Curriculum Vitae

Personal Details

Name: Daniel
Surnames: Cantero Lauer
Date of birth: 25th of March 1981
Nationality: Spanish
E-mail: daniel.cantero@ntnu.no

Education

Oct. 2006 – Feb. 2010	PhD. at UCD University College Dublin (Ireland). Thesis title: Assessment of highway bridge dynamics due to traffic loading
Oct. 2003 – Jun. 2004	Academic year at University of Portsmouth (United Kingdom), Erasmus scholarship
Sep. 1999 – Jul. 2005	MEng in Civil Engineering at University of Granada (Spain)

Professional Experience

Jul. 2017 – Present	Associate Professor, NTNU Norwegian University of Science and Technology.
Apr. 2015 – Jun. 2017	Postdoctoral researcher, NTNU Norwegian University of Science and Technology.
Mar. 2014 – Mar. 2015	Postdoctoral researcher, KTH Royal Institute of Technology (Sweden), Marie Curie FP7 Long Life Bridges project.
Mar. 2013 – Feb. 2014	Research engineer, Roughan & O'Donovan Innovative Solutions (RODIS), Dublin, Ireland.
Mar. 2012 – Feb. 2013	Postdoctoral research fellow, Trinity College Dublin (Ireland), Department of Civil Engineering. Marie Curie FP7 NOTES project.
Mar. 2011 – Feb. 2012	Postdoctoral researcher, Plaxis B.V. (The Netherlands). Marie Curie FP7 NOTES project.
Sep. 2005 – Sep. 2006	Construction site engineer, AP-7 Cartagena–Vera Highway (Spain), for Ploder S.A.

Research Activity

Publications

1) S. Mei, D. Cantero, C. Caprani. Evolution of modal properties in the non-proportionally damped coupled vehicle-bridge system. Journal of Sound and Vibration. Vol. 597, Part A, 118803, 2025. DOI: https://doi.org/10.1016/j.jsv.2024.118803

2) D. Cantero, Z. Sarwar, A. Malekjafarian, R. Corbally, M. Makki Alamdari, P. Cheema, H. Noh, J. Liu, J. Aggarwal. Numerical benchmark for road bridge damage detection from

passing vehicles responses applied to four data-driven methods. *Archives of Civil and Mechanical Engineering*. Vol. 24, art. num. 190, 2024. Dataset Zenodo repository Link. DOI: 10.1007/s43452-024-01001-9

3) D. Cantero. VBI-2D – Road vehicle-bridge interaction simulation tool and verification framework for Matlab. *Software X*. Vol. 26, 101725, 2024. GitHub repository Link. CodeOcean capsule Link. DOI: 10.1016/j.softx.2024.101725

4) M. A. Cheema, M. Z. Zohaib, V. C. Gogineni, D. Cantero, P. S. Rossi. Computationally-efficient structural health monitoring using graph signal processing. *IEEE Sensors Journal*. Vol. 24(7), pp. 11895-11905, 2024. DOI: 10.1109/JSEN.2024.3366346

5) Z. Sarwar, D. Cantero. Probabilistic autoencoder-based bridge damage assessment using train-induced responses. *Mechanical Systems and Signal Processing*. Vol. 208, 111046, 2024. DOI: 10.1016/j.ymssp.2023.111046

6) D. Cantero, CW Kim. Convoluted reciprocity and other methods for vehicle speed estimation in Bridge Weigh-in-Motion systems. *ASCE Journal of Bridge Engineering*, Vol. 29(2), 2024. DOI: 10.1061/JBENF2.BEENG-6422

7) S. Mei, C. Caprani, D. Cantero. Dynamic amplification of multi-span simply-supported prestressed concrete girder viaducts subjected to multi-body heavy vehicles. *Structures*, Vol. 55, pp. 587-605, 2023. DOI: 10.1016/j.istruc.2023.05.125

8) M.Z. Sarwar, D. Cantero. Vehicle assisted bridge damage assessment using probabilistic deep learning. *Measurement*, Vol. 206: 112216, 2023. DOI: 10.1016/j.measurement.2022.112216

9) A. Menga, T. Kanstad, D. Cantero, A.B.E. Klausen, L. Bathen, K. Hornbostel. Corrosion-induced damages and failures of posttensioned bridges: A literature review. *Structural Concrete*, Vol. 24(1), pp. 84-99, 2023. DOI: 10.1002/suco.202200297

