

List of Publications

1 Journal articles

- [J1] Beber L., Lamon E., **Moretti G.**, Saveriano M., Fambri L., Palopoli L., Fontanelli D. (2025). *Force-Based Viscosity and Elasticity Measurements for Material Biomechanical Characterisation with a Collaborative Robotic Arm*. IEEE Transactions on Instrumentation and Measurement.
- [J2] Touati Z., **Moretti G.**, Khedher A., Zaccarian L. (2025). *Control and maximum power extraction of a switched reluctance generator with low resolution pulse-based position estimation*. Journal of the Franklin Institute, 107757.
- [J3] Addario S., Gratz-Kelly S., Naso D., Rizzello G., **Moretti G.** (2024). *An experimental parametric analysis of the acoustic response in dielectric elastomer loudspeakers*. Journal of Vibration and Control. 10775463241273022.
- [J4] Vignotto D., Cherubini A., Sirbu I. D., Fontana M., **Moretti G.** (2024). *An investigation of the electrical dynamics in electroactive polymer transducers with resistive electrodes*. Smart Materials and Structures, 33(9), 095022.
- [J5] Gratz-Kelly S., Krüger T. F., Seelecke S., Rizzello G., **Moretti G.** (2024). *A tri-modal dielectric elastomer actuator integrating linear actuation, sound generation, and self-sensing capabilities*. Sensors and Actuators A: Physical, 372, 115332.
- [J6] Sirbu I. D., Preninger D., Danninger D., Penker L., Schwödiauer R., **Moretti G.**, Arnold N., Fontana M., Kaltenbrunner M. (2023) *Electrostatic actuators with constant force at low power loss using matched dielectrics*. Nature Electronics. 6(11).
- [J7] Hoffmann M. K., Heib, L., **Moretti G.**, Rizzello G., Flaßkamp K. (2023). *Optimal operation of dielectric elastomer wave energy converters under harmonic and stochastic excitation*. GAMM-Mitteilungen, 46(2).
- [J8] Gratz-Kelly S., Krüger T. F., Rizzello G., Seelecke S., **Moretti G.**, (2023). *An audio-tactile interface based on dielectric elastomer actuators*. Smart Materials and Structures 32(3).
- [J9] Gratz-Kelly S., Rizzello G., Fontana M., Seelecke S., **Moretti G.** (2022). *A Multi-Mode, Multi-Frequency Dielectric Elastomer Actuator*. Advanced Functional Materials, 32(34).
- [J10] Croce S., Neu J., **Moretti G.**, Hubertus J., Schultes G., Rizzello G. (2022). *Finite element modeling and validation of a soft array of spatially coupled dielectric elastomer transducers*. Smart Materials and Structures, 31(8).
- [J11] **Moretti G.**, Rizzello G., Fontana M., Seelecke S. (2022). *High-frequency voltage-driven vibrations in dielectric elastomer membranes*. Mechanical Systems and Signal Processing, 168, 108677.
- [J12] Prechtl J., Kunze J., **Moretti G.**, Bruch D., Seelecke S., Rizzello G. (2021). *Modeling and experimental validation of thin, tightly rolled dielectric elastomer actuators*. Smart Materials and Structures, 31(1), 015008.
- [J13] Righi M., **Moretti G.**, Forehand D., Agostini L., Vertechy R., Fontana M. (2021). *A broadbanded pressure differential wave energy converter based on dielectric elastomer generators*. Nonlinear Dynamics, 105, 2681-2876.
- [J14] Sirbu I. D., **Moretti G.**, Bortolotti G., Bolignari M., Diré S., Fambri L., Vertechy R., Fontana M. (2021) *Electrostatic bellow muscle actuators and energy harvesters that stack up*. Science Robotics, 6(51)
- [J15] **Moretti G.**, Scialò A., Malara G., Muscolo G. G., Arena F., Vertechy R., Fontana M. (2021) *Hardware-in-the-loop Simulation of Wave Energy Converters based on Dielectric Elastomer Generators*. Meccanica.

