

Rafik Taleb, DEng.

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EDUCATION

- **PhD in Civil Engineering**, Department of Environmental Science and Technology, Tokyo Institute of Technology, Tokyo, Japan (2017).
- **D.Sc. in Civil Engineering**, University of Blida 1, Algeria (2014).
- **Master of Disaster Management**, National Graduate Institute for Policy Studies (GRIPS), Tokyo, Japan (2010).
Post-Graduation Diploma in Earthquake Engineering, International Institute of Seismology and Earthquake Engineering, Building Research Institute, Tsukuba, Japan (2010).
- **Master in Solid Mechanics (Civil Engineering-Mechanical Engineering)**, University of Clermont-Ferrand II, France (2005).
- **Magister in Civil Engineering**, University of Blida, Algeria (2005).
- **State Civil Engineer**, University of Blida, Algeria (2000).

AWARDS & RECOGNITIONS

- Arab-American Frontiers Fellowship Awarded from The US National Academy of Science, along with Dr. Hussam Mahmoud, Associate Professor at Colorado State University for a joint research project on Seismic Resilience of Healthcare and Educational Services in Algeria, Nov. 2019.
- Invited Participant by the US National Academy of Sciences to the 6th Arab-American Frontiers of Science, Engineering, and Medicine symposium, Kuwait, Nov. 4-6, 2018.
- Monbusho Scholarship from the Japan Ministry of Education, Culture, Sports, Science and Technology for doctoral studies (2014-2018)
- Travel Grant Award for Young Researchers from the Center for Urban Earthquake Engineering (CUEE, Japan) to attend the 6th International Conference on Seismology and Earthquake Engineering CUEE6, March 7-8, 2011.
- GRIPS/BRI Best Research Award for Distinguished Research in the Disaster Management Policy Program 2009/2010.
- JICA Research Studentship, Structural Engineering Laboratory, Kyoto University, Japan (Jun. 2010-Aug. 2010).
- Japan International Cooperation Agency (JICA) Training Scholarship for Disaster Management Policy Program (2009)
- Faculty of engineering award honor recipient of the Top Rank student for five consecutive years at University of Blida (1995-2000).

PROFESSIONAL EXPERIENCE IN EDUCATION & RESEARCH

➤ **Positions**

- Oct. 2016- Present: **Associate Professor**, University of Blida 1, Algeria.

Main duties:

- Teaching graduate and undergraduate civil engineering program
- Committee member for the revision of civil engineering teaching program
- Head of Earthquake Engineering and Structural Dynamics Research Team, Laboratory of Materials and Civil Engineering
- May 2019 – Dec, 2019: **Consultant in Earthquake Engineering**, National Earthquake Engineering Centre, Algeria

Duties:

- Technical assistance for the revision of seismic design code
- Development of technical guides for the application of Algerian seismic rules
- Training of structural engineers for the new seismic design regulations
- Mar 2018–Present: **Civil Engineering Consultant**, EADN, Algeria.

Duties:

- Technical assistance and expert advice on the design and construction of Lakhdaria Data Centre.
- Sep. 2014-Sep. 2015: **Research Assistant**, Structural Engineering Research Center, Tokyo Institute of Technology, Japan.

Duties & Projects:

- Experimental investigation with damage evaluation of lightly reinforced concrete walls under simulated seismic loading.
- Experimental investigation with damage evaluation of lightly reinforced concrete walls upgraded with various schemes under simulated seismic loading.
- Experimental evaluation of precast concrete beams post-tensioned with unbonded tendons under cyclic loading.
- Nov. 2006-Apr. 2014: **Research Assistant**, National Center of Earthquake Engineering (CGS), Algeria.

Duties & Projects:

- Ambient and Forced Vibration Tests for Unreinforced Masonry Buildings and Bridges
- Evaluation of the seismic performance of structural systems following the 2003 Boumerdes earthquake.
- CGS Continuing Training Courses for Structural Engineers.
- Technical audit for large scale projects (Taksebt dam, Tizi-ouzou stadium, Great Algiers mosque).
- Seismic vulnerability evaluation studies of strategic buildings of Algiers District and Constantine city
- Peer review for the structural design of numerous residential and industrial buildings
- Jun. 2010-Aug. 2010: **Research Student**, Structural Engineering Laboratory, Kyoto University, Japan.
- Mar 2009-Jun 2009: **Senior Structural Engineer**, Dartin Engineering Consultants, Dubai, UAE.
Dubai Municipality Unlimited License for High-rise Buildings
- Sep. 2010-Jun.2012: **Part-time Lecturer**, Department of Civil Engineering, University of Blida, Algeria.
- Sep. 2006-Jun. 2009: **Part-time Lecturer**, Department of Architecture, University of Blida, Algeria.
- Mar 2001-Oct 2004: **Structural Engineer**, Consulting & Testing Engineering Co., Algeria.