10) D. Cantero. TTB-2D: Train-Track-Bridge interaction simulation tool for Matlab. *Software X*, Vol. 20: 101253, 2022. GitHub repository Link. CodeOcean capsule Link. DOI: 10.1016/j.softx.2022.101253

11) Y. Ren, E.J. OBrien, D. Cantero, J. Keenahan. Detecting railway bridge damage using numerically calculated responses from batches of trains. *Applied Sciences*, Vol. 12 (10): 4972, 2022. DOI: 10.3390/app12104972

12) D. Cantero. VEqMon2D – Equations of motion generation tool of 2D vehicles with Matlab. *Software X*, Vol. 19: 101103, 2022. GitHub repository Link. CodeOcean capsule Link. DOI: 10.1016/j.softx.2022.101103

13) M.W. Meyer, D. Cantero, R. Lenner. Dynamics of long multi-trailer heavy vehicles crossing short to medium span length bridges. *Engineering Structures*, Vol. 247, 2021. DOI: 10.1016/j.engstruct.2021.113149.

14) M.Z. Sarwar, D. Cantero. Deep autoencoder architecture for bridge damage assessment using responses from several vehicles. *Engineering Structures*, Vol. 246C, 2021. DOI: 10.1016/j.engstruct.2021.113064

15) A. Malekjafarian, E. OBrien, P. Quirke, D. Cantero, Fatemeh Golpayegani. Railway track loss-of-stiffness detection using bogie filtered displacement data measured on a passing train. *Infrastructures*, Vol. 6(6), 2021. DOI: 10.3390/infrastructures6060093

16) D. Cantero. Moving point load approximation from bridge response signals and its application to Bridge Weigh-in-Motion. *Engineering Structures*, Vol. 233, 2021. DOI: 10.1016/j.engstruct.2021.111931

17) P. Quirke, E.J. OBrien, C. Bowe, D. Cantero, A. Malekjafarian. The calibration challenge when inferring longitudinal track profile from the inertial response of an in-service train. *Canadian Journal of Civil Engineering*, Vol. 49(2), pp. 274-288, 2021. DOI: 10.1139/cjce-2020-0069

18) P.C. Fitzgerald, A. Malekjafarian, D. Cantero, E.J. OBrien, L.J. Prendergast. Drive-by vibration-based scour monitoring approach for railway bridges using a wavelet-based scour detection algorithm. *Engineering Structures*, Vol. 191, pp. 1-11, 2019. DOI: 10.1016/j.engstruct.2019.04.046

19) D. Cantero, P. McGetrick, C.W. Kim, E.J. OBrien. Experimental monitoring of bridge frequency evolution during the passage of vehicles with different suspension properties. *Engineering Structures*, Vol. 187, pp. 209-219, 2019. DOI: 10.1016/j.engstruct.2019.02.065

20) O. Mohammed, A. Gonzalez, D. Cantero. Dynamic impact of heavy long vehicles with equally spaced axles on short-span highway bridges. *The Baltic Journal of Road and Bridge Engineering*, Vol. 13, pp. 1-13, 2018. DOI: 10.3846/bjrbe.2018.382

21) D. Cantero, O. Øiseth, A. Rønnquist. Indirect monitoring of vortex shedding in bridge hangers. *Structural Health Monitoring*. Vol. 17, pp. 837-849, 2018. DOI: 10.1177/1475921717721873

22) P. Quirke, C. Bowe, E. J. OBrien, D. Cantero, J. M. Goicolea, P. Antolin. Railway bridge damage detection using vehicle-based inertial readings and apparent profile. *Engineering Structures*. Vol. 153, pp. 421-442, 2017. DOI: 10.1016/j.engstruct.2017.10.023

23) E.J. OBrien, P. Quirke, C. Bowe, D. Cantero. Determination of railway track longitudinal profile using measured inertial response of an in-service railway vehicle. *Structural Health Monitoring*. 2017. DOI: 10.1177/1475921717744479.

