

# CURRICULUM VITAE

## GIORGIO CONTENTO

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CURRICULUM VITAE DELL'ATTIVITA' SCIENTIFICA E DIDATTICA  
REDATTO AI SENSI DEGLI ARTT. 46 E 47 DEL D.P.R. 28.12.2000, N. 445

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TRIESTE, March 2018

  
GIORGIO CONTENTO

## WORK EXPERIENCE / ACCADEMIC PROFILE

- 1988-89      Officer of the Italian Navy (on board of Destroyer Audace)
- 1989-90      Design office of Fincantieri Shipyards S.p.a. (Trieste)
- 1990-2012    **Full time Researcher** in Naval Architecture (ING-IND/01) at the Dept. of Engineering and Architecture (University of Trieste).
- 2000-2002    Member of the Specialist Committee “Waves” of the 23<sup>rd</sup> *International Towing Tank Conference ITTC*.
- 2000-to date    **Responsible Scientist** of research project for public and private institutions (> 2 M€)
- 2002          Member of the Group of Experts of the Italian Ministry of Research and University MIUR, (*GU n. 189 del 13-8-2002*).
- 2002          Member of the Consultancy Staff of *Regione Autonoma Friuli - Venezia Giulia, L.R. 25/1/2002, n. 3 Prot. 8830/2311/28D*.
- 2004          Member of the Consultancy Staff of *Regione Veneto*, agenzia della Regione Veneto per la diffusione dell'innovazione alle PMI.
- 2004          **Co-founder and Responsible Scientist** of the academic spin-off CREST srl.
- 2005          Member of the Consultancy Staff of *Italian Ministry of Productive Activities*, Project B01\_0510\_P.
- 2008          Granted as **Invited Professor** at Chalmers University – Gotheborg – Sweden.
- 2012          Member of the Consultancy Staff of *Italian Ministry of Research and University*, Project DM62572.
- 2012-to date    **Associate Professor** in Naval Architecture (ING-IND/01) at the Dept. of Engineering and Architecture (University of Trieste).
- 2015          Member (Area CUN 09) of **Academic Senate of** University of Trieste 2015-2018.
- 2017          National Scientific Qualification (ASN) – Qualified for the position of Full Professor in Naval Architecture (ING-IND/01).