➤ **University Teaching Activities**

Undergraduate-level courses

- Reinforced Concrete Design I
- Structural Analysis I

Graduate-level courses

- Nonlinear Analysis of Structures
- Finite Element Method
- Structural Dynamics
- Reinforced Concrete Design II
- Earthquake Engineering

➤ **Research Interest**

- Performance of Concrete Structures.
- Experimental investigation.
- Structural Dynamic Identification.

PUBLICATIONS

➤ **Refereed Journal Papers**

1. **Taleb, R.**, Watanabe, H., Kono, S., (2018) Numerical Study on the Ultimate Deformation of RC Structural Walls with Confined Boundary Regions, *Periodica Polytechnica Civil Engineering*, 62(1): 191-199.
2. Netrattana, C., **Taleb, R.**, Watanabe, H., Kono, S., Mukai, D., Tani, M., Sakashita, S., (2017) "Assessment of ultimate Drift Capacity of RC Shear Walls by Key Design Parameters", *Bulletin of the New Zealand Society for Earthquake Engineering*, 50(4): 482-493.
3. **Taleb, R.**, (2017) "Algerian Seismic Regulations RPA 99-Version 2003 for Reinforced Concrete Building Structures: Interpretations and Proposals", *Journal of Materials and Engineering Structures* 4(3), 139-154.
4. Yuniarsyah, E., Kono, S., Tani, M., **Taleb, R.**, Watanabe, H., Obara, T., Mukai, T., (2017) "Experimental Study of Lightly Reinforced Concrete Walls Upgraded with Various Schemes under Seismic Loading", *Engineering Structures* 138: 131-145.
5. Yuniarsyah, E., Kono, S., Tani, M., **Taleb, R.**, Sugimoto, K., Mukai, T., (2017) "Damage Evaluation of Lightly RC Walls in Moment Resisting Frames under Seismic Loading", *Engineering Structures* 132: 349-371.
6. **Taleb, R.**, Tani, M., Kono, S., (20, 16) *Performance of Confined Boundary Regions of RC Walls under Cyclic Reversal Loadings*, *Journal of Advanced Concrete Technology* 14(4): 108-124.
7. **Taleb, R.**, Bechtoula, H., Sakashita, M., Bourahla, N., Kono, S., (2012) *Investigation of the Shear Behavior of Multi-Story Reinforced Concrete Walls with Eccentric Openings*, *Computers and Concrete* 10(4): 343-359.
8. **Taleb, R.**, (2012) "The 1716 Algiers (Algeria) earthquake and rediscovering of traditional earthquake-resistant measures", *Bulletin of the International Institute of Seismology and Earthquake Engineering* 46:138-143.
9. **Taleb, R.**, Baroth, J., Bodé, L., Bressolette, P., (2006), *Stochastic Finite Elements Analysis of glued-in rods for timber beams*. *European Journal of Civil Engineering* 10(5): 583-598.

