, Brienza DM, Karg PE, Loughlin PJ, Geyer MJ (2010). Effectiveness of local fast and slow cooling on pressure induced reactive hyperemia (RH) in adult human participants. Proceedings of the RESNA 33rd International Conference on Technology and Disability. Las Vegas, NV: RESNA Press.
8. Schein, R.M., Schmeler, M.R., Brienza, D., & Saptono, A. Comparing Wheeled Mobility and Seating Outcomes via Telerehabilitation and In-Person. Paper Presented at the American Telemedicine Association. San Antonio, TX. May, 2010.
9. Glauser K, Tzen YT, Brienza DM (2009). Pressure ulcer prevention: examining the relative effects of pressure, shear force, and skin temperature. Proceedings of the University of Pittsburgh Science 2009 Annual Conference. Pittsburgh, PA.
10. Tzen YT, Loughlin PJ, Brienza DM (2009). Analyzing the mechanisms of local cooling on pressure induced reactive hyperemia by applying short-time Fourier transform (STFT). Proceedings of the RESNA 32nd International Conference on Technology and Disability. New Orleans, LA: RESNA Press.
11. Schein, R.M., Schmeler, M.R., Brienza, D., & Saptono, A. Effectiveness of Wheeled Mobility and Seating by Telerehabilitation and In-Person. Poster Presentation at the Rehabilitation Engineering and Assistive Technology Society of North America. New Orleans, LA, June, 2009.
12. Ziraldo, C.; Solovyev, A.; Henzel, M.; Sowa, G.A.; Brienza, D.; An, G.; Mi, Q., and Vodovotz, Y. Inferring mechanism from morphology: Understanding pressure ulcer formation in spinal cord injury patients using agent-based mechanistic simulations. 20th Wound Healing Society Annual Meeting.
13. Cohn, Ellen and Brienza, DM and McCue, Michael and Deliyannides, Timothy (2009) *Telerehabilitation E-Dissemination Opportunities: Three Vehicles for Academic Public Service.* In: American Telemedicine Association Annual Meeting, April 27, 2009, Las Vegas, Nevada.
14. Tzen Y, Jan YK, Brienza DM. Development of a system to study the effect of local cooling on skin blood flow response to interface pressure. The Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) Annual Conference, Washington, DC, 2008.
15. Allegretti, A., Brienza, D., Holm, M., & Schmeler, M. (2009) A Decision Making Process for a Wheelchair and Cushion Selection, International Seating Symposium Orlando, FL
16. Tzen Y, Jan YK, Porach EA, Karg PE, Brienza, DM. Effects of local cooling on sacral skin perfusion response to pressure: implications for pressure ulcer prevention. National Pressure Ulcer Advisory Panel Annual Conference, Washington, DC, 2009.
17. Saptono, A., Schein, R., Parmanto, B., & Brienza, D. Remote wheelchair prescription: Initial system evaluation. Panel Presentation at the Rehabilitation Engineering and Assistive Technology Society of North America. Phoenix, AZ, June, 2007.
18. Schein, R.M., Schmeler, M.R., Brienza, D., & Saptono, A. Telerehabilitation assessment using the Functioning Everyday with a Wheelchair-Capacity outcome tool. Panel presentation at the Rehabilitation Engineering and Assistive Technology Society of North

America. Washington, D.C. June, 2008.

19. Schein, R.M., Schmeler, M.R., & Brienza, DM. Measuring change in function following the provision of a wheeled mobility and seating intervention via telerehabilitation. Panel Presentation at the American Telemedicine Association. Seattle, WA. April, 2008.
20. Schein, R.M., Schmeler, M.R., & Brienza, D. Remote wheelchair prescription using telerehabilitation. Poster presentation at the International Conference on Aging, Disability, and Independence. St. Petersburg, FL, February, 2008.
21. Allegretti, A., Brienza, D., & Holm, M (2009). Pressure Ulcer Outcomes With and Without Use of Pressure Mapping, NPUAP, Washington, DC
22. Evan W. Call, MS, David M. Brienza, PhD, Mary Ellen Posthauer, RD, CD, LD.Development of Uniform Terminology for Support Surfaces, WOCN Society 39th Annual Conference, June 9-13, 2007, Salt Lake City Utah.
23. Call E, and Brienza DM. Support Surface Standards Initiative. EPUAP, Berlin, September 28-30, 2006
24. Call E, and Brienza DM. Support Surface Standards Initiative. Clinical Symposium, Orlando, 2006
25. Siekman, Allen and Brienza, DM. The effect of skin temperature on skin ulcer development. Nordic Seating Symposium, (Abstract) Copenhagen, Denmark. October 4-6, 2006.
26. McCue, M. Brienza, DM., Pramuka, M. & Seelman, KD. (2006). Telerehabilitation: Meeting rehabilitation consumer needs through rehabilitation engineering research (Abstract). Telemedicine and e-Health. 12(2), 221.
27. Parmanto, B., Saptono, A., Sugiantara, W., Brienza, D., Nnaji, B., "Information Technology Infrastructure for Supporting Telerehabilitation", Poster Presentation in RESNA Conference 2006, June 22-26, 2006, Atlanta, Georgia
28. Kohlenberg EM, Zanca JM, Brienza DM, Levasseur MA, Sowa MG. Spectroscopic Detection of the Blanch Response at the Heel of the Foot: A Possible Diagnostic for Stage I Pressure Ulcers. In: Chan WC, Yu K, Krull UJ, Hornsey RI, Wilson BC, Weersink RA, editors. Photonic Applications in Biosensing and Imaging. Proceedings of SPIE (International Society for Optical Engineering); 2005 Sept 12-14; Bellingham, WA: SPIE; 2005. Volume 5969, p. 343-350.
29. Jan YK, Brienza DM, and Boninger ML. Analysis of skin blood flow responses to mechanical stresses with implications to alternating pressure support surfaces. RESNA International Conference on Technology and Disabilities, Atlanta, GA, 2005.
30. Jan YK, Brienza DM, and Boninger ML. A time-frequency approach using wavelets to study week-to-week variability in blood flow oscillations. XXth Congress of the International Society of Biomechanics and 29th Annual Meeting of the American Society of Biomechanics, Cleveland, OH, 7/31-8/5, 2005.
31. Using Wavelet Analysis to Investigate Skin Blood Flow Control Mechanisms: Implications for Skin Thermoregulatory Mechanisms. **RESNA 27th International Annual Conference**, June, 2004, Orlando, Florida.