- [J16] **Moretti G.**, Zaccarian L., Blanchini F. (2021) *Quadratic constrained periodic optimisation for bandlimited linear systems via the Fourier-based method*. ASME Journal of Dynamic Systems, Measurement and Control, 143(6): 061005.
- [J17] **Moretti G.**, Rosset S., Vertechy R., Anderson I., Fontana M. (2020), *A Review of Dielectric Elastomer Generator Systems*. Advanced Intelligent Systems, 2(10).
- [J18] **Moretti G.**, Sarina L., Agostini L., Vertechy R., Berselli G., Fontana M. (2020) *Styrenic-Rubber Dielectric Elastomer Actuator with Inherent Stiffness Compensation*. Actuators, MDPI 9(2).
- [J19] Milazzo M., **Moretti G.**, Burchianti A., Mazzini D., Oddo C. M., Stefanini C., Fontana M. (2020), *A Passively Regulated Full-Toroidal Continuously Variable Transmission*. Meccanica 55(1).
- [J20] **Moretti G.**, Santos-Herran M., Forehand D., Alves M., Jeffrey H., Vertechy R., Fontana M. (2020) *Advances in the development of dielectric elastomer generators for wave energy conversion*. Renewable and Sustainable Energy Reviews, 117, 109430.
- [J21] **Moretti G.**, Malara G., Scialò A., Daniele L., Fiamma V., Romolo A., Vertechy, R., Fontana, M., Arena, F. (2020). *Modelling and field testing of a U-OWC wave energy converter with dielectric elastomer generator*. Renewable Energy, 146, 628-642.
- [J22] Chen Y., Agostini L., **Moretti G.**, Fontana M., Vertechy R. (2019). *Dielectric Elastomer Materials for Actuation and Energy Harvesting: a Comparison Between Styrenic Rubber, Natural Rubber and Acrylic Elastomer*. Smart Materials and Structures, 28(11).
- [J23] **Moretti G.**, Rosati Papini G. P., Daniele L., Forehand, D., Ingram D., Vertechy R., Fontana M. (2019). *Modelling and Testing of a Wave Energy Converter based on Dielectric Elastomer Generators*. Proceedings of the Royal Society A, 475(2222).
- [J24] Muscolo, G.G., **Moretti G.**, Cannata, G. (2018) *SUAS: A Novel Soft Underwater Artificial Skin with Capacitive Transducers and Hyperelastic Membrane*, Robotica, Cambridge Core, 37(4), 756-777.
- [J25] **Moretti G.**, Rosati Papini G.P., Righi M. , Forehand D. , Ingram D., Vertechy R. , Fontana M. (2018) *Resonant wave energy harvester based on dielectric elastomer generator*, Smart Materials and Structures, 27(3), 035015.
- [J26] Rosati Papini G.P. , **Moretti G.**, Vertechy R. , Fontana M. (2018) *Control of an oscillating water column wave energy converter based on dielectric elastomer generator*, Nonlinear Dynamics, 92(2), 181-202.
- [J27] **Moretti G.**, Righi M., Vertechy R., Fontana M. (2017) *Fabrication and test of an inflated circular diaphragm dielectric elastomer generator based on PDMS rubber composite*, Polymers, 9(7), 283.
- [J28] **Moretti G.**, Fontana M., Vertechy R. (2015). *Model-Based Design and Optimization of a Dielectric Elastomer Power Take-Off for Oscillating Wave Surge Energy Converters*. Meccanica. 50(11), 2797-2813.
- [J29] Cherubini A., **Moretti G.**, Vertechy R., Fontana M., (2015). *Experimental Characterization of Thermally-Activated Artificial Muscles based on Coiled Nylon Fishing Lines*, AIP Advances, 5(6), 067158.
- [J30] **Moretti G.**, Fontana M., Vertechy R. (2015). *Parallelogram-shaped Dielectric Elastomer Generators: Analytical Model and Experimental Validation*, Journal of Intelligent Material Systems and Structures. 26(6), 740-751.
- [J31] Ambrosio G., Buehler M., Coleman R., Evbota D., Lamm M., Lopes M., Miller J., **Moretti G.**, Page T., Tartaglia M. (2014). *Studies on the Magnetic Center of the Mu2e Solenoid System*, IEEE Transactions on Applied Superconductivity, 24(3), 1-4.
- [J32] Ambrosio G., Buehler M., Coleman R., Evbota D., Feher S., Lamm M., Kashikin V., Lopes M., Miller J., **Moretti G.**, Page T., Popp J., Ostojic R., Tartaglia M. (2014). *Tolerance Studies of the Mu2e Solenoid System*, IEEE Transactions on Applied Superconductivity, 24(3), 1-5.

2 Book Chapters

- [B1] Cherubini A., **Moretti G.**, Fontana M. (2018) *Dynamic Modeling of Offshore Airborne Wind Energy Converters*, In Airborne Wind Energy (pp. 137-163). Springer, Singapore.