➤ **Conference Proceedings**

1. **Taleb, R.**, Kono, S., (2019), Analytical Prediction of Ultimate Displacement of RC Structural Walls for Performance-Based Design", 5th International Conference on Earthquake Engineering and Seismology (5ICEES), 8-11 Oct., Ankara, Turkey.
2. Netrattana C., **Taleb, R.**, Watanabe, H., Kono, S., Mukai, D., Tani, M., Sakashita, S., (2017) "Assessment of ultimate Drift Capacity of RC Shear Walls by Key Design Parameters", 19th Taiwan-Japan-Korea Joint Seminar on Earthquake Engineering for Building Structures (SEEBUS 2017), Korea, September 08-09.
3. Netrattana, C., **Taleb, R.**, Watanabe, H., Kono, S., (2016), "Parametric Study on Drift Capacity of RC Shear Walls. Part 1: Validation of Fiber Model", *Architectural Institute of Japan Annual Convention (AIJ2016)*, 24-26 August, Fukuoka, Japan.
4. **Taleb, R.**, Netrattana, C., Watanabe, H., Kono, S., (2016), "*Parametric Study on Drift Capacity of RC Shear Walls. Part 1: Validation of Fiber Model, Part 2: Parametric Study*", *Architectural Institute of Japan Annual Convention (AIJ2016)*, 24-26 August, Fukuoka, Japan.
5. **Taleb, R.**, Sakashita, M., Kono, S., (2015), "*Ultimate Deformation of Reinforced Concrete Structural Walls with Confined Boundaries*", 13th Arab Conference on Structural Engineering (13ASEC), 13-15 December, Blida, Algeria.
6. Yuniarsyah, E., **Taleb, R.**, Watanabe, H., Kono, S., Tani, M., Mukai, T. (2015), "*Experimental Study on Residual Damage of Full Scale RC Non-Structural Wall Specimens*", *Part 3: Experimental Program for Improved Specimens, Part 4: Experimental Results for Improved Specimens*, *Architectural Institute of Japan Annual Convention (AIJ2015)*, 4-6 September, Kanagawa, Japan.
7. Kono, S., Arai, M., Watanabe, H., **Taleb, R.**, Yuniarsyah, E., Obara, T., (2015), "*Seismic Performance and its Assessment of RC Structural Walls*", *Structural Engineering Frontier Conference (SEFC2015)*, 18-19 March, Yokohama, Japan.
8. Kono, S., **Taleb, R.**, Yuniarsyah, E., Tani, M., Watanabe, H., Sakashita, M., (2014), "*Ultimate drift Capacity of Reinforced Concrete Walls*", 7th Asian Civil Engineering Conference (7ACEC), 4-5 November 2014, Bandung, Indonesia.

