

Alessandro Bellofiore, Ph.D.

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EDUCATION

M.S. *cum laude* in Chemical Engineering, Università Federico II, Napoli, Italy 2003
Ph.D. in Chemical Engineering, Università Federico II, Napoli, Italy 2006

APPOINTMENTS

Assistant Professor, San Jose State University, San Jose, CA 2014 - present
Research Associate, University of Wisconsin-Madison, Madison, WI 2011 - 2014
Postdoctoral Researcher, National University of Ireland, Galway, Ireland 2008 - 2011
Postdoctoral Researcher, Università Federico II, Napoli, Italy 2006 - 2008

AWARDS AND HONORS

Honored Instructor Award 2013
University of Wisconsin-Madison Students
Paul Eisenklam Award 2006
European Section of the Institute for Liquid Atomization and Spray Systems
Combustion Institute Travel Award 2006
International Section of the Combustion Institute

FUNDING

External Grants and Contracts

A novel AI-powered Point-of-Care device to monitor chronic kidney disease (*in preparation*) 2019
Funding source: **NIH**
Role: **Co-Principal Investigator**

MRI: Acquisition of a Multi-Camera High-speed Imaging System for Volumetric Velocimetry and Visualization Applications (*in preparation*) 2019
Funding source: **National Science Foundation**
Role: **Co-Principal Investigator**

SC1: Hemodynamic performance and hemocompatibility testing platform to develop anticoagulant-free mechanical heart valves (*under review*) 2019
Funding source: **NIH (SCORE)**
Role: **Principal Investigator**

MRI: Acquisition of a High-Speed Particle Image Velocimetry Instrument 2017
Funding source: **National Science Foundation**
Role: **Principal Investigator**

Proposal to Test Device Performance for Wavelet Health 2017
Funding source: **Wavelet Health**
Role: **Co-Investigator**

Internal Grants

<i>SJSU Central RSCA Grant Program</i>	2019
SJSU Division of Academic Affairs	
<i>SJSU Central RSCA Grant Program</i>	2018
SJSU Division of Academic Affairs	
<i>CSUPERB Faculty Travel Grant Program</i>	2018
CSU Program for Education and Research in Biotechnology	
<i>Teaching with Affordable Materials (TEAM) Grant</i>	2017
SJSU Center for Faculty Development	
<i>Diversity Speakers Series Grant</i>	2015
SJSU Center for Faculty Development	
<i>RSCA Spring 2015 Award</i>	2015
SJSU Division of Academic Affairs	
<i>Center of Excellence for Smart Sensing and Big Computing</i>	2015
SJSU College of Engineering	
<i>Center of Excellence for Service Systems Engineering and Innovation</i>	2015
SJSU College of Engineering	

TEACHING ACTIVITIES

Courses taught

BME/MatE 175, Biomaterials	2014–2016
ME/BME 167, Introduction to Engineering Biomechanics	2015–2016
BME 258, Medical Imaging for Engineers	2015
BME 115, Foundations of Biomedical Engineering	2016–2018
BME 117, Biotransport Phenomena	2016–2019
BME 147, Quantitative and Statistical Methods for BME	2019

SERVICE ACTIVITIES

NSF CBET MRI Program, <i>review panel member</i>	2018
SJSU Paseo Public Prototyping Challenge, <i>advisor</i>	2017
Biomedical Engineer Society (BMES), <i>member</i>	<i>since</i> 2013
American Society of Mechanical Engineers, <i>member</i>	2012
Bioengineering in Ireland conference, <i>member of the Organizing Committee</i>	2011
SJSU Biomedical Engineering MS program, <i>graduate coordinator and advisor</i>	<i>since</i> 2019
SJSU–BMES Student Chapter, <i>faculty advisor</i>	<i>since</i> 2016
SJSU Biomedical Engineering BS program, <i>undergraduate advisor</i>	<i>since</i> 2015