3 Conference Proceedings

- [C1] Rizzello G., **Moretti G.** (2025). *Model-based investigation of distributed sensing in dielectric elastomer membranes*. In *Electroactive Polymer Actuators, Sensors, and Devices (EAPAD) 2025* (Vol. 13431, pp. 234-253). SPIE.
- [C2] Heib L., **Moretti G.**, Rizzello G. (2025). *Maximizing power generation of bi-stable electrostatic energy harvesters in river flow scenarios*. In *Electroactive Polymer Actuators, Sensors, and Devices (EAPAD) 2025* (Vol. 13431, pp. 217-233). SPIE.
- [C3] Gratz-Kelly S., Rizzello G., Motzki P., **Moretti G.** (2025). *Integrated textile-biased dielectric elastomer feedback actuator*. In *Electroactive Polymer Actuators, Sensors, and Devices (EAPAD) 2025* (Vol. 13431, pp. 103-112). SPIE.
- [C4] Beber L., Lamon E., **Moretti G.**, Fontanelli D., Saveriano M., Palopoli, L. (2024). *Towards Robotised Palpation for Cancer Detection through Online Tissue Viscoelastic Characterisation with a Collaborative Robotic Arm*. In *2024 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)* (pp. 2380-2386). IEEE.
- [C5] Chowdhury T. A., Gratz-Kelly S., **Moretti G.**, Wagner E., Motzki P., Lehser M. (2024). *A novel fusion method for intense heat detection and localization solely based on surface temperature with multi-mode DEA feedback*. In *Electroactive Polymer Actuators and Devices (EAPAD) XXVI*. SPIE
- [C6] **Moretti G.**, Tedeschi E. (2023), *A framework for the assessment of the maximum convertible power of wave energy converters with an all-electric power take-off*. In *Proceedings of the 7th Offshore Energy & Storage Symposium (OSES 2023)*, p. 48 – 55
- [C7] Hoffmann M. K., Heib L., Rizzello G., **Moretti G.**, Flaßkamp, K. (2023). *Multi-Objective Model-Predictive Control for Dielectric Elastomer Wave Harvesters*. *Proceedings of the IFAC World Congress 2023*
- [C8] Gratz-Kelly S., Krüger T., Seelecke S., Rizzello G., **Moretti G.** (2023). *A self-sensing approach for multi-mode dielectric elastomer actuator-loudspeaker devices*. In *Electroactive Polymer Actuators and Devices (EAPAD) XXV*. SPIE.
- [C9] **Moretti G.**, Rizzello G. (2022) *Numerical investigation of bistable energy harvesting based on silicone dielectric elastomer generators*. *ASME's Conference on Smart Materials, Adaptive Structures, and Intelligent Systems (SMASIS)*.
- [C10] **Moretti G.**, Rizzello G. (2022) *Model-based parameter analysis of dielectric elastomer loudspeakers*. *IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM 2022)*.
- [C11] Hoffmann M., **Moretti G.**, Rizzello G., Flaßkamp K. (2022) *Multi-objective optimal control for energy extraction and lifetime maximisation in dielectric elastomer wave energy converters*. *IFAC Mathmod 2022 conference*.
- [C12] **Moretti G.**, Rizzello G. (2022) *A linear parameter-varying modelling approach for dielectric elastomer loudspeakers*. *IFAC Mathmod 2022 conference*.
- [C13] **Moretti G.**, Rizzello G., Fontana M., Seelecke S. (2022). *Finite element modelling of the vibro-acoustic response in dielectric elastomer membranes*. In *Electroactive Polymer Actuators and Devices (EAPAD) XXIV* (Vol. 12042, pp. 102-112). SPIE.
- [C14] Croce S., **Moretti G.**, Neu J., Hubertus J., Seelecke S., Schultes G., Rizzello G. (2021). *Finite Element Modeling and Simulation of a Soft Array of Dielectric Elastomer Actuators*. In *Smart Materials, Adaptive Structures and Intelligent Systems* (Vol. 85499, p. V001T07A003). American Society of Mechanical Engineers.
- [C15] **Moretti G.**, Rizzello, G., Fontana, M., Seelecke, S. (2021). *A multi-domain dynamical model for cone-shaped dielectric elastomer loudspeakers*. In *Electroactive Polymer Actuators and Devices (EAPAD) XXIII* (Vol. 11587, p. 115871K). International Society for Optics and Photonics.
- [C16] Li X., Xiao Q., Luo Y., **Moretti G.**, Fontana M., Righi M. (2021). *Dynamic response of a novel flexible wave energy converter under regular waves*. In *The 14th European Wave and Tidal Energy Conference, EWTEC 2021*.