9. **Taleb, R.**, Yuniarsyah, E., Ogura, M., Kono, S., Tani, M., (2014), "*Performance of Confined RC Rectangular Wall Boundary Regions under Cyclic Loadings, Part 1: Experimental Program*", Architectural Institute of Japan Annual Convention (AIJ2014), 12-14 September, Kobe, Japan.
10. Yuniarsyah, E., **Taleb, R.**, Ogura, M., Kono, S., Tani, M., (2014), "*Performance of Confined RC Rectangular Wall Boundary Regions under Cyclic Loadings, Part 2: Experimental Results and discussion*", Architectural Institute of Japan Annual Convention (AIJ2014), 12-14 September, Kobe, Japan.
11. **Taleb, R.**, Kono, S., Sakashita, M., Tani, M. (2014), "*Effects of Boundary Regions Confinement on the Seismic Performance of Flexural RC Structural Walls*", Proceedings of the 2nd European Conference on Earthquake Engineering and Seismology (2ECEES), Istanbul, Turkey, 25-29 August.
12. Kono, S., Tani, M., Mukai, T., Fukuyama, H., **Taleb, R.**, Sakashita, M., (2014), "*Seismic Behavior of Reinforced Concrete Walls for a Performance Based Design*", Proceedings of the 2nd European Conference on Earthquake Engineering and Seismology (2ECEES), Istanbul, Turkey, 25-29 August.
13. Tani, M., Mukai, T., Ogura, M., **Taleb, R.**, Kono, S., (2014), "*Full-Scale Experiment on Non-Structural R/C Walls Focused on Failure Modes and Damage Mitigation*", Proceedings of the 2nd European Conference on Earthquake Engineering and Seismology (2ECEES), Istanbul, Turkey, 25-29 August.
14. **Taleb, R.**, Kono, S., Tani, M., Sakashita, M., (2014), "*Effects of End-Region Confinement on Seismic Performance of RC Cantilever Walls*", 10th U.S. National Conference on Earthquake Engineering (10NCEE), July 21-25, Anchorage, Alaska.
15. **Taleb, R.**, Ogura, M., Kono, S., Tani, M. (2014), "*Performance of Confined boundary regions of RC rectangular Walls under cyclic reversal loadings*", Proceedings of the Annual Convention of the Japan Concrete Institute (JCI 2014), July 9-11, Takamatsu, Japan.
16. Tani, M., Ogura, M., Mukai, T., **Taleb, R.**, (2014), "*Full-scale Experiment on Non-structural R/C Walls Focused on Failure Modes and Damage States*", Proceedings of the Annual Convention of the Japan Concrete Institute (JCI 2014), July 9-11, Takamatsu, Japan. (in Japanese)
17. **Taleb, R.**, Sakashita, M., Kono, S., (2013), "*Investigation of Shear-Dominated Response of Multi-Story RC Structural Walls with Different Opening Locations*", 15th Korean-Japan-Taiwan Joint Seminar on Earthquake Engineering for Building Structures (SEEBUS 2013), November 28-29, Taipei, Taiwan.
18. Beredjaf-Bourahla, M., Bourahla, N., **Taleb, R.**, Meddah, H., Allal, N., (2013) « *Comportement non linéaire des contreventements métalliques* », Congrès International Matériaux & Stabilité Structurale, 27-30 Novembre, Rabat, Morocco.
19. **Taleb, R.**, Kono, S., (2013) "*Nonlinear Finite Element Analysis of Reinforced Concrete Cantilever Structural Walls under Lateral Loading*", Architectural Institute of Japan Annual Convention (AIJ2013), Aug. 30 - Sep. 1, 2013, Sapporo, Hokkaido, Japan.
20. Bourahla, N., Benredouane, M., Taфраout, S., **Taleb, R.**, (2013), "*Dynamic characteristics identification including soil-structure interaction of a strong floor reaction wall system*", Proceedings of Vienna Congress on Recent Advances in Earthquake Engineering and Structural Dynamics 2013 (VEESD 2013), 28-30 August, Vienna, Austria.
21. Kono, S., **Taleb, R.**, Sakashita, M., Tani, M., Mukai, T., Fukuyama, H., (2013), "*Effect of Boundary Area confinement on the Ultimate Flexural Drift Capacity of Cantilever Structural Walls*", The 6th Civil Engineering Conference in Asia Region (CECAR6), August 20-22, Jakarta, Indonesia.
22. **Taleb, R.**, Kono, S., Sakashita, M., (2013), "*Nonlinear Finite Element Analysis of Reinforced Concrete Cantilever Structural Walls under Lateral Loading*", Proceedings of the Annual Convention of the Japan Concrete Institute (JCI 2013), 7-9 July, Nagoya, Japan.
23. Mehani, Y., **Taleb, R.**, Bechtoula, H., (2012) "*Seismic Vulnerability Evaluation of Existing Reinforced Concrete Building Retrofitted with RC Wing Walls*", Proceedings of the 15th World Conference on Earthquake Engineering (15WCEE), 24-28 September, Lisbon, Portugal.
24. **Taleb, R.**, Bechtoula, H., Sakashita, M., Kono, S., Bourahla, N., (2012), "*Behaviour of Reinforced Concrete Walls with Different Opening Locations: Experiment and FEM Analysis*", Proceedings of the 15th World Conference on Earthquake Engineering (15WCEE), 24-28 Sept., Lisbon, Portugal.
25. **Taleb, R.**, Bourahla, N., Bechtoula, H., Kono, S., (2011), "*Experimental Investigation of the Shear Behaviour of Multi-Story Reinforced Concrete Walls with Eccentric Openings*", 8th National Conference on Earthquake Engineering, Ecole des Ponts ParisTech, 6-8 septembre, Paris.
26. **Taleb, R.**, Bouriche, F., Boukri, M., Kehila, F., (2011), "*Dynamic Identification of Rehabilitated Masonry Building by Ambient and Forced Vibration Tests*", Proceedings of the 6th International Conference on Seismology and Earthquake Engineering CUEE6, March 7-8, Tokyo, Japan.
27. Bourahla, N., **Taleb, R.**, Taфраout, S., (2007), "*Prediction of Plastic Hinge Path in Moment Resisting Frames under Quasi-Static Loading Using Neural Networks*", 7th National Conference on Earthquake Engineering (AFPS 2007), Ecole Centrale Paris, 4-6 July, Paris, France.
28. **Taleb, R.**, Baroth, J., Bodé, L., Bressolette, P., (2005) « *Étude par éléments finis stochastiques d'assemblages de poutres bois par tiges collées* », 4^{ème} Conférence Nationale sur la Fiabilité des matériaux et des structures «JNF'05», 25-26 Octobre, Clermont-Ferrand, France, 8p.