Peer reviews

Cardiovascular Engineering and Technology, <i>peer-reviewer</i>	<i>since</i> 2018
Experiments in Fluids, <i>peer-reviewer</i>	<i>since</i> 2018
Atomization and Sprays, <i>peer-reviewer</i>	<i>since</i> 2014
Annals of Biomedical Engineering, <i>peer-reviewer</i>	<i>since</i> 2013
Journal of Biomechanical Engineering, <i>peer-reviewer</i>	<i>since</i> 2013
Journal of the Royal Society Interface, <i>peer-reviewer</i>	<i>since</i> 2013

Committee Service

SJSU College of Engineering Graduate Studies Committee, <i>member</i>	<i>since</i> 2019
Program Planning Report, Biomedical Engineering MS program, <i>writer</i>	2019
SJSU Strategic Planning Task Force, <i>member</i>	<i>since</i> 2018
SJSU ABET Self-Study Report, Biomedical Engineering BS program, <i>writer</i>	2017
WASC Annual Assessment Report, Biomedical Engineering BS & MS program, <i>writer</i>	<i>since</i> 2016
SJSU College of Engineering Assessment Committee, <i>member</i>	<i>since</i> 2015
SJSU College of Engineering Building Space Committee, <i>member</i>	2014

PEER-REVIEWED PUBLICATIONS

In preparation

- Bellofiore A.**, Goss K.N., Mulchrone A., Chesler N.C. (2020), Depressed RV-PA coupling in young adults born preterm: is the LV to blame? *Am J Respir Crit Care Med*, provisionally accepted.
- Cheng T-C., Philip J.L., Tabima D.M., Kumari S., Yakubov B., Frump A.L., Hacker T.A., **Bellofiore A.**, Sun X., Goss K.N., Lahm T., Chesler N.C. (2020), ER α Prevents Right Ventricular Diastolic Dysfunction and Fibrosis in Female Rats, *J Endocrinol*, submitted.

Published

- Mulchrone A., **Bellofiore A.**, Douwes J.M., Duong N., Beshish A.G., Barton G.P., Francois C.J., Eldridge M.W., Goss K.N., Chesler N.C. (2019), Impaired Right Ventricular-Vascular Coupling in Young Adults Born Preterm, *Am J Respir Crit Care Med*, doi: 10.1164/rccm.201904-0767LE.
- Bellofiore A.**, Vanderpool R., Brewis M.J., Peacock A.J., Chesler N.C. (2018), A novel single-beat approach to assess right ventricular systolic function, *J Appl Physiol* 124: pp. 283–290.
- Blyth K.G., **Bellofiore A.**, Jayasekera *et al.* (2017) Dobutamine Stress MRI in Pulmonary Hypertension: Relationships between Stress Pulmonary Artery Relative Area Change, RV performance and 10-year Survival, *Pulm Circ*, 7(2): pp. 465-475.
- Bellofiore A.**, Dinges E., Naeije R. *et al.* (2017) Reduced hemodynamic coupling and exercise are associated with vascular stiffening in pulmonary arterial hypertension, *Heart*, 103(6): pp. 421-427.

