Claudia Pagano

Education

PhD in Mechatronics, Information, Innovative Technologies and Mathematical Model, Thesis title: "Miniaturised Components Based on Polymer Nanocomposites: Compounding and Characterization".
University of Bergamo, Italy, April 2015

Master's in Micro- and Nanotechnology Enterprise, Thesis title: "Ultra-high resolution imaging and manipulation of domain structures in magnetic thin films and nanomagnetic structures by atomic/magnetic force microscopy"
University of Cambridge, September 2004 - August 2005

M.S. degree with honours in Physics, Thesis title: "Nuclear magnetic resonance spectra of tumoural cells and spheroids".
University of Naples, January 2002

Experiences

2002- Present. Researcher in the field of Micro and Nanotechnology.
Research interests involve micro manufacturing, materials processing and characterization, including compounding, extrusion, injection moulding, fused deposition modelling, mechanics of materials, nanoindentation, atomic force microscopy.
Institute of Intelligent Industrial Technologies and Systems for Advanced Manufacturing - National Research Council. Milan, Italy.

February 2006 - June 2006. Responsible of the collaboration with CORECOM, a spin out of the University of Milan, for the design and fabrication of innovative tools for microassembly. Milan, Italy.

February 2005 - April 2005. Market research consulting exercise for major software company. Global Graphics and Judge Business School. Cambridge, UK.

September 2003 - August 2004. Responsible of the collaboration with STMicroelectronics for the design and simulations of a Lab-on-Chip for PCR. Milan, Italy.

March 2000 - September 2001. Trainee at the Istituto Superiore di Sanità (Institute of Health)
Growth and study of tumoural cells and spheroids. Rome, Italy.

March 2000 - September 2001. Trainee at the Institute for the Chemistry of Molecules of Biological Interest of the National Research Council. Acquisition and analysis of Nuclear Magnetic Resonance spectra of tumoural cells and spheroids. Naples, Italy

September 1997 – March 1998. Trainee at the European Synchrotron Radiation Facility. Extended X-ray Absorption Fine Structure Measurements of samples of biological interest. Grenoble, France.

Language knowledge

Fluent in English, French and basic knowledge of German.

Publications and Patents

Claudia Pagano, Lara Rebaioli, Francesco Baldi, Irene Fassi Relationships between size and mechanical properties of scaffold-like structures, Mechanics of Advanced Materials and Structures 28(17): 1812-1817, 2021

Claudia Pagano, Aldo Attanasio, Lara Rebaioli, Elisabetta Ceretti, Irene Fassi Micro milling of polymeric micro injected specimens with randomly oriented Carbon Nanotube fillers International Journal of Machining and Machinability of Materials 22(2): 180-195, 2020

Ettore Lanzarone, Stefania Marconi, Michele Conti, Ferdinando Auricchio, Irene Fassi, Francesco Modica, Claudia Pagano and Golboo Pourabdollahian Hospital Factory for Manufacturing Customised, Patient-Specific 3D Anatomo-Functional Models and Prostheses Springer, London (Regno Unito) in Hospital Factory for Manufacturing Customised, Patient-Specific 3D Anatomo-Functional Models and Prostheses, 2019

Claudia Pagano, Lara Rebaioli, Francesco Baldi, Irene Fassi Mechanical behavior of scaffold-like structures: research of relationships between properties and geometry in PPS-35 - 35th International Conference of the Polymer Processing Society, Çesme-Izmir (Turkey), 26-30/05/2019

Lara Rebaioli, Claudia Pagano, Irene Fassi Fabrication of PLA/CNT composite scaffolds by Fused Deposition Modeling in ASME 2018 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference IDETC2018, Quebec City, Canada, 26-29/08/2018

Claudia Pagano, Rossella Surace, Alessandro Bongiorno, Vincenzo Bellantone, Francesco Baldi, Irene Fassi, Mechanical characterization and replication quality analysis of micro-injected parts made of CNT/POM nanocomposites, Journal of Composite Materials, DOI: https://doi.org/10.1177/0021998317713258, 2018