24) D. Cantero, D. Hester, J. Brownjohn. Evolution of bridge modal properties during truck passage. *Engineering Structures*. Vol. 152, pp. 452–464, 2017. DOI: 10.1016/j.engstruct.2017.09.039

25) D. Cantero, A. Rønnquist, A. Naess. Tension during parametric excitation in submerged vertical taut tethers. *Applied Ocean Research*, Vol. 65, pp. 279-289, 2017. DOI: 10.1016/j.apor.2017.05.002

26) G.T. Frøseth, A. Rønnquist, D. Cantero, O. Øiseth. Influence line extraction by deconvolution in the frequency domain. *Computers & Structures*, Vol. 189, pp. 21-30, 2017. DOI: 10.1016/j.compstruc.2017.04.014

27) E.J. OBrien, C. Bowe, P. Quirke, D. Cantero. Determination of longitudinal profile of railway track using vehicle-based inertial readings. *Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit*, Vol. 231, No. 5, pp. 518-534, 2017. DOI: 10.1177/0954409716664936

28) P. Quirke, D. Cantero, E.J. OBrien, C. Bowe. Drive-by detection of railway track stiffness variation using in-service vehicles. *Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit*, Vol. 231, No. 4, pp. 498-514, 2017. DOI: 10.1177/0954409716634752

29) A. Tabaković, W. Post, D. Cantero, O. Copuroglu, S.J. Garcia, E. Schlangen. The reinforcement and healing of asphalt mastic mixtures by rejuvenator encapsulation in alginate compartmented fibres. *Smart Materials and Structures*, Vol. 25, No. 8, 2016. DOI: 10.1088/0964-1726/25/8/084003

30) D. Cantero, M. Ülker-Kaustell, R. Karoumi. Time-frequency analysis of railway bridge response in forced vibration. *Mechanical Systems and Signal Processing*, Vol. 76-77, pp. 518-530, 2016. DOI: 10.1016/j.ymssp.2016.01.016

31) D. Cantero, R. Karoumi. Numerical evaluation of the mid-span assumption in the calculation of total load effects in railway bridges. *Engineering Structures*, Vol. 107, pp. 1-8, 2016. DOI: 10.1016/j.engstruct.2015.11.005

32) H. A Aied, A. González , D. Cantero. Identification of sudden stiffness changes in the acceleration response of a bridge to moving loads using ensemble empirical mode decomposition. *Mechanical Systems and Signal Processing*, Vol. 66-67, pp. 314-338, 2016. DOI: 10.1016/j.ymssp.2015.05.027

33) D. Cantero, T. Arvidsson, E. OBrien, R. Karoumi. Train–track–bridge modelling and review of parameters. *Structure and Infrastructure Engineering*. Vol. 12, No. 9, pp. 1051-1064, 2016. DOI: 10.1080/15732479.2015.1076854

34) D. Cantero, R. Karoumi, A. González. The virtual axle concept for detection of localised damage using bridge weigh-in-motion data. *Engineering Structures*, Vol. 89, pp. 26-36, 2015. DOI: 10.1016/j.engstruct.2015.02.001

35) D. Cantero, A. González. Bridge damage detection using Weigh-In-Motion technology. *ASCE Bridge Engineering*, 2014. DOI: 10.1061/(ASCE)BE.1943-5592.0000674

36) D. Cantero, B. Basu. Railway infrastructure damage detection using wavelet transformed acceleration response of traversing vehicle. *Structural Control and Health Monitoring*, Vol. 22(1), pp. 62-70, 2014. DOI: 10.1002/stc.1660

37) D. Cantero, E.J. OBrien. The non-stationarity of apparent bridge natural frequencies during vehicle crossing events. *FME Transactions*, Vol. 41, pp. 279-284, 2013. (Link)

38) A. González, D. Cantero, E.J. OBrien. Dynamic increment for shear force due to heavy vehicles crossing a highway bridge. *Computers & Structures*, Vol. 89, pp. 2261-2272, 2011. DOI: 10.1016/j.compstruc.2011.08.009

39) D. Cantero, A. González, E.J. OBrien. Comparison of bridge dynamic amplifications due to articulated 5-axle trucks and large cranes. *The Baltic Journal of Road and Bridge Engineering*, Vol. 6(1), pp. 39-47, 2011. DOI: 10.3846/bjrbe.2011.06

40) E.J. OBrien, D. Cantero, B. Enright, A. González. Characteristic dynamic increment for extreme traffic loading events on short and medium span highway bridges. *Engineering Structures*, Vol. 32, pp. 3827-3835, 2010. DOI: 10.1016/j.engstruct.2010.08.018