- Brewis M.J., **Bellofiore A.**, Vanderpool R.R. *et al.* (2016) Imaging right ventricular function to predict outcome in pulmonary arterial hypertension, *Int J Cardiol*, 218, pp. 206–211.
- Klusak E., **Bellofiore A.**, Loughnane S., Quinlan N.J. (2015) High-Resolution Measurements of Velocity and Shear Stress in Leakage Jets From Bileaflet Mechanical Heart Valve Hinge Models, *J Biomech Eng*, 137(11), 111008.
- Bellofiore A.**, *et al.* (2015) A Novel In Vivo Approach to Assess Radial and Axial Distensibility of Large and Intermediate Pulmonary Artery Branches. *J Biomech Eng*, 137(4), 044501.
- Soydan L.C., Kelliham H.B., Bates M.L., Stepien R.L., Consigny D.W., **Bellofiore A.**, *et al.* (2015) Accuracy of Doppler echocardiographic estimates of pulmonary artery pressures in a canine model of pulmonary hypertension, *J Vet Cardiol*, 17(1), pp. 13-24.
- Bellofiore A.** *et al.* (2015) What does the RC time constant tell us about the progression of right ventricular dysfunction in pulmonary arterial hypertension?, *Pulm Circ*, 5(2), pp. 291–295.
- Tian L., Kelliham H.B., Henningsen J., **Bellofiore A.**, *et al.* (2014) Pulmonary artery relative area change is inversely related to ex vivo measured arterial elastic modulus in the canine model of acute pulmonary embolization, *J Biomech*, 47(12), pp. 2904-10.
- Bellofiore A.**, Chesler N.C. (2013) Methods for measuring right ventricular function and hemodynamic coupling with the pulmonary vasculature, *Ann Biomed Eng*, 41(7), pp. 1384-98.
- Bellofiore A.**, *et al.* (2013) Impact of Acute Pulmonary Embolization on Arterial Stiffening and Right Ventricular Function in Dogs, *Ann Biomed Eng*, 41(1), pp. 195-204.
- Bellofiore A.**, Quinlan N.J. (2011) High-Resolution Measurement of the Unsteady Velocity Field to Evaluate Blood Damage Induced by a Mechanical Heart Valve, *Ann Biomed Eng*, 39(9), pp. 2417-2429.
- Bellofiore A.**, *et al.* (2011) Scale-up of an Unsteady Flow-field for Enhanced Spatial and Temporal Resolution of PIV Measurements: Application to Leaflet Wake Flow in a Mechanical Heart Valve, *Exp. Fluids*, 51(1), pp.161-176.
- Bellofiore A.**, *et al.* (2010) Placement and acceleration of liquid jets in pressurized cross-flows, *Atomization Spray*, 20(9), pp. 775-789.
- Ragucci R., **Bellofiore A.**, Cavaliere A. (2007) Trajectory and Momentum Coherence Breakdown of a Liquid Jet in High-Density Air Crossflow, *Atomization Spray*, 17(1), pp. 47-70.
- Ragucci R., **Bellofiore A.**, Cavaliere A. (2007) Breakup and Breakdown of Bent Kerosene Jets in Gas Turbine Conditions, *Proceedings of the Combustion Institute*, 31, pp. 2231-2238.
- Bellofiore A.**, *et al.* (2007) Air Density Effect on the Atomization of Liquid Jets in Crossflow, *Combust Sci Technol*, 179(1-2), pp. 319-342.
- Ragucci R., **Bellofiore A.**, Cavaliere A. (2004) Polarity Inversion in Electrohydrodynamic Spraying, *Combust Sci Technol*, 176(5-6), pp. 889-905.

CONFERENCES - PODIUM PRESENTATIONS

- Ragucci R., **Bellofiore A.**, Cavaliere A.: Electrohydrodynamic Atomization of n-Heptane in a Needle-to-Plate System, 9th Int. Conference on Liquid Atomization and Spray Systems (ICLASS-2003), Sorrento, Italy, July 13-18, 2003.
- Ragucci R., **Bellofiore A.**, Carulli G., Cavaliere A.: Momentum Coherence Breakdown of Bending Atomizing Liquid Jet, 9th Int. Conference on Liquid Atomization and Spray Systems (ICLASS-2003), Sorrento, Italy, July 13-18, 2003.

