

# Curriculum Vitae Europass

## Informazioni personali

Cognome/i nome/i

Email

**Ruolo**

## Esperienza, istruzione e formazione

08/2018

04/2017

04/2017

05/2019 - 02/2021

05/2014 - 04/2019

01/2014 - 05/2014

01/2013 - 12/2013

01/2012-12/2012

2010-2012

01/2009 - 06/2009

2009 - 2012

2006 - 2008

09/2006 - 06/2007

06/2006 - 08/2006

04/2006 - 06/2006

2002 - 2006

## Responsabilità scientifiche, Assegni e Borse di studio

2020-

2017-2020

**Panciroli Riccardo, Ph.D**

✉ [riccardo.panciroli@unicusano.it](mailto:riccardo.panciroli@unicusano.it)

**Professore Associato**

**ING-IND/14 - Progettazione meccanica e Costruzione di Macchine**

**Abilitazione Scientifica Nazionale - Macrosettore 09/A1 - I fascia**

**Abilitazione Scientifica Nazionale - Macrosettore 09/A3 - II fascia**

**Abilitazione Scientifica Nazionale - Macrosettore 09/A1 - II fascia**

**Università degli studi di Niccolò Cusano**

**RTD B -SSD ING/IND-14**

**Università degli studi di Niccolò Cusano**

**RTD A - SSD ING/IND-14**

**Università degli studi di Napoli "Parthenope"**

**Assegnista di ricerca.** Area di ricerca: Hull slamming; Interazione fluido-struttura.

**Polytechnic institute of the New York University**

**Post Doctoral fellow.** Research areas: Hull slamming; Energy harvesting; Fluid-structure interaction; Underwater vibrations.

**Università di Bologna**

**Post Doc.** dipartimento DIEM - sponsorizzato da **Office of Naval Research (ONR) - Solid Mechanics Program (Dr. Yapa Rajapakse) - Grant N00014-12-1-0260 (PI)**

**Centro Interdipartimentale di Ricerca Industriale CIRI - Advanced Applications in Mechanical Engineering & Materials Technology**

**Collaboratore.** Attività: Simulazioni FEM dinamiche.

**Southern Illinois University**, Carbondale, IL, USA

**Periodo di ricerca presso la Southern Illinois University.**

**Università di Bologna**

**Dottorato di Ricerca in Meccanica e Scienze Avanzate dell'Ingegneria (DIMSAI), Progetto 4: Meccanica dei Materiali e Processi Tecnologici.**

**Università di Bologna**

**Laurea specialistica in Ingegneria Meccanica**, Voto di laurea: 110 / 110 e lode.

**DTU, Denmark Technical University**

Anno di studi all'estero tramite il programma di scambio europeo ERASMUS.

**Tesi in Azienda** at **Marzocchi Suspensions s.p.a**

**Tirocinio in Azienda** at **Marzocchi Suspensions s.p.a**

**Università di Bologna,**

**Laurea triennale in Ingegneria Meccanica**

Horizon 2020 - LC-GV-08-2020 - Unità locale progetto "REFLECTIVE".

PRIN2015 - Responsabile unità locale del progetto "Smart composite Structures".

- 2015 Vincitore del premio “**Capocaccia**” – Associazione Italiana per l’analisi delle Sollecitazioni (AIAS) per il lavoro “*Interazione fluido struttura durante l’ingresso in acqua di corpi flessibili*”.
- 2012 Vincitore del concorso **YEAR2012** – The Young European Arena of Research – in the pillar “*Design and production (vehicles, vessels and infrastructure)*” for the accomplishments of the work “*Hydroelasticity in hull’s slamming*” (further information at <http://year2012.traconference.eu>).
- 2012 Principal Investigator (PI) per il progetto di ricerca “*Experimental and numerical Hull slamming investigation*” sponsorizzato da <http://www.onr.navy.mil/Science-Technology/Departments/Code-33/All-Programs/332-naval-materials/Solid-Mechanics.aspx> Office of Naval Research (ONR) - Solid Mechanics Program, with Dr. Yapa D S Rajapakse as program manager - Grant N00014-12-1-0260.
- 2009-2011 Assegno di tutorato per il corso “Comportamento meccanico dei materiali”. Corso di laurea in Ingegneria Energetica
- 2009-2012 Borsa di dottorato sovvenzionata da “Borse Fondo Giovani”
- 2008 Borsa di studio per il perfezionamento della tesi all’estero.