32. A comparison of changes in rhythms of sacral skin blood flow in response to heating and indentation. Jan YK, Brienza DM, and Geyer MJ. **Annual Meeting of the American Physical Therapy Association**, Chicago, IL, 2004.
33. Telerehabilitation: Concepts and Distance Wheelchair Functional Assessment. Brienza, DM. **2nd International Conference on Telemedicine and Multimedia Communication**, Kajetany, Poland, October 8 – 9, 2004.
34. Visible and near-infrared spectroscopy: A promising new tool for pressure ulcer diagnosis. Zanca, JM; Geyer, MJ; Brienza, DM. **RESNA 26th International Annual Conference**, June 19 – June 23, 2003, Atlanta, Georgia.
35. The virtual reality telerehabilitation system for analyzing accessibility of the physical environment: A comparison of camera systems. Kim, J; Brienza, DM. **RESNA 26th International Annual Conference**, June 19 – June 23, 2003, Atlanta, Georgia.
36. Development of a system to study the effect of alternating pressure loading on skin perfusion. Jan, Y-K; Geyer, MJ; Brienza, DM. **RESNA 26th International Annual Conference**, June 19 – June 23, 2003, Atlanta, Georgia.
37. A survey of alternating pressure seat cushions. Ammer, ML; Brienza, DM; Geyer, MJ. **Proceedings of the RESNA 25th International Conference**, June 27 – July1, 2002, Minneapolis, MN.
38. Viscoelastic properties of soft tissues with pressure ulcer susceptibility. Wang, J; Brienza, DM; Karg, PE; Bertocci, GE. **Proceedings of the RESNA 25th International Conference**, June 27– July1, 2002, Minneapolis, MN.
39. Automatic customization software for computer head controls. LoPresti, EF; Brienza, DM. **Proceedings of the RESNA 25th International Conference**, June 27 – July1, 2002, Minneapolis, MN.
40. The relationship between pressure and pressure ulcers: results from a preclinical trial on the effectiveness of pressure reliving seat cushions. Brienza, DM; Karg, PE; Geyer, MJ, **Proceedings of the International Symposium on Rehabilitation Engineering & Clinical Rehabilitation '02**, August 26 – 31, 2002, Dalian, China.
41. The development of wheelchair seating standards. Brienza, DM; Karg, PE. **Proceedings of the International Symposium on Rehabilitation Engineering & Clinical Rehabilitation '02**, August 26 – 31, 2002, Dalian, China.
42. Real-time tracing and measuring the biomechanical performance of human buttock soft tissues. Wang, J; Zhang G; Brienza, DM. **Proceedings of the International Symposium on Rehabilitation Engineering & Clinical Rehabilitation '02**, August 26 – 31, 2002, Dalian, China.
43. The Rehabilitation Engineering Center Program of the National Institute on Disability and Rehabilitation Research in the United States. Seelman, K; Brienza, DM; Hobson, D. **3rd Chinese Conference on Rehabilitation Medicine**, Oct 22 – 26, 2001, Beijing, China.
44. A web-based model to disseminate "best lectures" in rehabilitation worldwide . Cohn, E; Brienza, DM; Brubaker, CE. **3rd Chinese Conference on Rehabilitation Medicine**, Oct 22 – 26, 2001, Beijing, China.
45. Comparison of five software interfaces for computer head controls. LoPresti, EF; Brienza, DM; Angelo, J. **Proceedings of the RESNA Annual Conference 2001**, Reno, NV.

46. Stress relaxation properties of buttock soft tissues: in vivo indentation test. Wang, J; Brienza, D; Bertocci, G; Karg, P. **Proceedings of the RESNA Annual Conference 2001**, Reno, NV.

47. Repeatability of determining effective Young's modulus of buttocks soft tissue across multiple subjects. Zeltwanger, AP; Wang, J; Bertocci, G; Brienza, DM; Karg, P; Chib, V. **Proceedings RESNA Annual Conference 2001, Reno, NV**. Whitaker Scientific Paper Competition Award.

48. The Effect of Body Mass Index on Seat Interface Shape Patterns. Li Y., Aïssaoui R., Brienza D.M., Dansereau J. *Proceedings / Actes de conference* XXVe Congrès de la SOCIÉTÉ DE BIOMÉCANIQUE. du 23 au 26 août 2000 / August 23–26, 2000. Montréal, Canada.

49. "What is interface pressure?" Fay, BT; Brienza, DM. **22nd Annual Conference of the Engineering in Medicine and Biology Society**, Chicago, IL, July 24 – 30, 2000.

50. Are commercial seat cushions efficacious in preventing pressure ulcers? Geyer, MJ; Brienza, DM; Karg, P; Kelsey, SF; Trefler, E. **Proceedings of the RESNA 2000 Annual Conference**, Orlando, FL, June 2000. RESNA Press, Washington, DC, 2000.

51. Effective young's modulus of buttocks soft tissue. Zeltwanger, AP; Wang, J; Bertocci, G; Brienza, DM; Chib, VS. **Proceedings of the RESNA 2000 Annual Conference**, Orlando, FL, June 2000. RESNA Press, Washington, DC, 2000.

52. The effect of preconditioning on the repeatability of quasi-linear viscoelastic properties of buttocks soft tissue. Chib, V; Wang, J; Brienza, DM; Bertocci, G. **Proceedings of the RESNA 2000 Annual Conference**, Orlando, FL, June 2000. RESNA Press, Washington, DC, 2000.

53. Reliability of the in vivo test protocol for measuring biomechanical properties of buttock soft tissues. Wang, J; Brienza, DM; Bertocci, G; Chib, V; Karg, P; Yuan, Y-W. **Proceedings of the RESNA 2000 Annual Conference**, Orlando, FL, June 2000. RESNA Press, Washington, DC, 2000.

54. The Influence of Axial Compression Ratio of Buttock Soft Tissues on Quasi-Linear Viscoelastic Modeling Parameters. Wang, J; Brienza, DM; Bertocci, G; Chib, V; Karg, P. **Chicago 2000 World Congress on Medical Physics and Biomedical,** July 23 – 28, 2000, Chicago, IL.

55. Neck range of motion and use of computer head controls. LoPresti, E; Brienza, DM; Angelo, J; Gilbertson, L; Sakai, J. **The fourth international ACM conference on Assistive Technologies**, Arlington, Virginia, USA, 2000. pp. 121-128.

56. Neck Movement Patterns and Functional Performance for Computer Head Controls. LoPresti, EF; Brienza, DM; Angelo, J. **BMES-EMBS 1st Joint Conference**, October 1999.

57. Computer Head Controls: Ergonomics and Effect of Neck Movement Limitations. LoPresti. EF; Angelo, J., Brienza, DM; Sakai, J; Gilbertson, L. **CSUN's 15th Annual Conference "Technology and Persons with Disabilities"**, March 2000.

58. An Evaluation of an Obstacle Avoidance Force Feedback Joystick. Protho, JL; LoPresti, EF; Brienza, DM. **Proceedings of the RESNA 2000 Annual Conference**, June, 2000.

59. Are Commercial Seat Cushions Efficacious in Preventing Pressure Ulcers in the At-Risk, Elderly Nursing Home Population? Geyer, MJ; Brienza, DM; Karg, PE; Kelsey, SF; Trefler, E. **Symposium on Advanced Wound Care and Medical Research Forum on Wound Repair**, Dallas, TX, April 1-4, 2000.