41) D. Cantero, E.J. OBrien, A. González. Modelling the vehicle in vehicle-infrastructure dynamic interaction studies. *Proceedings of the Institution of Mechanical Engineers, Part K – Journal of Multi-body Dynamics*, Vol. 224, pp. 243-248, 2010. DOI: 10.1243/14644193JMBD228

42) A. González, E.J. OBrien, D. Cantero, Y. Li, J. Dowling, A. Znidaric. Critical speed for the dynamics of truck events on bridges with a smooth road surface. *Journal of Sound and Vibration*, Vol. 329, pp. 2127-2146, 2010. DOI: 10.1016/j.jsv.2010.01.002

43) D. Cantero, A. González, E.J. OBrien. Maximum dynamic stress on bridges traversed by moving loads. *Proceedings of the Institution of Civil Engineers - Bridge Engineering*, Vol. 162, pp. 75-85, 2009. DOI: 10.1680/bren.2009.162.2.75

Publications (submitted / under review)

1) S. Tola, E.J. OBrien, D. Cantero, J. Tinoco, J.C. Matos. Drive-by detection of scour in a railway bridge. Submitted for publication.
2) S. Mei, C. Caprani, D. Cantero. Dynamic modeling of arbitrary 3D multi-body road vehicles for vehicle-infrastructure interaction. Submitted for publication.
3) J. Irawan, C.W. Kim, D. Cantero, T. Yokoyama. Revised virtual axle method for damage detection using Bridge Weigh-in-Motion systems. Submitted for publication.
4) M.A. Cheema, M.Z. Sarwar, D. Cantero, P. Salvo Rossi. Clustered federated learning for population-based structural health monitoring. Submitted for publication.

Conference Publications

1) S. Tola, J. Tinoco, JC. Matos, E. OBrien, D. Cantero. Detecting railway bridge scour using in-service train signals and machine learning tools. IABSE Congress 2024, San Jose, Costa Rica.
2) J. Irawan, CW. Kim, D. Cantero. Rotation angle-based virtual axle concept for bridge damage detection. JSCE Annual Conference, 2024.
3) D. Cantero, CW. Kim. Vehicle speed estimation in BWIM systems via convoluted reciprocity. IABMAS 2024, June 2024, Copenhagen, Denmark. DOI: 10.1201/9781003483755-158
4) D. Cantero. Bridge weigh-in-motion to support SHM. 8th International Symposium on Life-Cycle Civil Engineering, IALCCE 2023, July 2023, Milan, Italy. DOI: 10.1201/9781003323020-232
5) S. Mei, C. Caprani, D. Cantero. Probabilistic dynamic amplification of Australian B-Double trucks. 14th International Conference on Applications of Statistics and Probability in Civil Engineering, ICASP14, July 2023, Dublin, Ireland.
6) T. Yokoyama, C.W. Kim, D. Cantero. Bridge damage detection by means of displacement based Bridge Weigh-in-Motion. 9th Asia-Pacific workshop on Structural Health Monitoring, APWSHM 2022, December 2022, Cairns, Australia. DOI: 10.21741/9781644902455-31
7) M.Z. Sarwar, D. Cantero. Data-driven bridge damage detection using multiple passing vehicles responses. IABMAS 2022, July 2022, Barcelona, Spain. DOI: 10.1201/9781003322641-120
8) D. Cantero. Moving point load approximation for BWIM. IABMAS 2022, July 2022, Barcelona, Spain. DOI: 10.1201/9781003322641-152
9) A. Menga, T. Kanstad, D. Cantero. L. Bathen, K. Hombostel. Corrosion-induced failures of post-tensioned bridges. CACRCS days 2021, November 2021, on-line.

10) M.Z. Sarwar, D. Cantero. Unsupervised deep learning-based damage detection using the fleet-sourcing concept. 10th International Conference on Structural Health Monitoring of Intelligent Infrastructure, SHMII-10, June 2021, Porto, Portugal.

11) D. Cantero, R. Karoumi. The virtual axle concept for bridge weigh-in-motion systems. 8th International Conference on Weigh-in-Motion, ICWIM 8, May 2019, Prague, Czech Republic.