## PUBLICATIONS

### Journal Papers

- [1] Francescutto, A., Cardo, A., Contento, G., 1991, Una rappresentazione razionale per gli spettri del mare, *TECNICA ITALIANA*, Vol. 56, pp. 1-10 (in italian).
- [2] Contento, G., Canepa, L., 1993, Studio sperimentale dell'accoppiamento rollio-sloshing per un peschereccio con un compartimento allagato in mare regolare al traverso, *TECNICA ITALIANA*, Vol. 5, pp. 345-357 (in italian).
- [3] Contento, G., Francescutto, A., Coppola, C., Penna, R., 1994, Una metodologia per l'analisi delle curve di estinzione del rollio, *TECNICA ITALIANA*, Vol. 59, pp. 1-14 (in italian).
- [4] Francescutto, A., Contento, G., Piciullo, M., 1996, On the Effectiveness of Constant Coefficients Roll Motion Equation, *OCEAN ENGINEERING*, Vol. 23, pp. 597-618.
- [5] Francescutto, A., Contento, G., 1999, Bifurcations in Ship Rolling: Experimental Results and Parameter Identification Technique, *OCEAN ENGINEERING*, Vol. 26, pp. 1095-1123.
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- [7] Contento, G., 2000, Numerical Wave Tank Computations of Nonlinear Motions of 2D Arbitrarily Shaped Floating Bodies, *International Journal Ocean Engineering*, Vol. 27, pp. 531-556.
- [8] Contento, G., D'Este, F., 2000, On the Mathematical Modelling of Roll Motion of a Ship with a List, *INTERNATIONAL JOURNAL OF OFFSHORE AND POLAR ENGINEERING - IJOPE*, The Int. Society of Offshore and Polar Engineers, Vol. 10, No. 4, pp. 316-320.
- [9] Contento, G., Codiglia, R., D'Este, F., 2001, Nonlinear effects in transient non-breaking waves in a closed flume, *APPLIED OCEAN RESEARCH*, Vol. 23/1, pp. 3-13.
- [10] Contento, G., Codiglia, R., 2001, Nonlinear free surface induced pressure on a submerged horizontal circular cylinder at low Keulegan-Carpenter numbers, *APPLIED OCEAN RESEARCH*, Vol. 23, pp. 175-185.
- [11] Contento, G., D'Este, F., Sicchiero, M., Codiglia, R., Calzà, M., 2005, Run-up and Wave Forces on an Array of Vertical Circular Cylinders: Experimental Study on the Second-Order Near Trapping *INTERNATIONAL JOURNAL OF OFFSHORE AND POLAR ENGINEERING - IJOPE*, The Int. Society of Offshore and Polar Engineers, Vol. 15, No. 2, pp. 96-103.
- [12] Contento, G., Lupieri, G., Venturi, M., Ciuffardi, T., 2011, A Medium-Resolution Wave Hindcast Study Over the Central and Western Mediterranean Sea, *INTERNATIONAL JOURNAL OF MARINE SCIENCE AND TECHNOLOGY*, DOI 10.1007/s00773-011-0122-5, Volume 16/2011.
- [13] Lupieri, G., Contento, G., 2015, Numerical simulations of 2-D steady and unsteady breaking waves, *OCEAN ENGINEERING*, DOI 10.1016/j.oceaneng.2015.07.014, Volume 106, pp. 298-316.
- [14] Lupieri, G., Contento, G., 2016, A numerical study on the viscous effects of waves travelling past a weakly submerged cylinder. *BRODOGRADNJA*, vol. 67, p. 61-79, ISSN: 0007-215X, doi: 10.21278/brod67405.
- [15] Lupieri, G., Contento, G., 2016, On the wavy flow past a weakly submerged horizontal circular cylinder at low Keulegan-Carpenter numbers, *JOURNAL OF MARINE SCIENCE AND TECHNOLOGY*, doi: 10.1007/s00773-017-0445-y
- [16] Contento, G., Lupieri, G., Puzzer, T., 2018, On the nonlinear transformation of breaking and non-breaking waves induced by a weakly submerged shelf, (accepted) to appear on *JOURNAL OF HYDRODYNAMICS*, doi:
- [17] Pigazzini, R., Contento, G., Martini, S., Puzzer, T., Morgut, M., Mola, A., 2018, VIV analysis of a single elastically-mounted 2D cylinder: parameter identification of a single-degree-of-freedom multi-frequency model, *JOURNAL OF FLUIDS AND STRUCTURES*, doi: 10.1016/j.jfluidstructs.2018.01.005
- [18] Morgut, M., Jošt, D., Škerlavaj, A., Nobile, E., Contento, G., 2018, Numerical Predictions of Cavitating Flow Around a Marine Propeller and Kaplan Turbine Runner with Calibrated Cavitation Models, *Strojniški Vestnik – JOURNAL OF MECHANICAL ENGINEERING*, doi: 10.5545/sv-jme.2017.4647

