

CURRICULUM VITAE

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Organisme d'affectation : Univ. Eiffel **Corps :** TPE **Grade :** ITPEHC
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Diplôme et titres universitaires

1990 Diplôme d'Ingénieur des Travaux Publics de l'Etat
1990 DEA Acoustique et Vibration de l'Ecole Centrale de Lyon
1993 PhD, University of Wales College of Cardiff, Grande Bretagne
2004 Habilitation à Diriger des Recherches, Université de Nantes

Langues : Français (langue maternelle), Anglais (lu, écrit, parlé), Espagnol (notions)

Déroulement de carrière :

1993-2025 Chercheure spécialisée sur les méthodes sismiques/ultrasonores pour l'auscultation des objets du génie civil
1997-2000 Co-animatrice de la Commission Technique « Mesure et Traitement de l'Information » du Pôle des Sciences de l'Ingénieur du LCPC
2002-2004 Animatrice de l'Opération « Champ physique et Propagation dans les sols et les structures du génie civil » du Comité de Programme LCPC « Auscultation, Surveillance et Diagnostic des Ouvrages, Reconnaissance des Sols Pathologie des ouvrages »
2006-2009 Coordinatrice du symposium international NDTCE'09
2012-2015 Présidente du Conseil Scientifique Restreint du Groupement d'Intérêt Scientifique LiRGcC (Institut Ligérien de Recherche en Génie Civil et Construction)
2012-2017 Pilote du Groupement d'Échange et de Recherche de l'Ifsttar « Evaluation Non destructive »
2011-2017 Membre du Comité AFF40 du TRB (USA) on Field Testing and Nondestructive Evaluation (NDE) of Transportation Structures
2001-2004 Membre du Conseil d'Administration de la Confédération Française pour les
2010-2013 Essais Non Destructifs (COFREND)
2016-2020 Coordinatrice du projet européen [H2020-MSCA-ITN INFRASTAR](#)
2015-2021 Directrice du laboratoire Géophysique et Évaluation Non Destructive (Département GERS)
2018-2021 Directrice du GIS Évaluation et Contrôle Non Destructif en Pays de la Loire ([ENCD_PdL](#))
2021 → Membre élue du Conseil Académique de l'Université Gustave Eiffel
2021 → Adjointe au Directeur du Département GERS en charge de la politique internationale
2013 → Membre du bureau du Pôle Scientifique et Technique de la Confédération Française pour les Essais Non Destructifs ([COFREND](#))
2015 → Co-organisatrice des doctoriales de la COFREND
2019 → Coordinatrice de l'[InfraStar Training School®](#)
2023 Co-organisatrice du congrès [Diagnobéton 2023](#)
2022-2025 Coordinatrice du projet [ANR-21-CE04-0007 FO-US](#)
2023-2027 Coordinatrice du projet européen [HORIZON-MSCA-2021-DN USES2](#)
2024-2028 Correspondante Univ. Eiffel pour le projet [HORIZON-CL5-2024-D4-02 RADIANCE](#)
2025 → Subject Editor for Civil Structures and Construction Materials [NDT&E International](#), Elsevier

Formation continue : 2019 Formation Python / 2019 Formation « prise de parole sensible » / 2012 et 2019 H0 H1 M1 / 2010 Formation sur les incertitudes de mesure / 2007 Formation Lecture rapide / 2004 Formation Management / 2002 Stage CNRS « Ondelettes » / 2000 Formations CESAR, HTML / 1994 – 1996 3 stages LCPC sur les méthodes statistiques / 1995 Stage "Système d'acquisition de signaux : conception et réalisation" à Supélec / 1994 Cours INRIA sur les méthodes numériques d'ordre élevé pour les ondes en régime transitoire / 1993 Cours INRIA sur les ondes guidées et résonances.

Affiliations en cours de validité : COFREND, AFGC, SFA

Prix : 2020 : Récompense les Étoiles de l'Europe pour le projet [H2020-MSCA-ITN INFRASTAR](#)

2005 : EAGE Mintrop Award pour l'article **Abraham O.**, Chammas R., Côte Ph., Pedersen H.A., Semblat J.-F., *Mechanical characterisation of heterogeneous soils with surface waves : experimental validation on reduced scale physical models*, Near Surface Geophysics, 2(4), pp249-258, 2005.