12) P. Quirke, E.J. OBrien, C. Bowe, A. Malekjafarian, D. Cantero. Estimation of railway track longitudinal profile using vehicle-based inertial measurements. 2nd GeoMEast International congress and exhibition on sustainable civil infrastructures, November 2018, Cairo, Egypt. DOI: 10.1007/978-3-030-01911-2_1

13) E.J. OBrien, P. Quirke, C. Bowe, P. Antolin, D. Cantero, J. Goicolea. Structural health monitoring of bridges using vehicle-based inertial measurements. 10th International conference on Short and Medium Span Bridges, August 2018, Quebec, Canada.

14) D. Cantero, A. Rønnquist. Maximum stresses in mooring lines during parametric excitation. 9th International Conference on Bridge Maintenance, Safety and Management, IABMAS 2018, July 2018, Melbourne, Australia.

15) P. Quirke, E.J. OBrien, C. Bowe, D. Cantero. Estimation of railway track longitudinal profile using vehicle-based inertial measurements. N. Dervilis (eds), Special topics in structural dynamics, Volume 5, Conference Proceedings of the Society for Experimental Mechanics Series. IMAC XXXVI, January 2018, Orlando, United States. DOI: 10.1007/978-3-319-75390-4_12

16) D. Cantero, A. Rønnquist. Numerical evaluation of modal properties change of railway bridges during train passage. X International Conference on Structural Dynamics, EURODYN 2017, September 2017, Rome, Italy. DOI: 10.1016/j.proeng.2017.09.345

17) A. Malekjafarian, E.J. OBrien, D. Cantero. Railway track monitoring using drive-by measurements. The fifteenth East Asia-Pacific Conference on Structural Engineering and Construction, EASEC 15, October 2017, Xi'an, China.

18) D. Cantero, O. Øiseth, A. Rønnquist. Time-frequency analysis of suspension bridge response for identification of vortex induced vibrations. Experimental Vibration Analysis for Civil Engineering Structures, EVACES 2017, July 2017, San Diego, United States. DOI: 10.1007/978-3-319-67443-8_58

19) T. Arvidsson, A.Z. Kamali, A. Andersson, D. Cantero. Influence of sleeper passing frequency on short span bridges – Validation against measured results. First International Conference on Rail Transportation, July 2017, Chengdu, China.

20) D. Cantero, A. Rønnquist, A. Naess. Recent studies of parametrically excited mooring cables for submerged floating tunnels. 2nd International Symposium on Submerged Floating Tunnels and Underwater Tunnel Structures, SUFTUS 2016, December 2016, Chongqing, China. DOI: 10.1016/j.proeng.2016.11.571

21) D. Cantero, A. Rønnquist, A. Naess. Study of tension in mooring cables under parametric excitation for submerged floating tunnels. 19th Congress of IABSE, September 2016, Stockholm, Sweden.

22) E. OBrien, C. Bowe, P. Quirke, D. Cantero. Drive-by inference of vertical track longitudinal profile using accelerometer readings taken by in-service vehicles. CERI 2016 Civil Engineering Research in Ireland, August 2016, Galway, Ireland (Link).

23) D. Cantero, A. Rønnquist, A. Naess. Parametric excitation of mooring cables for submerged floating tunnels. IABSE Conference, May 2016, Guangzhou, China. DOI: 10.2749/222137816819259356

24) C. Bowe, P. Quirke, D. Cantero, E.J. OBrien. Drive-by structural health monitoring of railway bridges using train-mounted accelerometers. 5th ECCOMAS thematic conference on computational methods in structural dynamics and earthquake engineering, COMPDYN, May 2015, Crete Island, Greece.

25) D. Cantero, R. Karoumi. Total load effects of portal frame bridges in high-speed railway lines. J. Caicedo, S. Pakzad (eds.), Dynamics of Civil Structures, Volume 2, Conference proceedings of the Society for Experimental Mechanics Series. IMAC XXXIII, February 2015, Orlando, United States (Link).

26) O. Mohammed, D. Cantero, A. Gonzalez, S. Al-Sabah. Dynamic amplification factor of continuous versus simply supported bridges due to the action of a moving load. *1st Civil engineering research in Ireland*, CERI 2014. August 2014, Belfast, Northern Ireland (Link).