## Conference Papers

- [1] Francescutto, A., Contento, G., 1987, Studio di una procedura computerizzata per lo sviluppo fasciame per scafi a spigolo, *Proceedings, 5th Int. Symp. on Fishing Vessels - Techincs and Technology*, Ancona, pp.92-98 (in italian).
- [2] Contento, G., Francescutto, A., Armenio, V., 1991, Stability After Damage in a Seaway for a RoRo Passenger Ship, *Proceedings, 2nd Int. Conference on RoRo Safety and Vulnerability - The Way Ahead*, The Royal Institution of Naval Architects, London, Vol. 1.
- [3] Francescutto, A., Armenio, V., Contento, G., Cardo, A., 1991, On the Mechanics of Transient Damaged Ship Flooding", *Proceedings, Int. Symposium on Hydro and Aerodynamics in Marine Engineering - HADMAR '91*, Varna, Vol. 2, pp. 52.1-52.9.
- [4] Armenio, V., Contento, G., Francescutto, A., 1992, Numerical Simulation of a Small Amplitude Roll Motion of a Ship with Water on Deck, *Proceedings, 1° Congresso Nazionale della Società Italiana di Matematica Applicata ed Industriale*, Firenze, pp. 360-361.
- [5] Armenio, V., Cardo, A., Contento, G., Francescutto, A., 1992, Time Domain Simulation of Roll Motion of a Ship with Liquids with Free Surface, *Proceedings, Int. Conference on Computer Aided Design and Modelling of Offshore Structures - CADMO '92*, Madrid, pp. 407-428.
- [6] Contento, G., Cardo, A., 1993, Numerical Study of the Liquid Sloshing in a Container on Board of a Ship in Beam Sea, *Proceedings, 7° Convegno Italiano di Meccanica Computazionale*, Trieste, pp. 148-153.
- [7] Cardo, A., Francescutto, A., Armenio, V., Contento, G., 1993, Dynamic Effects of Liquids on Board on the Stability of a Fishing Vessel, *Proceedings, 6th Int. Conference of the Maritime Association of Mediterranean - IMAM '93*, Varna, Bulgaria, Vol. 1, pp. 107-116.
- [8] Francescutto, A., Contento, G., 1994, An Experimental Study of the Coupling Between Roll Motion and Sloshing in a Compartment, *Proceedings, 4th Int. Offshore and Polar Engineering Conference - ISOPE '94*, Osaka, The Int. Society of Offshore and Polar Engineering, Vol. 3, pp. 283-291.
- [9] Cardo, A., Contento, G., Coppola, C., Francescutto, A., Penna, R., 1994, On the Nonlinear Ship Roll Damping Components, *Proceedings, Int. Conference on Ship and Marine Research - NAV'94*, Roma, Vol. 1.
- [10] Francescutto, A., Contento, G., Penna, R., 1994, Experimental Evidence of Strong Nonlinear Effects in the Rolling Motion of a Destroyer in Beam Sea, *Proceedings, 5th Int. Conference on Stability of Ship and Ocean Vehicles - STAB'94*, Melbourne, Florida, USA.
- [11] Contento, G., 1995, A Numerical Wave Tank for the Free Floating Body Problem, *10th Int. Workshop on Water Waves and Floating Bodies*, Oxford.
- [12] Contento, G., Casole, S., 1995, On the Generation and Propagation of Waves in 2D Numerical Wave Tanks, *Proceedings, 5th Int. Offshore and Polar Engineering Conference - ISOPE'95*, The Hague, The Int. Society of Offshore and Polar Engineering, Vol. 3, pp. 10-18.
- [13] Francescutto, A., Contento, G., Penna, R., 1995, Experimental Study of the Nonlinear Rolling of a Fishing Vessel in Regular Beam Sea, *Proceedings, 5th Int. Symp. on Fishing Vessels - Techincs and Technology*, Ancona, pp. 62-72.
- [14] Armenio, V., Contento, G., Francescutto, A., 1995, The Role and the Methods of Simulation of Ship Behaviour at Sea Including Ship Capsizing, *1st Int. Workshop on Numerical and Physical Simulation of Ship Capsize in Heavy Seas*, University of Strathclyde, Scozia, UK.
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- [16] Francescutto, A., Contento, G., Armenio, V., 1996, A Fully Hydrodynamic Approach to the Motion in Waves of Ships with Free Surface Liquids on Board, *Proceedings, 11th Int. Workshop on Water Waves and Floating Bodies*, Hamburg.
- [17] Contento, G., 1996, Nonlinear Phenomena in the Motions of Unrestrained Bodies in a Numerical Wave Tank, *Proceedings, 6th Int. Offshore and Polar Engineering Conference - ISOPE'96*, Los Angeles, The Int. Society of Offshore and Polar Engineering, Vol. 3, pp. 18-22.
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- [19] Francescutto, A., Contento, G., 1997, An Investigation on the Applicability of Simplified Mathematical Models in the Roll-Sloshing Problem, *Proc. 7th Int. Conference on Offshore and Polar Engineering - ISOPE'97*, Honolulu, The Int. Society of Offshore and Polar Engineering, Vol. 3, pp. 507-514.