29. Bourahla, N., **R. Taleb (2003)**, « *Prédiction des mécanismes de ruine dans les portiques sous l'action sismique par les réseaux de neurones* », Colloque International : Risque, vulnérabilité et fiabilité dans la construction - vers une réduction des désastres, 11-12 Octobre, Algiers, Algeria.
30. Bourahla, N., **Taleb, R.**, Boukhemacha, T., (2003), « *Structural Response Extraction from Sound Vibration Measurement using Neural Networks* », 7th International Conference on The Application of Artificial Intelligence to Civil and Structural Engineering, September 2-4, Stirling, Scotland.

➤ **Research and Technical Reports**

1. Bourahla, N., Berrediaf-Bourahla, M., Meddah, H., **Taleb, R.**, (2012), « *Seismic Behavior of Cold-formed Steel Structures* », Research Project Report N° J04004/2009/0011, Laboratory of Geo-Materials and Civil Engineering, University of Blida 1.
2. **Taleb, R.**, Farsi, M. N., Bouriche, F., Boukri, M., Kehila, F., (2010), « *Comparison of the Seismic Performance of Structural Systems in Algeria after the 2003 Boumerdes Earthquake* », Research Project Report N° CGS/DGS/EV/2006/02, National Center for Earthquake Engineering, Algeria.
3. **R. Taleb** (2010), History of Algerian Seismic Regulations and Comparison of Algerian Seismic Design Code with Japanese and European Seismic design codes, Report submitted to IISEE/BRI as partial requirement for Master Degree completion, February 2010.
4. **R. Taleb** (2010), Seismic Capacity Evaluation and Seismic Rehabilitation of RC School Building, Report submitted to IISEE/BRI as partial requirement for Master Degree completion, April 2010.
5. Bouriche, F., **Taleb, R.**, A. Remas, Boukri, M., F. Kehila (2007), « *Dynamic Identification of Unreinforced Masonry Building by Ambient and Forced Vibration Tests* », National Center for Earthquake Engineering, Algeria.

➤ **Technical Reviewer and Contributions**

- President of Organizing Committee for the Workshop on “Resilience of Communities and Infrastructures following Earthquakes and Extremes Events”, University of Blida 1, Jan. 16th 2020.
- International Journal of Structural Engineering and Mechanics, Techno-press.
- Journal of Earthquake Engineering and Engineering Vibration, Springer.
- Journal of Materials and Engineering Structures.
- Member of the International Scientific Committee of the 2nd Conference for Civil Engineering Research Networks, Indonesia, 27-29 Nov. 2018.
- Reviewer at the 13th Arab Structural Engineering Conference (13th ASEC), Algeria, 13-15 Dec. 2015.

➤ **Ongoing collaborative research projects**

1. Seismic resilience of healthcare and educational services in Algeria, with Dr. Hussam Mahmoud, Associate Professor at Colorado State University, USA. Arab-American Fellowship Award from the US National Academy of Science, February 2019.
2. Seismic performance of reinforced concrete structural walls, with Dr. Taku Obara, Assistant Professor at Tokyo Institute of Technology, Japan. Collaborative Research Projects (CRP-2020). Laboratory for Materials and Structures, Institute of Innovative Research, Tokyo Institute of Technology, April 2020.

ANIMATION OF WORKSHOPS/SEMINARS

- CGS Continuing Training Course, « Seismic Analysis and Design of Buildings », February 2008, February 2009, February 2011, February 2012.
- CGS Continuing Training Course, « Algerian Seismic Design Regulations for Design Engineers », October 2007, October 2008, October 2010, October 2011
- CGS Continuing Training Course, « Nonlinear Dynamic Analysis of Structures », December 2010, December 2011.
- Workshop « Seismic Analysis and Design », Mohamed Khider University, Biskra, May 2011.
- Workshop « Seismology and Earthquake Engineering », University of Khemis Miliana, April 2011.

- Workshop « Open Days on Civil Engineering », Yahia Farès University, Medea, June 2008.

MEMBERSHIP

- Member of Japan Concrete Institute (2013-2016)
- Member of Architectural Institute of Japan (2013-2016)

LANGUAGES

- English: Very good in Reading/Writing/Speaking
- Arabic: Very good in Reading/Writing/Speaking
- French: Very good in Reading/Writing/Speaking
- Japanese: Basics