1990-1993 : British Council grant

Publications :

Fengal M., Mora P., Payan C., Shokouhi P., Rayssac E., Genesseeux E., **Abraham O.**, Nonlinear resonant ultrasound spectroscopy for profiling thermal damage gradients and monitoring post-fire recovery in concrete, JCBM, Vol.505, 2025, <https://doi.org/10.1016/j.conbuildmat.2025.144811>

Shaabani S., Mora P., Shokouhi P., Durand O., **Abraham O.**, Non-equilibrium dynamics in concrete: Effects of pump-induced conditioning on nonlinear coda wave interferometry parameters, J. Acoust. Soc. Am. 159, 702-714, 2026, <https://doi.org/10.1121/10.0042244>

Fengal M., Mora P., Shokouhi P., Durand O., Dérobert X., Palma-Lopes S., Lehujeur M., Villain G., Genesseeux E., **Abraham O.**, Rayleigh wave attenuation discriminates thermal damage in concrete under unknown moisture conditions, International Journal of Nondestructive Testing and Evaluation, 156, 2025, <https://doi.org/10.1016/j.ndteint.2025.103473>

Wang Ao, Leparoux D., **Abraham O.**, Differential Time-Lapse Inversion of surface-wave phase velocity dispersion using the Diagram Distance between dispersion diagrams, submitted to the Journal of Applied Geophysics (APPGEO-D-24-00069)

Garnier V., Hariri R., Da Silva K., Chaix J.-F., Payan C., **Abraham O.**, Morin S., Durville B., "Evaluation Non Destructive des propriétés du béton en profondeur", AJCE 2025.
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Derrien N., Lehujeur M., Chapeleau X., Durand O., Gallet A., Roussel N., Yven, B., **Abraham, O.**, Challenges of Embedding Fiber Bragg Grating Sensors in Castable Material: Influence of Material Shrinkage and Fiber Coatings on Ultrasonic Measurements. Sensors 2025, 25, 2657.
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Dérobert X., Villain G., Palma-Lopes S., Bouvard-Coconet V., Decitre J.M., Jabbour J., Qu S., Geffard J.L., Durand O., Gugole G., **Abraham O.**, Electromagnetical and ultrasonic characterizations of concretes subjected to internal swelling reactions, NDT & E International, 2024.
<https://doi.org/10.1016/j.ndteint.2024.103217>

Hariri R., Chaix J.-F., Shokouhi P., Garnier V., Saïdi-Muret C., Durand O., **Abraham O.**, Quantification of the Uncertainty in Ultrasonic Wave Speed in Concrete: Application to Temperature Monitoring with Embedded Transducers, Sensors, 2024.
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<https://doi.org/10.1016/j.wavemoti.2023.103193>

Qu S., Hilloulouin B., Saliba J., Sbartaï M., **Abraham O.**, Tournat V., Imaging concrete cracks using Nonlinear Coda Wave Interferometry (INCWI), JCBM, Vol. 391, 2023.
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[http://dx.doi.org/10.1016/S0963-8695\(03\)00034-3](http://dx.doi.org/10.1016/S0963-8695(03)00034-3)
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[http://dx.doi.org/10.1016/S0963-8695\(02\)00027-0](http://dx.doi.org/10.1016/S0963-8695(02)00027-0)
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Dérobot X., **Abraham O.**, *GPR and seismic imaging in a gypsum quarry*, Journal of Applied Geophysics, 45, pp157-169, 2000.

Celse B., Vayssade B., Henry J.-P., Côte ph., **Abraham O.**, Piwakowski B., *Détection de failles par méthodes sismiques lors du creusement des tunnels*, Bulletin des Laboratoires des Ponts et Chaussées, 226, pp13-25, 2000. <http://www.geotech-fr.org/sites/default/files/revues/blpc/BLPC%20226%20pp%2013-25%20Celse.pdf>

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Ouvrages :

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Abraham O., Krause M., *Impact echo*, in COST 534 New Materials, Systems, Methods and Concepts for Prestressed Concrete Structures, Final Report, Edited by Polder RB, ISBN 978-9-0598-63323, 2009, pp137-148.

Proceedings of the 7th International Symposium on Non Destructive Testing in Civil Engineering, 30 june – 3 july 2009, Edited by **Abraham O.**, Dérobot, X., ISBN 978-2-7208-2542-5, DOI/CrossRef: 10.3829/act-actndtce-fr

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