- [20] Cardo, A., Francescutto, A., Armenio, V., Contento, G., Penna, R., 1997, A Parametric Analysis of Roll/Induced Sloshing Motion, *Proceedings, Int. Conference on Ship and Marine Research - NAV'97*, Sorrento, pp.7.39-7.52.
- [21] Francescutto, A., Contento, G., 1997, Dynamic Effects of Sloshing of Water on Board a Fishing Vessel, *Proceedings, Int. Workshop on Fishing Vessel Technology*, N. Umeda Ed., Publ. Nat. Res. Inst. of Fish. Eng. Hasaki, Japan, in Contributions to Researches of Fisheries Engineering, Vol. 6, pp. 58-71.
- [22] Penna, R., Francescutto, A., Contento, G., 1997, Uncertainty Analysis Applied to the Parameter Estimation in Nonlinear Rolling, *Proceedings, 6th Int. Conference on Stability of Ships and Ocean Structures - STAB'97*, P. A. Bogdanov Ed., Varna, Vol. I, pp. 75-82.
- [23] Contento, G., Francescutto, A., Sebastiani, L., 1997, Experimental Results of Nonlinear Rolling in Biased Conditions in Beam Waves, *Proceedings, 6th Int. Conference on Stability of Ships and Ocean Structures - STAB'97*, P. A. Bogdanov Ed., Varna, Vol. I, pp. 129-134.
- [24] Contento, G., 1997, On the Direct Computation of Large Amplitude Motions of Floating Bodies in Regular and Irregular Waves: The Numerical Wave Tank Approach. An Application to Subharmonic Oscillations in Steep Waves *Proceedings, 6th Int. Conference on Stability of Ships and Ocean Structures - STAB'97*, P. A. Bogdanov Ed., Varna, Vol. II, pp. 319-323.
- [25] Contento, G., Francescutto, A., 1997, Intact Ship Stability in Beam Seas: Mathematical Modelling of large Amplitude Motions, *3rd Int. Workshop on Numerical and Physical Simulation of Ship Capsize in Heavy Seas*, Hersonissos, Greece.
- [26] Contento, G., Francescutto, A., Peri, D., 1998, CFD and Experiments in Marine Hydrodynamics: a Simple Test Case for Validation, *22nd Symposium on Naval Hydrodynamics ONR*, Washington, DC.
- [27] Contento, G., Francescutto, A., Lalli, F., 1998, Nonlinear Wave Loads on Single Vertical Cylinders - Pressure and Wave Field Measurements and Theoretical Predictions, *Proceedings, 8th Int. Conference on Offshore and Polar Engineering - ISOPE'98*, Montreal, The Int. Society of Offshore and Polar Engineering, Vol. 3, pp. 526-534.
- [28] Francescutto, A., Contento, G., Biot, M., Schiffrer, L., Caprino, G., 1998, The Effect of Excitation Modelling in the Parameter Estimation of Nonlinear Rolling, *Proceedings, 8th Int. Conference on Offshore and Polar Engineering - ISOPE'98*, Montreal, The Int. Society of Offshore and Polar Engineering, Vol. 3, pp. 490-498.
- [29] Francescutto, A., Contento, G., 1998, A Case Study of the Stability of a Small Fishing Vessel in Waves, *Proceedings, 2nd International Conference on Marine Industry MARIND'98*, P. A. Bogdanov Ed., Varna, Bulgaria, Vol. 1, pp. 127-132.
- [30] Francescutto, A., Contento, G., 1998, On the Coupling Between Roll and Pitch Motions in Beam Waves *Proceedings, 2nd International Conference on Marine Industry MARIND'98*, P. A. Bogdanov Ed., Varna, Bulgaria, Vol. 2, pp. 105-113.
- [31] Codiglia, R., Contento, G., Francescutto, A., 1998, Studio della qualità delle onde generate alla Vasca dell'Università di Trieste. *Seminario, Stima dell'Incertezza Globale per la Determinazione della Qualità delle Prove in Vasca*, INSEAN, Roma (in italian).
- [32] Francescutto, A., Contento, G., 1998, The Modelling of the Excitation of Large Amplitude Rolling in Beam Waves, *Proceedings, 4th International Ship Stability Workshop*, St. Johns, Newfoundland, 1998.
- [33] Contento, G., Francescutto, A., Ricci, P.L., Zotti, I., 1999, Systematic Comparison on Towing and Wavemaking Resistance and Rolling Motions Between a Round-Bilge and a Wedge-Type Hull, *Proceedings, 5th Symposium on High Speed Marine Vehicles HSMV'99*, Capri, pp. III.9.1-III.9.12.
- [34] Contento, G., D'Este, F., 1999, On the Mathematical Modelling of Roll Motion of a Ship with a List, *Proceedings, 9th Int. Conference on Offshore and Polar Engineering - ISOPE'99*, Brest, The Int. Society of Offshore and Polar Engineering, Vol. 3, pp. 527-530.
- [35] Contento, G., D'Este, F., Calcagno, G., Penna, R., 2000, Experimental Evidence of Near Trapping in an Array of Bottom Mounted Circular Cylinder in Regular Waves, *Proceedings, Int. Conference of Offshore and Polar Engineering - ISOPE*, The Int. Society of Offshore and Polar Engineers, Seattle, Maggio-Giugno 2000, Vol. 3, pp. 281-287.