27) D. Cantero, R. Karoumi, E. Obrien. Maximum total load effects in Vehicle-Bridge dynamic interaction problems for simply supported structures. *IX International conference on structural dynamics*, EURODYN 2014. July 2014. Porto, Portugal. (Link)

28) D. Cantero, E. OBrien, R. Karoumi. Extending the assessment dynamic ratio to railway bridges. *The 2nd international conference on railway technology: Research, Development and maintenance*, RAILWAY 2014. April 2014. Corsica, France. DOI: 10.4203/ccp.104.67

29) D. Hester, D. Cantero. Wavelet based structural health monitoring using bridge response to a moving vehicle. *The 6th International conference on structural health monitoring of intelligent infrastructure*, SHMII-6. December 2013. Hong Kong. (Link)

30) D. Cantero, E. Obrien. Tracing the evolution of bridge natural frequencies as a vehicle traverses the bridge. *11th International conference on vibration problems*, ICOVP, September 2013. Lisbon, Portugal. (Link)

31) D. Cantero, A. González, B. Basu. Monitoring of changes in bridge response using Weigh-In-Motion systems. *Damage Assessment of Structures X*, DAMAS, June 2013, Dublin, Ireland. Published in: *Key Engineering Materials*, Vols. 569-570, pp. 183-190, 2013. DOI: 10.4028/www.scientific.net/KEM.569-570.183 (UCD Repository: Link)

32) B.J. Walsh, A. González, D. Cantero. Application of cross-entropy method to estimate stiffness distribution in plate-type structures. *Tenth International Conference on Computational Structures Technology*. September 2010. Valencia (Spain). DOI: 10.4203/ccp.93.51

33) D. Cantero, E.J. OBrien, A. González, B. Enright, C. Rowley. Highway bridge assessment for dynamic interaction with critical vehicles. *The 10th International Conference on Structural Safety and Reliability*, ICOSSAR09. September 2009. Osaka (Japan). (Link)

34) A. González, D. Cantero, E.J. Obrien. The Impact of a bump on the response of a bridge to traffic. *Twelfth International Conference on Civil, Structural and Environmental Engineering Computing*. September 2009. Madeira (Portugal). DOI: 10.4203/ccp.91.83

35) D. Cantero, A. González. Location and evaluation of maximum dynamic effects on a simply supported beam due to a quarter-car model. *Bridge & Infrastructure Research in*

Ireland + Concrete Research in Ireland 2008, BRI08 – CRI08. December 2008. Galway (Ireland). (Link)

36) D. Cantero, A. González, E.J. Obrien. The use of ramp superposition to analyse the influence of road irregularities on maximum beam stresses due to a moving load. *Eleventh International Conference on Civil, Structural and Environmental Engineering Computing*. September 2007. St. Julians (Malta). DOI: 10.4203/ccp.86.196

Additional Publications

1) Intelligent concrete drying (2023)
   - M.Z. Sarwar, D. Cantero, M. Hendriks, M.R. Geiker. Concrete drying model. NTNU, Department of Structural Engineering., October 2023. ISBN 978-82-303-6235-8. DOI: 10.13140/RG.2.2.25821.59365 (NTNU open Link)

2) Hollow core falling (2023) (Link)
   - Final report: T. Kanstad, D. Cantero, M. Kristoffersen, G. Ji. Hollow core slabs in the assembly process – structural behaviour and strength during positioning of elements. NTNU, Department of Structural Engineering, June 2023. ISBN 978-82-7482-203-0. DOI: 10.13140/RG.2.2.19130.36805

3) MITICA project (2023) (Link)
   – D. Cantero, contributor to report: MITICA (Monitoring Transport Infrastructures with Connected and Automated vehicles) workshop report. Full reference: Gkoumas, K., Galassi, M.C., Allaix, D.L., Anthoine, A., Argyroudis, S., Baldini, G., Benedetti, L., Bono, F., Brownjohn, J., Caetano, E., Camata, G., Cantero, D., Cimellaro, G.P., Cutini, M., Escriba, S., Fugiglando, U., Gkoktsi, K., Horvath, R., Limongelli, M.P., Malekjafarian, A., Obrien, E.J., Petracca, M., Petrini, F., Sextos, A., Stoura, C., Tirelli, D. and Tsionis, G., Indirect structural health monitoring (iSHM) of transport infrastructure in the digital age. Publications Office of the European Union, Luxembourg, 2023. ISBN 978-92-76-61977-2. JRC131885. DOI: 10.2760/364830.