60. In vivo characterization of Buttock Soft Tissue Using Quasi-linear Viscoelastic Modeling. Wang, J; Bertocci, G; Brienza, DM; Karg, PE; Yuan, Y. **First Joint Meeting of BMES & EMBS**, Atlanta, GA, October 13-16, 1999.

61. Neck Movement Patterns and Functional Performance for Computer Head Controls. LoPresti, EF; Brienza, DM; Angelo, J. **First Joint Meeting of BMES & EMBS**, Atlanta, GA, October 13-16, 1999.

62. Determination of Generic Seat Interface Shapes by Cluster Analysis. Li, Y; Aissaoui, R; Brienza, DM; Dansereau, J. **Proceedings of RESNA '99 Annual Conference**, Long Beach, CA, June 25-29, 1999.

63. A Case Report from Clinical Evaluations of the Prototype Body Map Cushion. Brienza, DM; Geyer, MJ; Karg, PE. **Proceedings of RESNA '99 Annual Conference**, Long Beach, CA, June 25-29, 1999.

64. Clinical Evaluation of Pressure-reducing seat cushions for Elderly Patients. Brienza, DM; Geyer, MJ; Karg, PE; Trefler, E; Kelsey, SF. **Proceedings of the 15th International Seating Symposium**, Orlando, Florida, March 3, 1999.

65. Efficacy of Seat Cushions in Preventing Pressure Ulcers for At-risk Elderly Nursing Home Residents. Geyer, MJ; Brienza, DM; Kelsey, SF; Karg, PE; Trefler, E. **Proceedings of 16th Annual RESNA Conference**, Minneapolis, MN, June 26-29, 1998.

66. A method for contour cushion design using pressure measurements. Brienza, DM; Karg, PE. **Proceedings of 16th Annual RESNA Conference**, Minneapolis, MN, June 26-29, 1998.

67. Ultrasound Measurements of Tissue Deformation Under Load. Brienza, DM; Wang, J; Ault, T; Lin, CT. **Dundee '97 - International Conference on Wheelchairs and Seating**, Dundee, Scotland, September 8-12, 1997.

68. CAD/CAM Custom Contoured Cushions. Brienza, DM; Karg, PE; Lin, CT; Wang, J. **Dundee '97 - International Conference on Wheelchairs and Seating**, Dundee, Scotland, September 8-12, 1997.

69. Standardized Test Procedures. Axelson, PW; Chesney, DA; Brienza, DM. **Dundee '97 - International Conference on Wheelchairs and Seating**, Dundee, Scotland, September 8-12, 1997.

70. A compound sensor for biomechanical analysis of load-bearing soft tissue. Wang, J; Brienza, DM; Yuan, YW; Karg, PE,; Brubaker, CE. **Proceedings of 16th Annual RESNA Conference**, Pittsburgh, PA, June 20-24, 1997, pp. 242-244.

71. A four-wheel steering mechanism for short wheelbase vehicles. Brienza, DM; Brubaker, CE. **Proceedings of 16th Annual RESNA Conference**, Pittsburgh, PA, June 20-24, 1997.

72. Seating and Mobility Research: What, Why, and How. Brienza, DM. **Proceedings of the 13th International Seating Symposium**, Pittsburgh, PA, January 23-25, 1997.

73. Introduction to *Soft Tissue Interfaces in Rehabilitation:* Guest Editorial. Sanders, JE; Silver-Thorn, MB; Brienza, DM. **IEEE Transactions on Rehabilitation Engineering**, 1996; 4(4):285-288.

74. Design and development of a wheelchair for enhanced access. Brienza, DM; Brubaker, CE. **Proceedings of 15th Annual RESNA Conference**, Salt Lake City, Utah, June 7-12, 1996.

75. A system for the design and analysis of seat support surfaces. Karg, PE; Brienza, DM; Brubaker, CE; Wang, J; Lin, CT. **Proceedings of 15th Annual RESNA Conference**, Salt Lake City, Utah, June 7-12, 1996.

76. Evaluation of a surface optimization technique for custom contoured cushion design. Karg, PE; Brienza, DM; Chung, K-C; Brubaker, CE. **Proceedings of 15th Annual RESNA Conference**, Salt Lake City, Utah, June 7-12, 1996.

77. The development of and AC motor drive in power wheelchair. Nho, WC; Brienza, DM; Boston, R. **Proceedings of 15th Annual RESNA Conference**, Salt Lake City, Utah, June 7-12, 1996.

78. Design of an ultrasound soft tissue characterization system for the CASS. Wang, J; Brienza, DM; Brubaker, CE; Yuan, Y-W. **Proceedings of 19th Annual RESNA Conference**, Salt Lake City, Utah, June 7-12, 1996.

79. Wheelchairs and seating. Brienza, DM; Cooper, RA; Brubaker, CE. **Current Opinion in Orthopedics**, 1996;7(vi).

80. Concept and implementation of a force feedback active joystick. Gehlot, NL; Brienza, DM. **Proceedings of 18th Annual RESNA Conference**, Vancouver, British Columbia, June 9-14, 1995.

81. A reusable mold for custom contour cushion manufacturing. Gehlot, NL; Brienza, DM; Silverman, MS. **Proceedings of 18th Annual RESNA Conference**, Vancouver, British Columbia, June 9 -14, 1995.

82. New battery technology for powered wheelchairs. Bayles, G; Ulerich, P; Palmer, K; Brienza, DM. **Proceedings of 17th Annual RESNA Conference**, Nashville, TN, June 17 - 22, 1994.

83. A passive four degree of freedom digitizing arm for seating surfaces. Brienza, DM; Chung, K-C; Lin, C-T. **Proceedings of 17th Annual RESNA Conference**, Nashville, Tennessee, June 17 - 22, 1994.

84. Assisted control and navigation of a powered wheelchair. Brienza, DM. **International Ergonomics Association's Conference on Rehabilitation Ergonomics**, August 1994. (Invited abstract accepted for publication and presentation.)

85. Seat support surface optimization algorithm development. Brienza, DM; Chung, K-C. **Proceedings of 1993 ASME Winter Annual Meetin**g, New Orleans, Louisiana, Nov. 28 - Dec. 3, 1993. (Invited abstract)

86. The effect of sampling frequency on seat contour reproduction for CAD/CAM seating systems. Brienza, DM. **Proceedings of 15th Annual RESNA Conference,** pp. 207-209, Toronto, Canada, June 1992.