- [C17] Sirbu, I. D., **Moretti, G.**, Dirè, S., Fambri, L., Vertechy, R., Meniglio, D., Fontana, M. (2019). *Electrostatic actuator for tactile display based on hydraulically coupled dielectric fluids and soft structures*. In SPIE Smart Structures and Materials + Nondestructive Evaluation and Health Monitoring. International Society for Optics and Photonics.
- [C18] Chen, Y., Agostini, L., **Moretti, G.**, Berselli, G., Fontana, M., Vertechy, R. (2019). *Fatigue life performances of silicone elastomer membranes for dielectric elastomer transducers: preliminary results*. In SPIE Smart Structures and Materials + Nondestructive Evaluation and Health Monitoring. International Society for Optics and Photonics.
- [C19] Bolignari, M., **Moretti, G.**, Fontana, M. (2018) *Design and Experimental Characterisation of a Fluidostatic Transmission for a Rehabilitation Exoskeleton*, Proceedings of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2018).
- [C20] Chen, Y., Agostini L., Fontana M., **Moretti G.**, Vertechy R. (2018). *On the lifetime performance of a styrenic rubber membrane for dielectric elastomer transducers*, SMASIS 2018-8143, Proceedings of the ASME 2018 Conference on Smart Materials, Adaptive Structures and Intelligent Systems.
- [C21] Arena F., Daniele L., Fiamma V., Fontana M., Malara G., **Moretti G.**, Romolo A., Rosati Papini G.P., Scialò A., Vertechy, R. (2018) *Field Experiments on Dielectric Elastomer Generators integrated on a U-OWC Wave Energy Converter*. OMAE 2018-77830, Proceedings of the ASME 2018 Conference on Ocean, Offshore and Arctic Engineering.
- [C22] **Moretti G.**, Duranti M., Righi, M., Vertechy R., Fontana M. (2018) *Analysis of Dielectric Fluid Transducers*. In SPIE Smart Structures and Materials + Nondestructive Evaluation and Health Monitoring. International Society for Optics and Photonics.
- [C23] Rosati Papini G. P., **Moretti G.**, Forehand D., Ingram D., Vertechy R., Fontana M. (2017). *Experimental Testing of Dielectric Elastomer Generators for Wave Energy Converters*, European Wave and Tidal Energy Conference Series, 2017.
- [C24] Teillant B., Vicente M., Rosati Papini G.P., **Moretti G.**, Vertechy R., Fontana M., Monk K., and Alves M. (2015). *Techno-Economic Comparison between Air Turbines and Dielectric Elastomer Generators as Power Take Off for Oscillating Water Column Wave Energy Converters*, Proceedings of EWTEC 2014, European Wave and Tidal Energy Conference Series.
- [C25] **Moretti G.**, Rosati Papini G.P., Alves M., Grases M., Vertechy R., Fontana M. (2015), *Analysis and Design of an Oscillating Water Column Wave Energy Converter with Dielectric Elastomer Power Take-Off*, OMAE 2015-42103, Proceedings of the ASME 2015 Conference on Ocean, Offshore and Arctic Engineering.
- [C26] **Moretti G.**, Rosati Papini G.P., Fontana M., Vertechy R. (2015), *Hardware in the Loop Simulation of a Dielectric Elastomer Generator for Oscillating Water Column Wave Energy Converters*, IEEE Oceans'2015 Conference.
- [C27] **Moretti G.**, Cherubini A., Vertechy R., Fontana M. (2015). *Experimental characterization of a new class of polymeric-wire coiled transducers*. In SPIE Smart Structures and Materials + Nondestructive Evaluation and Health Monitoring. International Society for Optics and Photonics.
- [C28] **Moretti G.**, Fontana M., Vertechy R. (2014), *Modeling of a Heaving Buoy Wave Energy Converter with Stacked Dielectric Elastomer Generator*, SMASIS 2014-7565 Proceedings of the ASME 2014 Conference on Smart Materials, Adaptive Structures and Intelligent Systems.
- [C29] **Moretti G.**, Forehand D., Vertechy R., Fontana M., Ingram D. (2014). *Modeling of an Oscillating Wave Surge Energy Converter with Dielectric Elastomer Power Take-Off*, OMAE 2014-23559, Proceedings of the ASME 2014 Conference on Ocean, Offshore and Arctic Engineering.
- [C30] Fontana M., **Moretti G.**, Lenzo B., Vertechy R. (2014). *Loading System Mechanism for Dielectric Elastomer Generators with Equi-biaxial State of Deformation*, In SPIE Smart Structures and Materials + Nondestructive Evaluation and Health Monitoring. International Society for Optics and Photonics.
- [C31] **Moretti G.**, Fontana M., Vertechy R. (2013). *Modelling and Control of Lozenge Shaped Dielectric Elastomer Generators*, SMASIS 2013-3258, Proceedings of the ASME 2013 Conference on Smart Materials, Adaptive Structures and Intelligent Systems.