## Attività accademica

- dal 2021 Coordinatore del corso di studi in Ingegneria Meccanica Magistrale LM33
- dal 2014 Membro del collegio del dottorato di ricerca in Ingegneria Industriale e Civile
- dal 2014 Titolare del corso: *Elementi costruttivi delle macchine (9 cfu)* - Laurea triennale in Ingegneria Industriale - Università degli studi Niccolò Cusano - Roma.
- dal 2014 Titolare del corso: *Costruzione di Macchine (9 cfu)* - Laurea specialistica in Ingegneria Meccanica - Università degli studi Niccolò Cusano - Roma.
- 2013-2014 Titolare del corso: *Scienza delle costruzioni (9 cfu)* - Laurea triennale in Ingegneria Civile e Industriale - Università degli studi Niccolò Cusano - Roma.
- 2012-2013 Titolare del corso: *Elementi costruttivi delle macchine LM (3 cfu)* - Laurea specialistica in Ingegneria Meccanica e Aeronautica - Università di Bologna - campus di Forlì.
- 2009-2010 Tutor del corso: *Costruzione di macchine*, Corso di Laurea in Ingegneria chimica e biochimica. (Titolare del corso: Prof. Giangiacomo Minak)
- 2009-2010 Tutor del corso: *Comportamento meccanico dei Materiali*, corso di laurea in Ingegneria Energetica. (Titolare del corso: Prof. Piero Morelli)
- 2009 Tutor del corso: *Fondamenti di Progettazione ed Ingegnerizzazione di prodotto*, corso di laurea in Ingegneria Gestionale. (Titolare del corso: Prof. Piero Morelli)
- 2009 Tutor del corso: *Mechanical behavior of composite Materials*, international master MASSET. (Titolare del corso: Prof. Giangiacomo Minak)

## Capacità e competenze professionali

Madrelingua/e

Other language(s)

Autovalutazione  
Livello europeo<sup>(\*)</sup>

**English**

**Español**

## Italiano

Comprensione				Parlato				Scritto	
Ascolto		Lettura		Interazione		Produzione orale			
C2	Livello avanzato	C2	Livello avanzato	C2	Livello avanzato	C1	Livello avanzato	C1	Livello avanzato
C2	Livello avanzato	C2	Livello avanzato	B2	Livello intermedio	B2	Livello intermedio	B2	Livello intermedio

<sup>(\*)</sup> Quadro comune europeo di riferimento per le lingue

## Competenze informatiche

Sistemi Operativi: Unix; Linux; Microsoft Windows; Mac OS X

Packages knoww: Microsoft Office, OpenOffice, Adobe Acrobat,  $\LaTeX$ , e altre applicazioni comuni per Windows e Linux.

Linguaggi di programmazione: VisualBasic,  $\LaTeX$ , Matlab

Engineering software: Matlab, Maple, Ls-Dyna, Ansys Multiphysics, Ansys Workbench, Comsol Multiphysics, ProEngineer, SolidEdge