87. Pressure relief — theory and practice. Brubaker, CE; Chung, K-C; Brienza, DM. **Proceedings of 7th International Seating Symposium**, Memphis, Tennessee, February 1991.
88. A new approach to seat contour design. Brienza, DM; Iñigo, RM; Chung, K-C; Brubaker, CE. **Proceedings of 12th Annual Conference of IEEE-EMBS**, Philadelphia, Pennsylvania, Nov. 1990.
89. A manufacturing system for custom contoured foam cushions. Brienza, DM; Brubaker, CE; McLaurin, CA. **Proceedings of 13th Annual RESNA Conference**, pp. 415-416, Washington, D.C., June 15-20, 1990.
90. Prescribing customized contoured seat cushions by computer-aided shape sensing. Sposato, BA; Chung, K-C; McLaurin, CA; Brubaker, CE; Brienza, DM. **Proceedings of 13th Annual RESNA Conference**, pp. 103-104, Washington, D.C., June 15-20, 1990.
91. A computer-aided shape sensing system for custom seat contours. Chung, K-C; McLaurin, CA; Brubaker, CE; Brienza, DM. **Proceedings of 13th Annual RESNA Conference**, pp. 395-396, Washington, D.C., June 15-20, 1990.
92. A comparison of force transducers suitable for an automatic body support system. Brienza, DM; Gordon, J; Thacker, JG. **Proceedings of 12th Annual RESNA Conference**, pp. 238-239, New Orleans, Louisiana, June 1989.
93. UVa custom contoured seating system technical and clinical evaluation. Chung, K-C; Sprigle, SH; Brienza, DM; Brubaker, CE; McLaurin, CA. **Proceedings of 12th Annual RESNA Conference**, pp. 236-237, New Orleans, Louisiana, June 1989.
94. A fiber optic force sensor for automated seating design. Brienza, DM; Iñigo, RM. **Proceedings of 12th Annual RESNA Conference**, pp. 232-233, New Orleans, Louisiana, June 1989.
95. Design of a CAM system for custom contoured wheelchair cushions. Brienza, DM; Chung, K-C; Iñigo, RM. **Proceedings of ICAART**, pp. 312-313, Montreal, Canada, June 1988.
96. Effect of contoured support surface on pressure distribution. Chung, K-C; Sprigle, SH; Brienza, DM; Brubaker, CE; McLaurin, CA. **Proceedings of ICAART**, pp. 314-315, Montreal, Canada, June 1988.

Other publications

1. Seat contour optimization using force feedback. Brienza DM. **UVa REC Technical Report No. 10691**, 1991.
2. A manufacturing system for custom contoured foam cushions. Brienza DM. **UVa REC Technical Report No. 10791**, 1991.
3. Improved seating design. Chung, K-C, Brubaker CE, McLaurin CA, Protz PR, Todd BA, Sposato BA, Brienza DM and Hughes CJ. **University of Virginia Rehabilitation Engineering Center Annual Report**, pp. 78-141, 1990.
4. Research and development to improve seating design. Chung K-C, Brubaker CE, McLaurin CA, Brienza DM and Sprigle SH. **Rehabilitation R&D Progress Reports**, pp. 143-144,

Veterans Administration Rehabilitation Research and Development Service, Baltimore, MD, 1989.

5. Seating and body support. Chung K-C, McLaurin CA, Brubaker CE, Reger SI, Sprigle SH and Brienza DM. **Wheelchair Mobility: A Summary of Activities at the University of Virginia Rehabilitation Engineering Center,** 1983-1988, pp. 39-118, 1988.
6. Improved seating design. Chung K-C, Brubaker CE, McLaurin CA, Brienza DM, Sprigle SH, Schunkewitz J, Todd BA and Hughes CJ. **University of Virginia Rehabilitation Engineering Center Annual Report,** pp. 68-118, 1988.
7. Seat contour optimization using force feedback. Brienza DM. **Ph.D. Dissertation**, University of Virginia, August 1991.
8. Design of a CAM system for custom contoured wheelchair cushions. Brienza DM. **Master's Thesis**, University of Virginia, May 1988.
9. **Brienza, D.,** Deppisch, M., Gillespie, C., Goldberg, M., Gruccio, P., Jordan, R., . . . Sylvia, C. (2015). Do Lift Slings Significantly Change the Efficacy of Therapeutic Support Surfaces? A National Pressure Ulcer Advisory Panel White Paper.

Professional Activities

Teaching

HRS 2706	Introduction to Rehabilitation Engineering Design (Primary Professor)
HRS 2706	Rehabilitation Biomechanics (Primary Professor)
HRS 3704	Environmental Control Systems (Primary Professor)
HRS 2703	Rehabilitation Engineering Design (Primary Professor)
BIOE1010	Bioinstrumentation (Primary Professor)
BIOE1011	Bioinstrumentation Lab (Primary Professor)
HRS 3707:	Power Wheelchairs II (Primary Professor)
HRS 3702:	Seating Biomechanics (Primary Professor)
HRS 2701:	Rehabilitation Engineering and Technology (Pressure Relief Seating section and laboratory)
HRS 2702:	Instrumentation and Computer Interfacing (Primary Professor)
HRS 2704:	Fundamentals of Rehabilitation Engineering (Pressure Relief Seating and Pressure Ulcers section)
HRS 2705:	Principles and Practice of Rehabilitation Engineering (Support Surface Evaluation section and laboratory)

HRS 2706: Analysis of Adaptations for Physical Impairment (Pressure Measurement and Devices)

EE 1695: Senior Design Project, Controls (Primary Professor)

EE 2646: Linear Control Systems Theory (Primary Professor)

BIOE 2023: Bioengineering Seminar Series (Soft Tissue Biomechanics)

OTH 732: Assistive Technology Applications in Occupational Therapy, Chatham College (Pressure Measurement laboratory)

OCCTH 550: Environmental Adaptation & Rehabilitation Technology, Duquesne University (Pressure Ulcer Etiology, Pressure Measurement laboratory)

Student Advising and Thesis Committee Participation

David McLeary: Member of MS Thesis Committee, 1992-1993, Dept. of Physical Therapy, University of Pittsburgh. Thesis: *The effect of four ankle braces on calcaneal inversion/eversion angles and calcaneal torque when landing from a height of eighteen inches*.

Lori Baker: Member of MS Thesis Committee, 1992-1996, Dept. of Physical Therapy, University of Pittsburgh. Thesis: *The effect of semi-rigid orthotics on the center of pressure*.

Andrew Gordon: MS Academic and Research Advisor and Committee Chairman, 1993-1994, Bioengineering program, University of Pittsburgh (withdrew from program to attend medical school).

Paula Mehta: Independent Study Supervisor, 1993-1994, Dept. of Electrical Engineering, University of Pittsburgh.

Narayan Gehlot: Ph.D. Research Advisor, 1993-1995, Dept. of Electrical Engineering, University of Pittsburgh. Dissertation: *Novel burst and packet mode receiver architecture with automatic compensation for optical networks and communication systems*.