- Ragucci R., **Bellofiore A.**, Cavaliere A.: Electrically Assisted Sprays for Combustion Purposes, Joint Meeting of the Scandinavian-Nordic and Italian Sections of the Combustion Institute, Ischia, Italy, September 18-21, 2003.
- Ragucci R., **Bellofiore A.**, Carulli G., Cavaliere A.: Sequential Enlargement Combination of Separated Effect Contributions for the Analysis of Liquid Jet Atomization in Cross-flow Conditions, Joint Meeting of the Scandinavian-Nordic and Italian Sections of the Combustion Institute, Ischia, Italy, September 18-21, 2003.
- Bellofiore A.**, Cavaliere A., Della Valle V., Ragucci R.: Dependence of Liquid Properties on Jet Behavior in a Pressurized Air Crossflow, Joint Meeting of the Italian and Greek Sections of the Combustion Institute, Corfu, Greece, June 17-19, 2004.
- Bellofiore A.**, Cavaliere A., Ragucci R.: Atomization and Bending of Coherent Jets in Crossflow, Joint Meeting of the Italian and Greek Sections of the Combustion Institute, Corfu, Greece, June 17-19, 2004.
- Ragucci R., **Bellofiore A.**, Cavaliere A.: Statistical Evaluation of Dynamics and Coherence Breakdown of Kerosene and Water Jets in Crossflow, 19th ILASS-Europe Conference, Nottingham, UK, September 6-8, 2004.
- Bellofiore A.**, Cavaliere A., Ragucci R.: Kerosene Jets in High-Pressure Air Crossflow, GRICU Conference, Ischia, Italy, September 12-15, 2004.
- Bellofiore A.**, Cavaliere A., Di Martino P., Ragucci R.: Atomization and Bending of Coherent Deformed Jets in Crossflow, European Combustion Meeting (ECM2005), Louvain-la-Neuve, Belgium, April 3-6, 2005.
- Bellofiore A.**, Ragucci R., Cavaliere A.: Pressure Dependence of Liquid Jet Bending in Crossflow, 28th Meeting of the Italian Section of the Combustion Institute, Naples, Italy, July 4-6, 2005.
- Bellofiore A.**, Di Martino P., Cavaliere A., Ragucci R.: Atomization and Bending of Coherent Deformed Jets in Crossflow, 28th Meeting of the Italian Section of the Combustion Institute, Naples, Italy, July 4-6, 2005.
- Bellofiore A.**, Di Martino P., Ragucci R., Cavaliere A.: Experimental and Numerical Investigation on a Liquid Jet Injected in a High Pressure Channel, 20th ILASS-Europe Conference, Orleans, France, September 5-7, 2005.
- Ragucci R., **Bellofiore A.**, Cavaliere A.: Air Density Effect of the Atomization of Liquid Jets in Crossflow, 4th Mediterranean Combustion Symposium (MCS4), Lisbon, Portugal, October 6-10, 2005.
- Di Martino P., **Bellofiore A.**, Ragucci R.: Modeling the Injection of Liquids in Crossflowing Airstreams, 29th Meeting of the Italian Section of the Combustion Institute, Pisa, Italy, July 14-17, 2006.
- Mancuso F., **Bellofiore A.**, Ragucci R., Di Martino P., Cavaliere A.: Morphology and Fluctuations of a Liquid Jet in High-Density Air Crossflow, 29th Meeting of the Italian Section of the Combustion Institute, Pisa, Italy, July 14-17, 2006.
- Ragucci R., **Bellofiore A.**, Cavaliere A.: Breakup and Breakdown of Bent Kerosene Jets in Gas Turbine Conditions, 31st Int. Symposium on Combustion, Heidelberg, Germany, August 6-11, 2006.
- Ragucci R., **Bellofiore A.**, Di Martino P., Cavaliere A.: Modeling the Injection of Liquids in Crossflowing Airstreams, 10th Int. Conference on Liquid Atomization and Spray Systems (ICLASS-2006), Kyoto, Japan, August 27 – September 1, 2006.