Aldo Attanasio, Elisabetta Ceretti, Irene Fassi, Claudia Pagano, Experimental Study on Micro manufacturing of CNT plastic composites, The International Journal of Advanced Manufacturing Technology, (2017) 92: 1721, DOI: 10.1007/s00170-017-0288-z

A. Bongiorno, C. Pagano, F. Baldi, V. Bellantone, R. Surace, I. Fassi, Micro-injection moulding of CNT nano-composites obtained via compounding process, Polymer Composites 38(2): 349-362, 2017

Pagano, C. and Fassi, I., Introduction to miniaturisation, in In: Fassi I., Shipley D. (eds) Micro-Manufacturing Technologies and Their Applications. Springer Tracts in Mechanical Engineering. Springer, Cham DOI: 10.1007/978-3-319-39651-4_1, 2017

Vito Basile; Claudia Pagano; Irene Fassi, Micro-FDM Process Capability and Comparison with Micro-Injection Moulding, AIP Conference Proceedings 1914, https://doi.org/10.1063/1.5016798, 2017

Claudia Pagano, Vito Basile, Francesco Modica, Irene Fassi, Micro-FDM Process Capability and post-processing effects on mechanical properties, Proc. 33nd International Conference of the Polymer Processing Society PPS-33, Cancun, Mexico 10/12/2017-14/12/2017

A. Bongiorno, C. Pagano, F. Baldi, V. Bellantone, R. Surace, I. Fassi, Micro-injection moulding of CNT nano-composites obtained via compounding process, Polymer Composites, 38(2), 349-362, 2017

Aldo Attanasio, Elisabetta Ceretti, Irene Fassi, Claudia Pagano, Experimental Study on Micro manufacturing of CNT plastic composites, The International Journal of Advanced Manufacturing Technology, DOI: 10.1007/s00170-017-0288-z, 2017

C. Pagano, V. Basile, I. Fassi, Process capability and mechanical properties of FDM in micro manufacturing, ICOMM 2016 International Conference on Micromanufacturing, Irvine, California, USA, 29-31/03/2016

F. Modica, C Pagano, V. Marrocco, I. Fassi, Micro-Edm Studies Of The Fabrication Of Customized Internal Fixation Devices For Orthopedic Surgery, in ASME 2015 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, Boston (USA), August 2-5, 2015.

A. Bongiorno, C. Pagano, S. Agnelli, F. Baldi, I. Fassi, Mechanical Properties of Micro-Injected HDPE Composites, in 31st International Conference of the Polymer Processing Society, Jeju Island, Korea June 7 - 11, 2015.

A. Bongiorno, C. Pagano, F. Baldi, V. Bellantone, R. Surace, I. Fassi, Micro-injection moulding of CNT nano-composites obtained via compounding process, DOI: 10.1002/pc.23593 Polymer Composites 2015.

G. Maccarini, C. Merla, C. Ravasio, A. Bongiorno, I. Fassi, C. Pagano, Influence of micro injection moulding process parameters on mechanical characteristics of POM and POM/CNT composites, in 4M/ICOMM 2015, Milan, Italia, 31 March – 2 April 2015.

S. Ruggeri, G. Fontana, I. Fassi, C. Pagano, G. Legnani (2014), dispositivo di manipolazione e metodo per manipolare a vuoto un componente published on 02/10/2014. Italian patent # 0001416830 published on 27/09/2014; A vacuum manipulation device and a method for manipulating a component by means of a vacuum. European Patent Pending # EP14721500

A. Bongiorno, C. Pagano, F. Baldi, I. Fassi Effect of extrusion configuration on the properties of MWCNT/POM composites in 30th International Conference of the Polymer Processing Society (PPS-30), Cleveland, Ohio, USA, 8-12 June 2014

C. Pagano, Bongiorno A, Fassi I, Agnelli S, Baldi F, Mechanical properties of micro-injected POM/MWCNT nano-composites in 9th International Conference on MicroManufacturing (ICOMM 2014), Singapore, 25-28 March 2014

V. Bellantone, A. Bongiorno, I. Fassi, C. Pagano, R. Surace, S. Agnelli, F. Baldi Mouldability and Mechanical properties of micro-injected HDPE/glass beads composites in ICIT & MPT 2014, Lubiana , Slovenia, 9-11 April

Pagano, Claudia. "Positioning." CIRP Encyclopedia of Production Engineering 2014: 962-968.