Won Nho: MS Research Advisor, 1993-1995, Dept. of Electrical Engineering, University of Pittsburgh. Thesis: *Pulse-width modulation voltage source inverter for induction motor in power wheelchair*. Ph.D. Research Advisor, 1995-1997, 2003-2005, Dept. of Electrical Engineering.

Seun Onodipe: MS Research Advisor, 1993-1994, Dept. of Electrical Engineering, University of Pittsburgh.

Chen-Tse Lin: Member of Ph.D. Dissertation Committee, 1994, Dept. of Mechanical Engineering, University of Pittsburgh. Dissertation: *Unsteady, inhomogeneous motions of a generalized neo-hookean material*. Postdoctoral Research Mentor, 1993-1995, School of Health and Rehabilitation Sciences.

Heather Rushmore: MS Academic Advisor, 1995-1996, Dept. of Rehabilitation Science and Technology, University of Pittsburgh.

Mostafa Khondakar: Member of MS Thesis Committee, 1995-1997, MS Thesis: *Monte carlo stochastic simulation of power system generation cost under time and system dependent constraints*, Dept. of Electrical Engineering, University of Pittsburgh.

Neal Row: MS Academic Advisor, 1995-1997, Dept. of Rehabilitation Science and Technology, University of Pittsburgh.

Rayanne DiCola: MS Academic Advisor, 1995-1997, Scholarly paper: *Secondary injuries associated with alternative computer access*, Dept. of Rehabilitation Science and Technology, University of Pittsburgh.

James Protho: MS Academic and Research Advisor, 1995-1998, Dept. of Rehabilitation Science and Technology, University of Pittsburgh. Thesis: *An evaluation of an obstacle avoidance force feedback joystick*

Jue Wang: Research Mentor/Advisor, 1994-2000; Ph.D. Academic and Research Advisor, Dept. of Rehabilitation Science and Technology, University of Pittsburgh. Dissertation: *Development of a compound ultrasonic device and in vivo biomechanical assessment of buttock soft tissue*

Thomas Ault: Member of Ph.D. Advisory Committee, 1996-2005, Dept. of Computer Science, Robotics Institute, Carnegie Mellon University.

Edmond Lopresti, Ph.D. Academic and Research Advisor, 1997-2002, Dept of Bioengineering, University of Pittsburgh. Dissertation: *Neck movement limitations and the use of head-operated computer controls for people with disabilities*.

Mary-Jo Geyer, Ph.D. Advisor, 1997-2001, SHRS Ph.D. Program, University of Pittsburgh, Dissertation: *The relationships between computed tomography and ultrasound indentation testing in characterizing fibrotic tissue associated with Chronic venous disease*

Robert Joseph, MS Academic Advisor, 1998-2000, Rehabilitation Science and Technology, University of Pittsburgh.

Thomas Bursic, MS Academic Advisor, 1998-2000, Rehabilitation Science and Technology, University of Pittsburgh.

Yih-Kuen Jan, Ph.D., PT, Research Mentor/Advisor, 2000-2004, University of Pittsburgh. Dissertation: *A study on skin blood flow control mechanisms using wavelet analysis: Implications for alternating pressure support surfaces*

Jeanne Zanca, Ph.D. Advisor, 2001-2006, SHRS Ph.D. Program, University of Pittsburgh. Dissertation: *Spectroscopic Assessment of the Blanch Response*

Vikram Chib, Undergraduate research and academic advisor, 1998-2001, Bioengineering, University of Pittsburgh

Jong Bae Kim, Ph.D. Research Mentor/Academic and research advisor, 2001-2005, SHRS Ph.D. Program, University of Pittsburgh, *A Virtualized Reality Telerehabilitation System for the accessibility analysis of the physical environment*

Sandra Hubbard, Ph.D. Academic Advisor, 2001-2002, SHRS Ph.D. Program, University of Pittsburgh

Yue Wang, Ph.D. Academic and Research advisor, 2003-2005, University of Pittsburgh, School of Health and Rehabilitation Sciences

Rohit Bafana, MS Academic and Research Advisor, 2003-2005, University of Pittsburgh, Dept of Bioengineering

Yi-Ting Tzen, MS Academic advisor, 2005-2008, University of Pittsburgh, Department of Rehabilitation Science, and Technology.

BC Deemer, Ph.D. Academic and Research Advisor. Dept of Bioengineering, University of Pittsburgh

Jonathan Akins, MS Academic and Research Advisor, 2006-2008, University of Pittsburgh, Department of Bioengineering.

Susan Fuhrman, Ph.D. Research Mentor/Academic and Research Advisor, 2005-2008, University of Pittsburgh, Department of Rehabilitation Science and Technology. *Pediatric Wheelchair and Headrest Design Guidelines and the Effect of Headrests on Relative Injury Risk Under Rear Impact Conditions.*

Richard Schein, Ph.D. Academic and Research Advisor, 2005-2009, University of Pittsburgh, Department of Rehabilitation Science and Technology. *Evaluation of Using a Telerehabilitation Consultation Model for Remote Wheelchair Prescription.*

Michael Turkovich, Ph.D. Academic and Research Advisor, 2008-2010, University of Pittsburgh, Department of Bioengineering, *The effects of obesity on occupant response in frontal impact*.

Yi-Ting Tzen, Ph.D. Academic and Research Advisor, 2008-2010, University of Pittsburgh, Department of Rehabilitation Science, and Technology. *Effectiveness of Local Cooling on Enhancing Tissue Ischemia Tolerance in People with Spinal Cord Injury*

Becky Faett, Ph.D. Academic and Research Advisor, 2009-2013, University of Pittsburgh, School of Health and Rehabilitation Sciences. *Remote delivery of a standardized educational protocol for self-management of chronic swelling of the lower limbs and individuals with limited mobility*

Andrew J. Malkiewicz, MS Academic and research Advisor, 2010-2011, University of Pittsburgh, Department of Bioengineering, *Development of a wheelchair seat cushion with site-specific temperature control for pressure ulcer prevention*.

Shilpa Krishnan, Ph.D. Academic and Research Advisor, 2010-2014, University of Pittsburgh, School of Health and Rehabilitation Sciences.

Charles Vukotich, Ph.D. (candidate) Academic and Research Advisor, 2010-present, University of Pittsburgh, Department of Bioengineering.

Hassan Sarsak, Ph.D. (candidate) Academic and Research Advisor, 2010-2012, University of Pittsburgh, School of Health and Rehabilitation Sciences.

Prerna Poojary, Ph.D. (candidate) Academic and Research Advisor, 2012-present, University of Pittsburgh, School of Health and Rehabilitation Sciences.

Sara Peterson, Ph.D. (candidate) Academic and Research Advisor, 2012-2013, University of Pittsburgh, School of Health Rehabilitation Sciences.

David Smeresky, Ph.D. (Candidate) Academic and Research Advisor, 2012-present, University of PIttsburgh, School of Health Rehabilitation Sciences.