- [36] Codiglia, R., Contento, G., D'Este, F., 2000, 'Wave-wave nonlinear interaction in the focusing region of large waves', *Proceedings, Int. Conference on Ship and Marine Research - NAV'2000*, September 2000, Venice, Vol. 1, pp. 4.1.1-4.1.11.
- [37] Contento, G., Sebastiani, L., 2000, Nonlinear effects in the radiation loads on ship with pronounced bow flare, *Proceedings, Int. Conference on Ship and Marine Research - NAV'2000*, September 2000, Venice, Vol. 2, pp. 7.5.1 –7.5.8.
- [38] D'Este, F., Contento, G., Codiglia, R., 2000, A 3d time-domain approach to radiation/diffraction loads on marine structures, *Proceedings, Int. Conference SORTA'2000*, November 2000, Rijeka, pp. 165-172.
- [39] Francescutto, A., Contento, G., 2000, Bifurcations in Ship Rolling: Experimental Results and Parameter Identification Technique, *Proceedings, Int. Conference OC 2000*, October 2000, Osaka, Japan, pp. 263-271.
- [40] D'Este, F., Codiglia, R., Contento, G., 2001, Fully Nonlinear Numerical Wave Tank Computations of Wave Loads on an Array of Bottom Mounted Circular Cylinders, *Proceedings, 1<sup>st</sup> Int. Conf. on Fluid Structure Interaction*, Halkidiki, Greece, September 26 – 28, pp. 291-303.
- [41] Cardo, A., Codiglia, R., Contento, G., D'Este, F., 2001, Direct Simulation of Freak Waves for Extreme Design Conditions, *5<sup>th</sup> Int. Workshop on Stability and Operational Safety of Ships*, University of Trieste, 12-13 September 2001, pp. 5.3.1-5.3.6.
- [42] Codiglia, R., Contento, G., D'Este, F., Galeazzi, F., Sole, V., Coan, A., Spezzati, M., 2002, Experimental Study on a Spread Catenary Mooring for FPSO, *Proceedings, 12<sup>th</sup> Int. Conference on Offshore and Polar Engineering – ISOPE'2002*, Kitakyushu, Japan, Vol. 1, pp. 132-141.
- [43] D'Este, F., Codiglia, R., Contento, G., 2002, On the Side Wall Effect on the Non-Linear Wave Loads on a Tip Like Structure in a Wave Tank: Analysis of the Non-Linear Near Trapping, *Proceedings, 12<sup>th</sup> Int. Conference on Offshore and Polar Engineering – ISOPE'2002*, Kitakyushu, Japan, Vol. 3, pp. 196-202.
- [44] Calzà, M., D'Este, F., Contento, G., 2002, A DBIEM Analysis of Free Surface Oscillations in Harbours of Arbitrary Geometry, *Proceedings, 3<sup>rd</sup> International Conference on Maritime Engineering and Ports - PORTS & MARINAS 2002, 18 - 20 September 2002, Rhodes, Greece, WIT Press, ed A. Brebbia*.
- [45] Contento, G., D'Este, F., Codiglia, R., 2003, Numerical Study on the Non-linear Behaviour of Steep Isolated Unidirectional Waves, *13<sup>rd</sup> International Conference on Offshore and Polar Engineering – ISOPE'2003, May 2003, Honolulu – Hawaii, USA, Vol. 3, pp. 100-105*.
- [46] Calzà, M., D'Este, F., Contento, G., 2003, Numerical Simulation of Wind Waves Induced Oscillations in Harbours of Arbitrary Shape, *13<sup>rd</sup> International Conference on Offshore and Polar Engineering – ISOPE'2003, May 2003, Honolulu – Hawaii, USA, Vol. 3, pp. 809-814*.
- [47] Contento, G., D'Este, F., Sicchiero, M., Codiglia, R., Calzà, M., 2004, Run-up and wave forces on an Array of Vertical Circular Cylinders: Experimental Study on the Second Order Near Trapping, *14<sup>th</sup> International Conference on Offshore and Polar Engineering – ISOPE'2004, Tolone – France, Vol. 3, pp. 402-409*.
- [48] Contento, G., Ledri, M., Codiglia, L., 2006, Experimental Analysis of the Vertical Motions of a IACC Yacht with Calm Water Optimized Bulb, *2<sup>nd</sup> High Performance Yacht Design International – HYPD'2006, Auckland – New Zeland*.
- [49] Contento, G., Fonda, S., Bortolotto, M., 2006, High Resolution Numerical Simulations of Harbour Oscillations, *Proceedings, Int. Conference on Ship and Marine Research - NAV'2006*, June 2006, Genova, Vol. 2, pp. 7.5.1 –7.5.8.
- [50] Accerboni, E., Bucci, M., Chincich, A., Contento, G., 2006, Application of a Third Generation Wave Model for Coastal Zone Management: Preliminary Set-up of SWAN Simulations for the Italian Seas, *Proceedings, Int. Conference on Hydrodynamics - ICHD'2006*, October 2006, Ischia, pp.403
- [51] Del Puppo, N., Contento, G., 2009, Automatic Bulb Parametric Optimization, *Proceedings ICTS 09 - International conference on transport science 2009, 4th-5th June 2009, Portoroz, Slovenia*,
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- [53] Del Puppo, N., Contento, G., Lavini, G., Genuzio, D.H., 2009, An improved bulb parametric optimization procedure, *Proceedings, Int. Conference on Ship and Marine Research - NAV'2009, 26<sup>th</sup>-27<sup>th</sup> November 2009, Messina, Vol I pp 50-56*.