## Pubblicazioni

### International Journal

- 2021 Panciroli R. Giannini O. Comparing the impact resistance of Flax/epoxy and Glass/epoxy composites through experiments and numerical simulations. *Composite Structures*. 264 2021, 113750
- 2021 Panciroli, R., Minak, G. Cavity Formation during Asymmetric Water Entry of Rigid Bodies. *Applied Sciences*, (11), 2029.
- 2020 Panciroli, R. Influence of electric current on the thermo-mechanical static and fatigue properties of shape memory NiTi wires. *Smart Materials and Structures*. 29(11) 2020, 115046
- 2020 Giuliani, P. M., Giannini, O., Panciroli, R. Visco-Elasto-Plastic Experimental Characterization of Flax-Based Composites. In *Lecture Notes in Mechanical Engineering* (pp. 705–715), 2020.
- 2019 Panciroli, R., Nerilli, F. Bistable morphing panels through SMA actuation. *Procedia Structural Integrity*. 24(2019), 593–600
- 2018 Giuliani, P. M., Giannini, O., Panciroli, R. Viscoelastic experimental characterization of flax/epoxy composites.. *Procedia Structural Integrity*. 12(2018), 296–303
- 2018 Panciroli, R., Pagliaroli, T., Minak, G. On Air-Cavity Formation during Water Entry of Flexible Wedges. *Journal of Marine Science and Engineering*. 6(4) (2018), 155
- 2016 R. Panciroli, C. Biscarini, G. Falcucci, E. Jannelli, S. Ubertini. Live monitoring of the distributed strain field in impulsive events through fiber Bragg gratings. *Journal of fluids and structures*. 61 (2016): 60–75
- 2016 R. Panciroli. Assessment of a Structural Health Monitoring technique through synthetic data generation. *FME transactions*, 44(4), 2016.
- 2015 R. Panciroli, S. Ubertini, E. Jannelli, G. Minak. Experiments on the dynamics of flexible cylindrical shells impacting on a water surface *Experimental Mechanics*, 55.8 (2015): 1537–1550
- 2015 A. L. Facci, R. Panciroli, S. Ubertini, M. Porfiri. Assessment of PIV-based analysis of water entry problems through synthetic numerical datasets. *Journal of Fluids and Structures* 55, 484–500.
- 2015 E. Poodts, D. Ghelli, T. Brugo, R. Panciroli, G. Minak. Experimental characterization of a fibre metal laminate for underwater applications. *Composite Structures*, 129, 36–46, 2015
- 2015 R. Panciroli, M. Porfiri. Analysis of hydroelastic slamming through particle image velocimetry. *Journal of Sound and Vibration*, 347, 63–78, 2015
- 2015 R. Panciroli, A. Shams, M. Porfiri, Experiments on the water entry of curved wedges: high speed imaging and particle image velocimetry. *Ocean Engineering* 94, 213–222, 2015
- 2015 M. Jalalisendi, A. Shams, R. Panciroli and M. Porfiri, Experimental reconstruction of three-dimensional hydrodynamic loading in water entry problems through particle image velocimetry. *Experiments in Fluids*, 56, 1–17, 2015
- 2014 R. Panciroli, G. Minak. Experimental evaluation of the air trapped during the water entry of flexible structures. *ACTA IMEKO* 3 (3), 63–67, 2014
- 2014 R. Panciroli, M. Porfiri, Hydroelastic impact of piezoelectric structures. *International Journal of Impact Engineering*, 66, 18–27, 2014
- 2014 M. Jalalisendi, R. Panciroli, Y. Cha, M. Porfiri, A particle image velocimetry study of the flow physics generated by a thin lamina oscillating in a viscous fluid. *Journal of Applied Physics* 115, 054901, 2014
- 2013 R. Panciroli, M. Porfiri, Evaluation of the pressure field on a rigid body entering a quiescent fluid through particle image velocimetry. *Experiments in fluids* 54 (12), 1630, 2013
- 2013 R. Panciroli, Water entry of flexible wedges: some issues on the FSI phenomena. *Applied Ocean Research*, 39, 72–74, 2013

- 2013 E.Poodts, R.Panciroli, G.Minak Design rules for composite sandwich wakeboards. *Composite Part: B: Engineering* 44 (1), 628–638, 2013, 2012
- 2013 R.Panciroli, S.Abrate, G.Minak, Dynamic response of flexible wedges entering the water. *Composite Structures*, 99, 163–171, 2013
- 2012 R.Panciroli, S.Abrate, G.Minak, A.Zucchelli, Hydroelasticity in water-entry problems: comparison between experimental and SPH results. *Composite Structures*, 94 (2), 532-539, 2012
- 2012 R.Panciroli, S.Abrate Dynamic response of sandwich shells to underwater blasts. *CEJE - Central European Journal of Engineering*, Volume 2 (4), 509-522, 2012
- 2010 G.Minak, S.Abrate, D.Ghelli, R.Panciroli, A.Zucchelli, Low-velocity impact on carbon/epoxy tubes subjected to torque - experimental results, analytical models and fem analysis. *Composite Structures* 92 (3), 623–632, 2010
- 2010 G.Minak, S.Abrate, D.Ghelli, R.Panciroli, A.Zucchelli, Residual torsional strength after impact of CFRP tubes. *Composite Part: B: Engineering* , 41, 637-645, 2010