Esteban Ruiz, Ph.D. (Candidate) Academic and Research Advisor, 2012-present, University of Pittsburgh, School of Health Rehabilitation Sciences.

Presentations and Instructional Courses

1. Brienza DM, Kelsey S, Karg PE, Allegretti, A. Risk factors for developing pressure ulcers in nursing homes: A secondary analysis of data from an RCT on preventing pressure ulcers with seat cushions European Seating Symposium, November 8-10, 2011, Dublin Ireland.
2. Sprigle, S; Brienza, DM; Sonenblum, S. Strategies for Designing Wheeled Mobility and Seating Intervention Studies. 2011 ACRM-ASRM Annual Conference. October 11-15, 2011. Atlanta, GA.
3. Brienza, DM and Allegretti, A. The use of support surfaces in pressure ulcer prevention. Best Pracice journey on the Trail to Skin Health Maintenance and Restoration. October 1, 2011, Pittsburgh, PA.
4. Brienza, DM. Assistive technology research and development: Identifying needs and development trends in the US, Keynote Address. September 1, 2011, Goyang, Korea.
5. Brienza, DM. Caracteristicas de Almohadones. 1° Simposio Internacional de Adecuacion Postural al Sentado, August 18-20, 2011, Buenos Aires, Argentina
6. Brienza, DM. Practica Basada en la Evidencia en Asientos. 1° Simposio Internacional de Adecuacion Postural al Sentado, August 18-20, 2011, Buenos Aires, Argentina
7. Brienza, DM, Symposium for Advanced Wound Care West, September 24-26, 2010. Los Angeles, California
8. Rehabilitation Engineering and Assistive Technology Association of North America, June 26-29, 2010, Las Vegas, Nevada.
9. Posture Mobility Group Meeting, June 6-9, 2010, Glasgow, Scotland.
10. American Telemedicine Association, May 15-18, 2010, San Antonio, Texas.
11. Symposium on Advanced Wound Care, April 17-20, 2010, Orlando, Florida.
12. International Seating Symposium, March 13, 2010, Vancouver, Canada,
13. Walter Reed Medical Center, January 22, 2010.
14. Horton, JA; Henzel, MK; Wood, SL; and Brienza, DM. Pressure Ulcers: Clinical Update, Advances in Care, and Technological Horizons. American Academy of Physical Medicine and Rehabilitation, 70th Annual Assembly, Austin, Tx, Oct. 22-25, 2009.
15. Jan, Y-K; Brienza, DM; Boninger, ML; Brenes, G. "Comparison of Alternating and Constant Pressures on Soft Tissue Viability and Pressure Ulcer Risk in People with SCI" 2009 Congress on Spinal Cord Medicine and Rehabilitation, Dallas, Texas, Sept 23-26, 2009.
16. Brienza, DM; Mi, Q. "Tissue Integrity Management Research and Development at the Rehabilitation Engineering Research Center (RERC) on SCI" 2009 Congress on Spinal Cord Medicine and Rehabilitation, Dallas, Texas, Sept 23-26, 2009.
17. Brienza, "International standardization of medical devices" International Symposium on Medical Industry and Medical Devices Clinical Trial, Yeungam Uninversity, Deagu City, South Korea, April 29, 2009.
18. Brienza, DM, "An RCT on Preventing Pressure Ulcers with Seat Cushions." Feinberg School of Medicine, Northwestern University, April 23, 2009.

19. Brienza, DM, "An RCT on Preventing Pressure Ulcers with Seat Cushions." International Seating Symposium, Orlando Florida, March 12, 2009.
20. Brienza, DM "Soft Tissue Interfaces: Seat Cushions of Maintain Tissue Integrity." Guest Lecture CMU/RI 16-899D Principles of Human Robot Interaction. September 12, 2006.
21. Brienza, DM. Critical question Debate: All pressure ulcers are he result of deep tissue damage. Evidence-based Practice in Wound Care. September 15-16, 2006. Case Western Reserve University, Cleveland Ohio
22. Siekman, Allen and Brienza, DM. The effect of skin temperature on skin ulcer development. Nordic Seating Symposium, (Abstract) Copenhagen, Denmark. October 4-6, 2006.
23. Brienza, DM. Pressure Ulcer Prevention with Cushions and Support Surfaces. Nordic Seating Symposium, (Abstract) Copenhagen, Denmark. October 4-6, 2006.
24. Seelman, K; Brienza, D; Peifer, J; Winters, J; Schiller, W. Telerehabilitation Across RERC Research and Development, RESNA 2006: Thriving in Challenging Times: The Future of Rehabilitation Engineering and Assistive Technology. June 22-26, 2006, Atlanta, Ga.
25. Siekman, A; Brienza, D; Call, E. The Effects of Skin Temperature and Moisture on Pressure Ulcer Development, RESNA 2006: Thriving in Challenging Times: The Future of Rehabilitation Engineering and Assistive Technology. June 22-26, 2006, Atlanta, Ga.
26. Brienza, DM and Kim, JB. Remote Accessibility Assessment of Built Environment for Individuals Who Use Wheeled Mobility Device, Workplace RERC State of the Science Conference, Atlanta, GA September 15-16, 2005
27. Brienza, DM. Telerehabilitation: An overview of the Rehabilitation Engineering Research Center at the University of Pittsburgh, McGowan Institute Seminar Series, March 31, 2005.
28. Brienza, DM "Pressure Ulcer Prevention and Early Detection." University of Pittsburgh, School of Medicine, Dept. of Physical Medicine and Rehabilitation, Rehabilitation Grand Rounds, Nov. 2005.
29. Brienza, DM. Telerehabilitation: Concepts and Distance Wheelchair Functional Assessment. 2nd International Conference on Telemedicine and Multimedia Communication, Kajetany, Poland, October 8 – 9, 2004.
30. Jan YK, Brienza DM, and Geyer MJ. A time-frequency approach using wavelets to study week-to-week variability in blood flow oscillations. Science 2004: No Boundaries, University of Pittsburgh, Pittsburgh, PA, 2004.
31. Jan YK, Brienza DM, and Geyer MJ. A comparison of skin blood flow responses to alternating pressure and constant loading. Department of Physical Medicine and Rehabilitation's Annual Resident Research Day, University of Pittsburgh, Pittsburgh, PA, 2004.
32. Jan YK, Brienza DM, and Geyer MJ. A comparison of changes in rhythms of sacral skin blood flow in response to heating and indentation. McGowan Institute for Regenerative Medicine Scientific Retreat, Farmington, PA, 2004.
33. Brienza, DM. "The RERC on Wheeled Mobility at the University of Pittsburgh," Hong Kong Polytechnic University, Hong Kong, China, December 17, 2002.