- [54] Kijelberg, M., Contento, G., Janson, C.E., 2011, A Nested Domains Technique for a Fully Nonlinear Unsteady Three-Dimensional Boundary Element Method for Free-Surface Flows with Forward Speed, *International Conference on Offshore and Polar Engineering – ISOPE’2011*.
- [55] Del Puppo N., Contento G., 2011, A parametric representation of fair hull shapes by means of splines in tension. In: Enrico Rizzuto, Carlos Guedes Soares. *International Conference IMAM’2011, Sustainable Maritime Transportation and Exploitation of Sea Resources*. Genova, settembre, p. 449-459, CRC Press, ISBN: 9780203130339
- [56] Contento, G., Lupieri, G., Venturi, M., Ciuffardi, T., 2011, A Wave Hindcast Study Over the Italian Seas: Validation Against Field Data from Wave Buoys, *Proceedings of the International Offshore Mediterranean Conference – OMC’2011*.
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## [Chapters of Books](#)

- [1] Armenio, V., Contento, G., Cardo, A., Francescutto, A., 1992, Time Domain Simulation of Transient Roll Motion of a Ship with Liquids with Free Surface, in “Design of Marine and Offshore Structures” T.K.S. Murthy, J.A. Alaez Editors, Elsevier Sc. Ltd., pp. 407-428.

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## Projects' Technical Reports

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