#### ASME Collections

- 2009 Panciroli, R., Abrate, S. An Introduction to Self-Excited Oscillations. *In Volume 7: Engineering Education and Professional Development* (Vol. 2009, pp. 69–78). ASME. doi:10.1115/IMECE2009-12088
- 2009 Panciroli, R., Abrate, S. Dynamic Response of Sandwich Structures to Impulsive Loads. *In Volume 11: Mechanics of Solids, Structures and Fluids* (Vol. 2009, pp. 199–209). ASME. doi:10.1115/IMECE2009-11660

#### Book Chapters

- 2013 R.Panciroli. Hydroelastic impacts of deformable wedges *In S. Abrate, B. Castaniè and Y. Rajapakse (Ed.), Dynamic Failure of Composite and Sandwich Structures*. Springer. Dordrecht: Springer Netherlands. doi:10.1007/978-94-007-5329-7\_1. ISBN 978-94-007-5328-0
- 2009 G.Minak, D.Ghelli, R.Panciroli, A.Zucchelli, Composite tubes behavior under low-velocity impact. *In H C Mattos, M Alves. Solid Mechanics in Brasil 2009*. (pp. 385 - 398). ISBN: 978-85-85769-43-7

#### Conference Proceedings

- 2018 M. De Santis, S. Agnelli, M. Uras, R. Panciroli, O. Giannini, G. Bella. Carbon fiber-reinforced chassis equipped with four-wheel torque vectoring and steering system. AUTOMOTIVE 2018, 9-11 luglio 2018, Milano.
- 2018 T. Pagliaroli, P. Candeloro, O. Giannini, R. Panciroli, G. Bella, R. Camussi. Aeroacoustic Study of small scale Rotors for mini Drone Propulsion: Serrated Trailing Edge Effect. AIAA/CEAS Aeroacoustics Conference 25 - 29 June 2018, Atlanta.
- 2016 R. Panciroli, C. Biscarini, E. Jannelli, F. Ubertini, S. Ubertini. Dynamic monitoring of compliant bodies impacting the water surface through local strain measurements. *SPIE - Sensors and Smart Structures Technologies for Civil, Mechanical, and Aerospace Systems 2016*. Ed. Jerome P. Lynch., Vol. 9803. N.p., 2016. 980335.
- 2015 R. Panciroli, G. Falcucci, P. Maggiorana, A. Giovannozzi, E. Jannelli. Structural health monitoring through fiber bragg grating strain sensing. *AIP Conference proceedings*, 1648, 190002
- 2015 R. Panciroli, G. Falcucci, G. Erme, E. De Santis, E. Jannelli. Fluid-structure interaction during the water entry of flexible cylinders. *AIP Conference proceedings*, 1648, 570011
- 2014 R. Panciroli, M. Porfiri. A particle image velocimetry study of hydroelastic slamming. *Procedia Engineering* 88, 180–185, 2014
- 2014 R. Panciroli, G. Falcucci. Studio sperimentale dell'interazione fluido-struttura durante l'ingresso in acqua di corpi flessibili. Conference Proceedings AIAS 2014 - Settembre 2014 (Rimini)
- 2014 T. Brugo, R. Panciroli. Validazione di un sistema di shape-sensing basato su fibre ottiche a reticolo di Bragg tramite confronto con misure di Digital Image Correlation. Conference Proceedings AIAS 2014 - Settembre 2014 (Rimini)