34. Geyer, MJ, Chib, V, Brienza, DM and Wang, J. "Quantifying Fibrosis in Chronic Venous Disease via Computed Tomography and Ultrasound Load-Indentation Testing," McGowan Institute for Regenerative Medicine Scientific Retreat, Feb 4-5, 2002.
35. Brienza, DM. "The Development of Rehabilitation Engineering in America," Xi'an Jiaotong University, P.R. China, August 22, 2002.
36. Geyer, MJ, Chib, V, Brienza, DM and Wang, J. "Quantifying Fibrosis in Chronic Venous Disease via Computed Tomography and Ultrasound Load-Indentation Testing," Science 2001: A Research Odyssey, University of Pittsburgh, Sept 12-14, 2001.
37. Brubaker, CE, Chung, K-C and Brienza, DM. "CAD/CAM Custom Seating System," RESNA Training Course, 13th Annual RESNA Conference, Washington, D.C., June 1990.
38. Brubaker, CE, Ferguson-Pell, M, Chung, K-C and Brienza, DM. "Pressure Measurement and Advanced Custom Contoured Seating Technology," RESNA Training Course, 14th Annual RESNA Conference, Kansas City, Missouri, June 1991.
39. Brienza, DM. "Seat Cushion Design Using Force Feedback," 1991 Annual Fall Meeting of the Biomedical Engineering Society, Charlottesville, Virginia, October 1991.
40. Brienza, DM. "Seat Contour Optimization," Physical Therapy Faculty Research Seminar, University of Pittsburgh, September 1992.
41. Brienza, DM. "Seat Contour Optimization," SHRS Faculty Research Seminar, University of Pittsburgh, October 1992.
42. Brienza, DM. "Seat Contour Optimization," SHRS Faculty Research Seminar, University of Pittsburgh, February 1993.
43. Brienza, DM. "Round Table Discussion Leader," 10th International Seating Symposium, Memphis Tennessee, February 1993.
44. Brienza, DM and Trefler, E. "Developments in Contoured Seating Technology," Workshop, 10th International Seating Symposium, Vancouver, BC, Canada, February 1994.
45. Brienza, DM. "Assisted Control and Navigation of a Powered Wheelchair," 12th Triennial Congress of the International Ergonomics Association, Symposium of Rehabilitation Ergonomics, Toronto, Canada, August 15-19, 1994.
46. Brienza, DM. "Custom Contoured Seating," SHRS Dept. of Occupational Therapy, University of Pittsburgh, November 1994.
47. Brienza, DM. "Soft Tissue Biomechanics for Seating," Bioengineering Seminar, University of Pittsburgh, January 1995.
48. Brienza, DM. "Session Chair for Seating and Positioning Technology," RESNA Annual Conference, June 1995.
49. Brienza, DM, Schuch, J and Sprigle, S. "Wheelchair Seating and Positioning: Improving your services from assessment through follow up," Continuing Education Workshop, University of Virginia, September 22-23, 1995.
50. Brienza, DM. "Past, Present and Future of Wheelchair Seating," University of Virginia, September 1995.

51. Brienza, DM. "Wheelchair Seating for Pressure Ulcer Prevention," SHRS Dept. of Rehabilitation Science and Technology, University of Pittsburgh, September 1995.
52. Brienza, DM. "The Internet: What the Future Holds for People with Disability," Pittsburgh Assistive Technology Association, Annual Fall Meeting, Pittsburgh, PA, October 1995.
53. Brienza, DM. "Custom Contoured Seating," SHRS Dept. of Occupational Therapy, University of Pittsburgh, November 1995.
54. Brienza, DM. "Soft Tissue Biomechanics," Dept. of Mechanical Engineering, Carnegie Mellon University, March 1996.
55. Brienza, DM. Session Chair for Wheeled Mobility and Seating, RESNA Annual Conference, June 1996.
56. Brienza, DM and Karg, PE. "Past, Present and Future of Seating and Mobility Research and Development," University of Virginia, Charlottesville, Virginia, Oct. 11-12, 1996.
57. Brienza, DM, Shapcott, N and Schmeler, M. "Wheelchair Seating: Cushion Selection," The 1996 Mid-Atlantic Regional RESNA Conference: Connections for Life, Philadelphia, PA, November 8-9, 1996.
58. Brienza, DM. "Pressure Ulcer Risk Factors," Assistive Technology Training Program for Rehabilitation Technology Suppliers, Pittsburgh, PA, March 13-14, 1997.
59. Brienza, DM. "Electrical Fundamentals," Assistive Technology Training Program for Rehabilitation Technology Suppliers, Pittsburgh, PA, March 13-14, 1997.
60. Brienza, DM. "Ultrasound Measurements of Tissue Distortion," Dundee '97 an International Conference on Wheelchairs and Seating, Dundee, Scotland, September 8-12, 1997.
61. Brienza, DM. "CAD/CAM Custom Contoured Cushions," Dundee '97 an International Conference on Wheelchairs and Seating, Dundee, Scotland, September 8-12, 1997.
62. Brienza, DM. "Pressure Measurement and Practice: Session Chair," Dundee '97 an International Conference on Wheelchairs and Seating, Dundee, Scotland, September 8-12, 1997.

Research

Current Grant Support

Grant Number	Grant/Contract Title	Role (effort)	Years	Total Funding
R01HD04109 (6-10)	RCT on Wheeled Mobility for Preventing Pressure Ulcers	PI (20%)	2010-2015	$2.6M
H133E090002 (NIDRR)	Rehabilitation Engineering and Research Center on Telerehabilitation	Director (35%)	2009-2015	$4.75M
Coulter Foundation	Pressure Redistribution Mattress with Targeted Cooling (PRO-TECT)	PI	2014-15	$119k

* - Currently in no-cost extension status

Prior Grant and Contract Support

Grant/Contract Number	Grant/Contract Title	Role	Years	Source Amount
Pindot Products	Computer Interface for Pindot MSS: A Feasibility Study	PI	1992-1993	$6500
R01HD30161	Seat Design for Optimal Load Transfer to Soft Tissues	PI	1992-1995	$315k
#1218 (PVA-SCRF)	Design and Development of a Wheelchair for Enhanced Access	Co-I	1993-1995	$100k
Pindot Products	Development of a Prototype Digitizer for the KISS Simulator	PI	1993	$7000
H133E0005	Rehabilitation Engineering and Research Center on Technology to Improve Wheeled Mobility	Co-I, Task Leader	1993-1998	$3.5M
R43 HD30625	A Reusable Mold for Custom Contoured Seat Cushions	Co-I	1993-1994	$50k