- Bellofiore A.**, Ragucci R., Di Martino P., Cavaliere A.: Morphology and Fluctuations of a Liquid Jet in High-Density Air Crossflow, 10th Int. Conference on Liquid Atomization and Spray Systems (ICLASS-2006), Kyoto, Japan, August 27 – September 1, 2006.
- Bellofiore A.**, Ragucci R., Cavaliere A.; Statistical Evaluation of Spray Placement and Dispersion in Gas Turbine Premixer Swept by Air Crossflow, European Meeting on Combustion (ECM-2007), Chania, Greece, April 11 - 13, 2007.
- Bellofiore A.**, Ragucci R., Di Martino P., Cavaliere A.: Tailored Binarization of Spray Shadowgrams for Morphology Investigation, 30th Meeting of the Italian Section of the Combustion Institute, Ischia, Italy, June 20 - 22, 2007.
- Bellofiore A.**, *et al.*, Image Statistical Analysis Procedures for Spray Morphology Investigation, 21th ILASS-Europe Conference, Mugla, Turkey, September 10-12, 2007.
- Bellofiore A.**, *et al.*, PIV Characterization of Sprays Generated by Crossflow Injection in High-Density Airflow, ILASS-Europe Conference, Como Lake, Italy, September 8-10, 2008.
- Bellofiore A.**, *et al.*, Improved Modeling of Liquid Jets in Crossflow, ILASS-Europe Conference, Como Lake, Italy, September 8-10, 2008.
- Bellofiore A.**, Donohue E.M., Quinlan N.J., PIV Investigation of the Transient Flow Field in a Scaled-up Mechanical Heart Valve, Bioengineering '08 Conference, London, UK, September 18-19, 2008.
- Bellofiore A.**, Donohue E.M., Quinlan N.J., Scale-up of Bileaflet Mechanical Heart Valve for Enhanced Resolution of the Unsteady Flow Field, Bioengineering in Ireland (BINI) 15th Conference, Limerick, Ireland, January 30-31, 2009.
- Bellofiore A.**, Quinlan N.J., Measurement of Cardiovascular Device Flow at Scales Approaching Cell Size, Bioengineering '09 Conference, Oxford, UK, September 24-25, 2009.
- Bellofiore A.**, Quinlan N.J., Microscale flow structures measured downstream of a mechanical heart valve, Bioengineering in Ireland (BINI) 16th Conference, Malahide, Ireland, January 22-23, 2010.
- Bellofiore A.**, Quinlan N.J., Microscale Flow Patterns Measured downstream of a Mechanical Heart Valve, 17th Congress of the European Society of Biomechanics, Edinburgh, UK, July 5-8, 2010.
- Bellofiore A.**, Quinlan N.J. Blood Damage induced by Cardiovascular Devices: High-Resolution Measurements in a Scaled-up Model Valve. In: Proceedings of the ASME Summer Bioengineering Conference (SBC 2010), Naples, FL, June 16-19, 2010.
- Bellofiore A.**, Quinlan N.J., Lagrangian Tracking of High-Resolution Velocity Data Measured in Cardiovascular Devices, Bioengineering in Ireland (BINI) 17th Conference, Galway, Ireland, January 28-29, 2011.
- Bellofiore A.**, *et al.*, Right Ventricular Response to Pulmonary Arterial Stiffening in a Canine Model of Acute Embolization. In: Proceedings of the ASME Summer Bioengineering Conference (SBC 2012), Fajardo, Puerto Rico, June 20-23, 2012.
- Bellofiore A.**, *et al.*, Can the Single-Beat Method be Used to Assess Right Ventricular Contractility in Different Species? In: Proceedings of the Annual Meeting of the Biomedical Engineer Society (BMES 2013), Seattle, WA, September 25-28, 2013.
- Bellofiore A.**, *et al.*, Elevated pulmonary vascular resistance may impact exercise capacity via pulmonary artery stiffening and impaired right ventricular performance, Proceedings of the 7th World Congress of Biomechanics, Boston, MA, July 6-11, 2014.

Bellofiore A., *et al.*, A Novel Approach to Calculating Isovolumic Pressure for Single-Beat Estimation of Right Ventricular End-Systolic Elastance, Proceedings of the Summer Biomechanics, Bioengineering and Biotransport Conference (SB3C2015), Snowbird Resort, Utah, USA, June 17-20, 2015.

Bellofiore A., *et al.*, A Novel Single-Beat Approach to Assess Right Ventricular Systolic Function in Pulmonary Hypertension, 2016 Annual Meeting of the Biomedical Engineering Society (BMES), Minneapolis, MN, October 5-8, 2016.

Elsayed R., **Bellofiore A.**, A novel image-based creatinine monitor for kidney function disease, Proceedings of the 8th World Congress of Biomechanics, Dublin, Ireland, July 8-12, 2018.