Pagano, Claudia. "Precision." CIRP Encyclopedia of Production Engineering 2014: 968-972.

F. Baldi, A. Bongiorno, I. Fassi, A. Franceschini, C. Pagano, T. Riccò, R. Surace, F. Tescione, Process-property-structure relationship in miniaturized injection moulded polyoxymethylene samples, *Polymer Engineering & Science*, *54*(3), 512-521, 2014.

Giovanni Legnani, Alberto Borboni, Andrea Gabrielli, Irene Fassi, Serena Ruggeri, Gianmauro Fontana, Claudia Pagano, Paolo Righettini, Bruno Zappa, Andrea Ginammi, Massimo Callegari, Giacomo Palmieri, Matteo-Claudio Palpacelli, Luca Carbonari, Design of a miniaturized work-cell for micro-manipulation in XXI Congresso dell'Associazione Italiana di Meccanica Applicata e Teorica, Torino, Italia, 17-20 September 2013

Claudia Pagano, Curtis Taylor, NanoMechanical property analysis of silica aerogel Proceeding of ASME 2013 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference. American Society of Mechanical Engineers, 2013: V001T09A019-V001T09A019, August 4-7, 2013 Oregon (USA)

Claudia Pagano and Irene Fassi, Devices and Techniques for Contact Micrograpping, Advanced Mechatronics and MEMS Devices, Microsystems Volume 23, 2013, pp 165-178, Springer New York

Franceschini A., Baldi F., Riccò T., Pagano C., Bongiorno A., Surace R., Bellantone V., Tescione F., Fassi I. Correlazioni processo-struttura-proprieta' in polimeri termoplastici trasformati tramite micro-stampaggio a iniezione in Congresso Nazionale del Coordinamento della Meccanica Italiana, Ancona, 25-26 Giugno 2012

S. Ruggeri, G. Fontana, I. Fassi, C. Pagano, G. Legnani, A. Gabrielli Handling and Manipulation of Microcomponents: Work-Cell Design and Grasping Tests in Congresso Nazionale del Coordinamento della Meccanica Italiana, Ancona, 25-26 June 2012

G. Legnani a, A. Borboni a, A. Gabrielli a, I. Fassi b, S. Ruggeri b, G. Fontana b, C. Pagano b, P. Righettini c, B. Zappa c, A. Ginammi c, M. Callegari d, G. Palmieri d, M. Palpacelli d, L. Carbonari d (2012) Micro Manipulation and Assembly in Congresso Nazionale del Coordinamento della Meccanica Italiana, Ancona, 25-26 Giugno 2012

A. Franceschini, F. Baldi, T. Riccò, C. Pagano, A. Bongiorno, R. Surace, V. Bellantone, F. Tescione, I. Fassi. (2012) Microstampaggio dei polimeri termoplastici in Plast (Milano); Reed Business Information, Milan (Italia)

Serena Ruggeri, Gianmauro Fontana, Claudia Pagano, Irene Fassi and Giovanni Legnani, Handling and Manipulation of Microcomponents: Work-Cell Design and Preliminary Experiments, Proc. of IPAS 2012, 371/2012, 65-72, Chamonix, 12-14 February 2012.

Pagano Claudia, Ruggeri Serena, Fontana Gianmauro, Fassi Irene, Legnani Giovanni, Manipulation of micro-components using vacuum grippers, Proc. of AIMETA 2011, Bologna, 12-15 September 2011, ISBN 978-88-906340-1-7

Rossella Surace, Gianluca Trotta, Vincenzo Bellantone, Alessandro Bongiorno, Claudia Pagano, Irene Fassi, Micro Injection Moulding Process and Product Characterization, Proc. of ASME 2011, August 28-31, 2011, Washington, DC.