SW.S11514R-1 (Ben Franklin Technology Center of Western Pennsylvania)	An Innovative Wheelchair Cushion Contour Generator	Co-I	1994-1995	$35k
#1503 (PVA-SCRF)	An Ultrasound Device for Distortion Measurement and Biomechanical Analysis of in vivo Load Bearing Soft Tissue	PI	1995-1998	$150k
SHRS Faculty Dev. Award	A Review of Current Research in Load-Bearing Tissue and Support-Surface Interface Research.	PI	1995-1998	$5k
R43HD34603	A Reusable Mold for Custom Contoured Seat Cushions	Co-I	1996	$88k
Sentron Medical Inc.	Evaluation of BodyMap Seat Cushion	PI	1996-1998	$13k
Otto Bock, Inc	Evaluation of Otto Bock Cloud, Advantage and Z-flo Seat Cushions	PI	1996-1998	$20k
H133G70076 (NIDRR)	A pilot study for the clinical evaluation of pressure relieving seat cushions for elderly, stroke patients	PI	1997-1999	$250k
Microsoft Corp.	Development of Compensatory Software for People with Neck Range of Motion Limitations	Co-I	1999-2000	$10k
VA Center for Excellence for Wheelchairs and Related Technology	Dermal blood flow response to static and repetitive loading in subjects with spinal cord injury; Modeling the Physical Environment; Skin Blood Flow Response to Alternating Pressure	PI (on research project)	2000-2003	$150k (est.)
H133E990001 (NIDRR)	Rehabilitation Engineering and Research Center on Technology to Improve Wheeled Mobility	PI	1999-2005	$4.65M

AireRx Inc.	Evaluation and Testing of the Cooling Capacity of Wheelchair Seat Cushions for Pressure Ulcer Prevention	PI (0%)	2006-2007	$36k
H133G040222 (NIDRR)	A Study of Biophysical and Microvasclular Function in Individuals with SCI	PI (10%)	2004-2007	$450k
H133EF060025 (NIDRR)	Post-doctoral Fellowship, Yih-Kuen Jan: Skin blood flow oscillations and pressure ulcer risk in older adults with disabilities	Primary Mentor (10%)	2007-2008	$65k
PVA research grant	Remodeling ANS and Endothelium with Exercise for Preventing Pressure Ulcers	Co-I (13%)	2007-2008	$75k
R01HD04109 (1-5)	RCT on Prevention of Pressure ulcers with Seat Cushions	PI (20%)	2003-2008	$2.1M
H133E040012 (NIDRR)	Rehabilitation Engineering and Research Center on Telerehabilitation	Director (35%)	2004-2010	$4.25M
H133E07	RERC on Workplace Accommodations Research Task:	Task leader (2%)	2007-2011	$30k
Hill-Rom Inc.	Relative effects of pressure temperature and shear	PI (2%)	2010 2012	$36k $21k
H133E070024 (NIDRR)	Rehabilitation Engineering and Research Center on Spinal Cord Injury	Director (35%)	2007-2013	$4.75M
Turncare		PI	2014	$6k
Roho		PI	2014-15	$35k

Patents

C.E. Brubaker, C.A. McLaurin and D.M. Brienza, Custom Contoured Wheelchair Seat and Other Body Supports, Serial No. 320,959. Application filed March 9, 1989.

C. E. Brubaker, D.M. Brienza and M.J. Brienza, Reusable Die Shape for the Manufacture of Molded Cushions, Patent No. 5,470,590. Filed January 31, 1994.

D.M. Brienza and C.E. Brubaker, Steering linkage for short wheelbase four-wheeled vehicles, Patent No. 5,862,874 Filed June 19, 1997.

M. J. Brienza and D. M. Brienza, A Contour Replicating and Measuring Device, Patent No. 6,125,338. Filed April 22, 1998.

C.E. Brubaker and D. M. Brienza, Self-adjusting contouring cushioning system, Patent No. 6,519,797. Filed August 10, 2000

Sanna Gaspard Mel Siegel Todd M. Presbycien James F. Antaki David M. Brienza Mark B. Friedman, Medical device for diagnosing pressure ulcers, Patent Application No. 20090234206 Filed 2009.

D.M. Brienza, Patricia E. Karg, Andrew Malkiewicz. Actively and selectively cooled cushioning surface Application number US 2014/0228918A1

Peer Review and Editing Activities

1992-present	RESNA SIG-09 (Wheeled Mobility and Seating), Reviewer of conference proceedings articles and instructional courses,
1995-1997	RESNA SIG-09 Review coordinator for papers, special sessions and instructional courses
1993, 2002	NSF Biomechanical Systems and Rehabilitation, Grant Reviewer
1993-1995	NIH SBIR/STTR Special Study Section Rehabilitation, Grant Reviewer
1994	NIH SBIR/STTR Special Study Section Safety, Grant Reviewer
1995-1999	IEEE Transactions on Rehabilitation Engineering, Assistant Editor
1996-present	American Paraplegia Society, Grant Reviewer
1997-present	Spinal Cord Research Foundation of Paralyzed Veterans of America, Grant Reviewer
1997-present	Department of Veterans Affairs, Journal of Rehabilitation Research and Development, Reviewer
1998-present	Advances in Skin and Wound Care, Reviewer, Editorial Board (2000-present)
1999-present	Archives of Physical Medicine, Reviewer.
2007-present	Journal of Clinical Biomechanics
2007-present	Journal of Biomechanics

List of Current Research Interests:

Pressure ulcer prevention
Assistive Technology – Wheeled Mobility, Seat Cushions, Support Surfaces
Telerehabilitation
Spinal Cord Injury
Exercise Technology

Service

Service to the University of Pittsburgh and Health Center

- CTSI Advisory Board (2012-present)
- Coulter Oversight Committee (2012-present)
- University Senate Athletics Committee (2007-2010, 2010-13) (elected)
- University Research Council (2000-2004)
- Technology Management Advisory Committee (2002-present)
- Health Science Information Technology Faculty Advisory Committee (2002-2004)
- Central Research Development Fund Small Grants Program, Science and Engineering sub- committee – Chair (2000, 2002)
- Academic Computing Council - Internet2 Pitt Faculty representative (2000)
- Steering Committee for Health Promotion and Wellness (1999)
- Health Sciences Space Committee SHRS rep. (2004-present)
- University Public and Facilities Subcommittee of University Safety Committee (1995-1998)

Service to the School of Health and Rehabilitation Sciences

- SHRS Ph.D. Steering Committee
- SHRS Space Utilization Committee - Chair (2000-present)
- SHRS Faculty Retreat 2000 Co-Chair
- Appointment, Promotion, and Tenure (2004-2006, Elected Member) (1996, appointed)
- SHRS Graduate Faculty Committee
- SHRS Planning and Budgeting Committee (elected)
- SHRS Ph.D. Admissions Committee
- SHRS World Wide Web Planning Committee (Chair)
- SHRS Space and Facilities Planning Committee
- SHRS Marketing Task Force Committee
- SHRS Aids Education Task Force Committee
- SHRS IRB Scientific Review Committee
- SHRS Planning and Budgeting Committee (elected)

Service to the Department of Rehabilitation Science and Technology

- RST Curriculum Committee – Chair (1999-2006)
- RST Executive Committee
- RST Recruitment Committee

- RST Curriculum Committee
- RST New Building Committee
- RST computing and network resources administration