4) Bedre Bruvedlikehold Project (2021) (Link)
   - D. Cantero, T. Kanstad. Numerical investigations of damaged post-tension systems and their structural effect on bridges. NTNU, Department of Structural Engineering, May 2022. DOI: 10.13140/RG.2.2.28586.70082
   - A. Menga, T. Kanstad, D. Cantero. Corrosion induced failures of post-tensioned bridges. NTNU, Department of Structural Engineering, May 2022. DOI: 10.13140/RG.2.2.25231.25763
   - G. Pinto, D. Cantero. Modelling post-tensioned structures with DIANA FEM software. NTNU, Department of Structural Engineering, May 2022. DOI: 10.13140/RG.2.2.15164.92800

5) The E39 Coastal Highway Route (2016) (Link)
   - D. Cantero. A. Rønnquist. Summary report: Parametric excitation of mooring systems. NTNU, Department of Structural Engineering. May 2018. DOI: 10.13140/RG.2.2.28410.26562

6) Long Life Bridges Project (2015) (Link)

- Deliverable D1.4 Probabilistic evaluation of allowance for dynamics

7) BridgeMon Project (2014) (Link)
   - Deliverable D1.1 Numerical models of three bridge types
   - Deliverable D1.2 Technical specification for class A Bridge-WIM system
   - Deliverable D1.3 Algorithms for improved accuracy of static Bridge-WIM systems
   - Deliverable D2.1 Progress report on fatigue software development
   - Deliverable D3.2 Train-Track-Ballast-Bridge software
8) NOTES Project. (2013), (Link)
   - Deliverable Non-stationary response of spatially extended structures. Final report
   - Poster at Marie Curie Researchers Symposium, Science, Passion, Mission Responsibilities. September 2011. Warsaw (Poland).
9) ARCHES Project. (2009) (Link)
   - Deliverable D10: Recommendations on dynamic amplification allowance in assessment of bridges (Contributor)

Repositories

1) NuBe-DBBM: Numerical Benchmark for Drive-By Bridge Monitoring methods. Zenodo repository. First published 2023. DOI: 10.5281/zenodo.7741092
2) VBI-2D: Vehicle-Bridge Interaction simulation tool for Matlab. GitHub repository link: https://github.com/DanielCanteroNTNU/VBI-2D
3) TTB-2D: Train-Track-Bridge simulation tool for Matlab. GitHub repository link: https://github.com/DanielCanteroNTNU/TTB-2D
4) VEqMon2D: Analytical expressions generator for vehicle models in Matlab. GitHub repository link: https://github.com/DanielCanteroNTNU/VEqMon2D

Funding

- Project manager of "Herøysundbru tilstandsevaluering (Herøy FoU)" project funded by Nordland Fylkeskommune and Statens Vegvesen. Total budget 5 890 00 NOK.
- H2020 CSA funding "Harmonised transport infrastructure monitoring in Europe for optimal maintenance and safety (IM-SAFE)". Part of NTNU's working group. September 2020. Corresponding personal amount: 360 000 NOK.
- "Konstruktive konsekvenser av korrosjon i etteroppspennte betongbruer" Bilateral collaboration agreement between Norwegian Public Road Administration (NPRA) and NTNU. May 2018 – December 2021. Total amount: 640 000 NOK.
- "Detection of delamination in concrete structures" as part of an internal NTNU scheme for equipment upgrade. September 2018. Total amount: 106 000 NOK. (43 applications / 15 awarded)
- 3-year PhD position funded internally by NTNU Faculty of Engineering. December 2018. Total amount: 3 000 000 NOK (approximately)

Additional relevant information

- Guest lectures and invited speaker:
  - "Exploring new ideas for BWIM". Slovenian National Building and Civil Engineering Institute (ZAG), Ljubljana, Slovenia. 29th October 2024.
  - "Overview of BWIM technology". Department of Civil and Earth Resources. Kyoto University, Japan. 18th October 2023.
  - "BWIM and summary of special session". Trafikverket, Stockholm, Sweden. As part of NVF Bridge group meeting. 11th October 2023.
  - "Deep autoencoder model for road bridge damage assessment using vehicle responses", 6th-7th June 2022. Invited as expert to MITICA ER Workshop, at EU's JRC Ispra (Italy).
  - "Moving point load approximation for BWIM". KTH Royal Institute of Technology, Stockholm, Sweden. 22nd June 2022.
  - "Bridge Weigh-in-Motion, uso de puentes como básculas para vehículos". University of Granada, Spain. 12th March 2021.
  - "Practical steps to extend the lives of bridges". Engineers Ireland, Dublin, Ireland. 31st January 2014.
- Awards:
  - Best Presentation Award at the 8th International Conference in Weigh-in-Motion, Prague, 2019.
  - Best paper prize in Bridge & Infrastructure Research in Ireland + Concrete Research in Ireland 2008, December 2008, Galway, Ireland.
- PhD opponent for
  - Yue Shang, 5/06/2024 at TU Delft (The Netherlands). Thesis: Design optimization for railway transition zones
  - Yifu Lan, 31/10/2023 at Aalto University (Finland). Thesis: Algorithmic advancements in drive-by inspection methods towards intelligent bridge monitoring
- Reviewer of research applications for:

  Slovenian Research Agency (ARIS), in 2023
- Journal reviewer for:

  Proceedings of the Institution of Civil Engineers - Bridge Engineering
  Vehicle System Dynamics
  ASCE Journal of Infrastructure Systems
  ASCE Journal of Bridge Engineering
  Engineering Structures
  Journal of Sound and Vibration
  Part F: Journal of Rail and Rapid Transit
  Structure and Infrastructure Engineering
  Shock and vibration
  Mechanical Systems and Signal Processing
  Canadian Journal of Civil Engineering

Transportation Engineering
Nordic Concrete Research

- Member of:

  ISWIM: International society for Weigh-In-Motion (Link)
  IABMAS: International association for bridge management and safety (Link)
  BEI: Bridge Engineering Institute (Link)
  IALCCE: International association for life-cycle civil engineering (Link)
  IABSE: International Association for Bridge and Structural Engineering (Link)
  FIB: The International Federation for Structural Concrete (Link)
  NOACM: Nordic Association of Computational Mechanics (Link)

- Member of scientific committee at:

  ACHE IX (Int. Structures Congress), Granada, Spain, June 2025
  IPW2024 (Int. Probabilistic Workshop), Guimaraes, Portugal, May 2024
  FIB2022 (International Congress), Oslo, Norway, June 2022
  IPW2022 (Int. Probabilistic Workshop), Stellenbosch, South Africa, March 2022
  DinEst 2 (Segunda Conferencia de Dinámica Estructural), Gijon, Spain, July 2020
  DinEst (Primera Conferencia de Dinámica Estructural), Madrid, Spain, June 2018

- Member of local organising committee of

  DAMAS 2013 (10th International Conference on Damage Assessment of Structures), June 2013, Dublin, Ireland. (Link)

- Working groups

  Bridges (Nordic Road Association – NVF) 2020-2024 and 2024-2028
  IABSE task group TG1.10 Utilization of traffic data in research, design, and assessment of bridges

- Special session organizer and chair of:
  - "Bridge Weigh-in-Motion for Sustainable Bridge Management" at IABSE 2025 symposium, Tokyo, Japan.
  - "Bridge Weigh-in-Motion: recent experiences, technology developments, and new applications" at IABMAS 2024 conference, Copenhagen, Denmark.
  - "Bridge Weigh-in-Motion systems and applications to structural health monitoring" at IALCCE 2023 conference, Milan, Italy. (Role: Co-Organizer)
  - "Bridge Weigh-in-Motion: technology developments and applications for maintenance" at IABMAS 2022 conference, Barcelona, Spain.
  - "Submerged floating tunnels" at IABMAS 2018 conference, Melbourne, Australia.

- Workshop organizer of:
  - "Soil-structure interaction workshop", 22nd February 2013, Trinity College Dublin, Ireland. (http://notesproject.webs.com/workshop.htm)

- Reference systems / Databases / Indexing / ID

  ORCID: 0000-0001-8947-8569 (Link)
  Scopus Author ID: 35316871100 and 57190383343
  ResearcherID: D-9300-2017
  Linked-IN: www.linkedin.com/in/daniel-cantero/

Research Gate: www.researchgate.net/profile/Daniel_Cantero
Mendeley: www.mendeley.com/profiles/daniel-cantero/
Google Scholar: scholar.google.com/citations?user=0_Rp7sIAAAAJ&hl

- In the news:
  - NRK (nrk.no). "Skal la brua kollapse for å hindre nye brukollapser", October 2022. (Link)
  - Byggeindustrien (bygg.no). "Betongelementindustrien styrker samarbeidet med NTNU", September 2022. (Link)
  - The Irish Times (irishtimes.com). "Science snaps", November 2007. (Link, Link2)

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