C. Pagano, M Malosio, I Fassi, Monodirectional Positioning Using Dielectric Elastomers, Precision Assembly Technologies and Systems, Ed Springer Boston, 180-187, ISBN 978-3-642-11597-4

Claudia Pagano, Matteo Malosio, Irene Fassi, Basic Characterization Of A Linear Elastomer Actuator, Proceedings of the 3rd International Conference on Micro- and Nanosystems IDETC/MNS 2009, San Diego, California, USA, August 30-September 2, 2009 (*Full paper acceptance*).

C. Pagano, I. Fassi, An Innovative Polymeric Material For Microhandling Systems, Proceedings of the 3rd International Conference on Manufacturing Engineering, Evanston, Illinois, USA, October 7-10, 2008. (*Full paper acceptance)*.

C. Pagano et al., Potentiality of dielectric elastomers in the microfactory, Proceedings of The 6th International Workshop on Microfactories, Evanston, Illinois, USA, October 5-7, 2008.

C. Pagano, I. Fassi, Innovative principles and materials for micromanipulation, Proceedings of 2007 9th International Workshop on Research and Education in Mechatronics, Bergamo, Italy, September 18 – 19, 2008.

C. Pagano, I. Fassi, Capillary force studies for the manipulation of microcomponents, Proceedings of The International Workshop on Micro- and Nano- Technologies and Systems, Moscow, Russia, October 17-18, 2007.

C. Pagano, I. Fassi, Feasibility Study of a Novel Micro-Handling Device Based on Smart Materials, Proceedings of 2007 ASME International Design Engineering Technical Conference & Computers & Information In Engineering Conference, Las Vegas, Nevada USA, September 4-7, 2007. (*Full paper acceptance)*.

Ferraris, E., Pagano, C., Zerbini, S., Fassi, I., Reynaerts, D., Development of a multi body based 1 DoF rotary MEMS, Proceedings of the 1st International Congress on Microreliability and Nanoreliability in Key Technology Applications, Berlin, Germany, September 2-5, 2007.

C. Pagano and I. Fassi, EAP as actuator for a gripper with variable curvature, Proceedings of SPIE Smart Structures and Materials & Nondestructive Evaluationand Health Monitoring, San Diego, California USA, March 18-22, 2007.

C. Pagano, L. Zanoni, I. Fassi and F. Jovane. Micro-assembly: design and analysis of a gripper based on capillary force. Proc. of 1st CIRP International Seminar on Assembly Systems Universität Stuttgart, Stuttgart, Germany, November 15-17, 2006.

C. Pagano, I. Fassi, Manipolazione di microcomponenti: un sistema basato sulla forza di capillarità, Soluzioni di Assemblaggio, Maggio 2006.

Fabio Biganzoli, Irene Fassi, Claudia Pagano. Development of a gripping system based on capillary force. Proceeding of 6th IEEE International Symposium on Assembly and Task Planning (ISATP05), Montreal, July19-21, 2005.

F. Biganzoli, C. Pagano and F. Sommariva, Studi e sistemi sulla manipolazione di microcomponenti, Assembaggio, 56, Giugno 2005.

E. Ferraris, C. Pagano, I. Fassi, F. Jovane. Product-process life cycle in MEMS technology: Design of a μ-PKM. Proceedings of CIRP Seminar on Micro and Nano Technology, Copenhagen, November 13-14, 2003.

C. Pagano, E. Ferraris, M. Malosio, I. Fassi. Micro-handling of parts in presence of adhesive forces. Proceedings of CIRP Seminar on Micro and Nano Technology, Copenhagen, November 13-14, 2003.

C. Pagano, E. Ferraris, I. Fassi, A. Giubilei. Analysis And Design Of μ-Devices Using A Multibody Approach. Proceedings of ICOM 2003, Loughborough, June 19-20, 2003.

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