- 2014 R. Panciroli , M. Porfiri. Reconstruction of the hydrodynamic load on a slamming wedge through particle image velocimetry. *Mechanics of Composites (MECHCOMP2014)*, USA, 8-12 June 2014
- 2014 R. Panciroli, M.Porfiri. A particle image velocimetry study of hydroelastic slamming. *Draf 2014*, Ischia, Italy, September 15–17, 2014
- 2014 A. Zarghami, R.Panciroli, M. Porfiri, S. Ubertini. Front-tracking lattice Boltzmann method for water entry-problems. 17th U.S. National Congress on Theoretical and Applied Mechanics Michigan State University, 15-20 June 2014
- 2013 E. Poodts, D. Ghelli, T. Brugo, R. Panciroli, G. Minak, *Impact properties of water exposed GFRP laminates with outermost steel layers*. 19ICCM, Montreal, 29 July - 2 August, 2013
- 2012 R.Panciroli, S.Abrate, G.Minak, *Effect of the boundary conditions on the hydroelastic impacts of composite plates*. 15ECCM, Venezia, 24-28 June, 2012
- 2012 R.Panciroli, S.Abrate, G.Minak, *Dynamic response of flexible wedges entering the water*. ICNMMCS, Torino, 18-20 June, 2012
- 2012 R.Panciroli, G.Minak, *Hydroelastis slamming of composite plates*. 7 ICCSM, Zadar, 22-25 May, 2012
- 2011 R.Panciroli, E. Poodts, G. Minak. Studio sperimentale e numerico sui parametri di progetto di una tavola da Wakeboard. *Proceedings of AIAS 2011, Palermo, 7-10 Settembre 2011*
- 2011 R.Palazzetti; A.Zucchelli, R.Panciroli, G.Minak. Progettazione in materiale composito della sospensione anteriore di veicoli terrestri leggeri *Proceedings of AIAS 2011, Palermo, 7-10 Settembre 2011*
- 2011 R.Panciroli. Experimental and numerical investigation on hydroelastic impacts. *Proceedings of the workshop "Dynamic failure of composite and sandwich structures. Toulouse, France*.
- 2011 R.Panciroli, S.Abrate, G.Minak, A. Zucchelli. Hydroelasticity in water-entry problems: comparison between experimental and SPH results. *Proceedings of ICCS16. Oporto, Portugal. July 28-30 2011*.
- 2010 R.Panciroli, G. Minak, A.Zucchelli, SPH applicability to hull/waves slamming problems *Office of Naval Research Hull/Waves Workshop, 2010, Washington, 8-10 Settembre 2010*
- 2009 R.Panciroli, S.Abrate, Dynamic response of doubly curved sandwich shell subjected to blast loading. *Proceedings of 17<sup>th</sup> ICCM International Conference on Composite Materials*, 27 Jul 2009 - 31 Jul 2009, Edinburgh
- 2009 R.Panciroli, S.Abrate, Dynamic response of sandwich shells to underwater blasts. *Proceedings of 9<sup>th</sup> International Seminar on Experimental Techniques and Design in Composite Materials*, Vicenza - ITALY September 30-October 2 2009
- 2009 G.Minak, R.Panciroli, A.Zucchelli, Il metodo SPH nei problemi di impatto sull'acqua *Proceedings of AIAS 2010, Maratea, 7-10 September 2010*
- 2009 G.Minak, D.Ghelli, R.Panciroli, A.Zucchelli, On the flexural fatigue behaviour of glass fibre reinforced nanoclay modified epoxy matrix composites. *Proceedings of COMATCOMP'09, S.Sebastian (Spain), 7-9 october 2009*
- 2009 G. Minak, R. Panciroli, A. Zucchelli, Evaluation of the residual stresses in a low temperature carburized stainless steel by the microhardness measurement. *Proceedings of COBEM, 20<sup>th</sup> International Congress of Mechanical Engineering*, Brasil 2009

## Conferenze e seminari

### Internazionali

- 2014 "R. Panciroli and M. Porfiri, *Reconstruction of the hydrodynamic load on a slamming wedge through particle image velocimetry.*" [MECHCOMP2014 - International Conference on Mechanics of Composites](#). June, 8-12 2014, Stony Brook University.
- 2013 "R. Panciroli, *Experimental methods for the analysis of water entry problems - focus on particle image velocimetry.*" Office of Naval Research hull-waves slamming workshop, December 6, Arlington, VA, USA.
- 2013 "R. Panciroli, *Experimental methods for the analysis of water entry problems.*" Office of Naval Research Solid Mechanics annual review meeting, December 3–5, Arlington, VA, USA.
- 2012 "R. Panciroli, *Experimental and numerical Hull slamming investigation.*" Office of Naval Research Solid Mechanics annual review meeting, November 29–30, Washington DC, USA.
- 2012 "R. Panciroli and G. Minak, *Hydroelastic slamming of composite plates*". [7ICCSM - International Congress of Croatian Society of Mechanics](#). Zadar, Croatia, 22-25 May 2012.
- 2012 "R. Panciroli *Effect of the boundary condition on the hydrodynamic impacts of composite plates*". ONR session - [ECCM15 - European conference on composite materials](#). June 24–28 Venice, Italy.
- 2012 "R. Panciroli. *Dynamic response of elastic wedges during slamming*". ONR session - [ICNMMCS - International conference on nano, micro and macro composite structures](#). June 18–20, Torino, Italy.
- 2012 Invited as finalist of [YEAR2012](#) to present the work: *Hydroelasticity in hull's slamming at the TRA Transport Research Arena* (Winner of the first prize in the area "Design and production"). April 22–26, Athene, Greece.
- 2011 "R. Panciroli, S. Abrate, G. Minak, A. Zucchelli. *Hydroelasticity in water-entry problems: comparison between experimental and SPH results.*" ONR session of the [European Conference on Composite Structures - ICCS16](#). Oporto, Portugal.
- 2011 "R. Panciroli. *Experimental and numerical investigation on hydroelastic impacts.*" ONR session of the workshop "Dynamic failure of composite and sandwich structures". June 23-24, Toulouse, France.
- 2010 "R. Panciroli, *SPH applicability to hull/waves slamming problems.*" at the Office of Naval Research Solid Mechanics annual review meeting, Washington DC, September.
- 2009 "R. Panciroli, S. Abrate, *Dynamic response of sandwich shells to underwater blasts.*" at the [International Seminar on Experimental Techniques and Design in Composite Materials](#), 30 September - 2 October, Vicenza, Italy.
- 2009 "G. Minak, S. Abrate, D. Ghelli, R. Panciroli, A. Zucchelli, *Residual torsional strength after impact of CFRP tubes*". At the [17th ICCE, International Conference on Composites or Nano Engineering](#). Honolulu, HI, USA
- 2009 "G. Minak, S. Abrate, D. Ghelli, R. Panciroli, A. Zucchelli, *Low-velocity impact on carbon/epoxy tubes subjected to torque - experimental results, analytical models and fem analysis*". At the [15th ICCS International Conference on Composite Structures](#), Oporto, Portugal.

### Nazionali

- 2019 "R. Panciroli, F. Nerilli *Bistable morphing structures actuated by SMA wires.*" AIAS 2019, September 4–7, Assisi, Italy.
- 2018 "R. Panciroli, *Experimental characterization of flax/epoxy composites.*" AIAS 2018, September 5–7, Villa san Giovanni, Italy.
- 2016 "R. Panciroli, *Studio dell'affidabilità di una tecnica di monitoraggio dell'integrità strutturale basata su misure puntuali di deformazione.*" AIAS 2016, September 7–10, Trieste, Italy.

- 2014 | "R. Panciroli and G.Falcucci, *Studio sperimentale dell'interazione fluido-struttura durante l'ingresso in acqua di corpi flessibili.*" AIAS 2014, September 9–12, Rimini, Italy.
- 2012 | "R. Panciroli and G.Minak, *Air trapping evaluation in hull slamming.*" at the XX AIVELA, INSEAN, Roma, 19-20 december 2012.
- 2010 | "G.Minak, R.Panciroli, A.Zucchelli, *Il metodo SPH nei problemi di impatto sull'acqua.*" AIAS2010. September 7–10, Maratea, Italy.