Topic 3 : Civil Engineering, Architecture & Urban Planning

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Amina ABDESSEMED FOUFA is currently a Professor of built heritage and restoration at the Institute of Architecture and Urban Planning, University Saad Dahlab, Blida 1. She obtained her Ph.D. from the Polytechnic School of Architecture and Urban Planning (EPAU) of Algiers in 2007. She is the director of Environment and Technology for Architecture and patrimony laboratory (Lab ETAP) at the University of Blida, a member of NAGET (North African Group of Earthquake and Tsunami), GADR (Global Alliance for Disaster Reduction) and DRH-Asia Networking (Disaster Risk Hyperbase).

She is currently the chairwoman of the doctorate D/LMD in Architecture, specialty built, urban and natural cultural heritage. She has supervised more than 45 master thesis and has 9 Ph.D. thesis ongoing. She has collaborated on joint research projects with the Mediterranean countries (France, Italy, Greece, Slovenia, Egypt, Tunisia, Libya and Morocco). She published over 60 international journals and international conferences papers. She has been invited as keynote lecturers and lecturers at many international conferences and universities (France-Italy-Morocco- South Africa).
She has reviewed paper of "International Journal of Nature and Technology" of Chlef University, Algeria, and paper of international conferences.

Her main research interests include restoration of built cultural heritage, materials, repair and strengthening of unreinforced masonry construction, preservation of built, urban and natural cultural heritage.

Abdeldjelil BELARBI, Ph.D., P.E., F.ASCE, F.ACI, F.SEI
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Dr. Abdeldjelil Belarbi is Hugh Roy and Lillie Cranz Cullen Professor Distinguished Professor of Civil Engineering at the University of Houston. Prior to joining the University of Houston in 2009, he was a Distinguished Professor at Missouri University of Science and Technology. During his career he taught more than fourteen different undergraduate and graduate courses on subjects related to civil and structural engineering. He is actively engaged in a broad spectrum of structural engineering research areas. His primary research contributions focus on the constitutive modelling, analytical, and experimental investigations of reinforced and prestressed concrete structures. His research has also focused on seismic and wind structural performance of building envelopes, including experimental structural investigation of glass curtain wall systems employed in low- and high-rise buildings, as well as research to smart structures and use of FRP composites with focus on the development of advanced materials and use of FRP for rehabilitation and strengthening of aging and deteriorated civil engineering infrastructure.

Dr. Belarbi has served as principal investigator or co-investigator on numerous research projects with a research expenditure of over fifteen million US dollars, has published over 230 technical papers and had supervised over 50 MSCE theses and Ph.D. dissertations. Dr. Belarbi is a Fellow of the American Society of Civil Engineers (ASCE), the American Concrete Institute (ACI) and the Structural Engineering Institute (SEI). He is also very active (member and/or Chair) on several technical and educational and national committees within ACI, ASCE, and TRB. He is also a current member of

ACI318E leading to the newly revised ACI318-19 code with contribution to Shear and Torsion code design issues.

Dr. Belarbi is the recipient of numerous awards and honors including the 1995 Outstanding Paper Award of the Earthquake Engineering Research Institute (Earthquake Spectra Journal) and the Honorable Mention for Outstanding paper from the Masonry Society. He was also the recipient of *nine* Faculty Excellence Awards and *ten* Outstanding Teaching Awards for his excellence in research, teaching and service contributions to the profession and Missouri S&T. Among other national awards, Dr. Belarbi is the recipient of the 1999 University of Houston Distinguished Young Alumnus Award, the Missouri Governor's award for excellence in teaching, and the James M. Robbins Excellence in Teaching National Award. In 2009 he was inducted as an Honorary Member of Chi Epsilon, the Honor Society of Civil Engineering. He is also the recipient of the 2011 ACI Joe W. Kelly Award and 2019 ACI nVent LENTON Award for Code Simplification and Improvement.

Hakim BOUADI, Ph.D., P.E.
Principal / Senior Project Manager
Diagnostics

Dr. Bouadi is a Principal and Senior Project Manager with more than 22 years of experience in analysis, design, forensic engineering, and management. He has diversified experience in engineering design, assessment, and repair of existing structures.

Dr. Bouadi's experience includes design and forensic work related to reinforced concrete, structural steel, facades, and foundations.

He is active in the development of codes and standards for concrete design.

Mohamed BOUBEKRI, Ph.D., P.E.

Dr. Mohamed Boubekri is a Professor of Architecture and the Chair of the Ph.D. program at the Illinois School of Architecture (ISoA) at the University of Illinois at Urbana-Champaign, the second oldest and one of the largest schools of architecture in the United States. Dr. Boubekri received his Diplôme d'Architecte from the Université des Sciences et Technologie d'Oran (USTO) in 1983 and was among the first class of architects to ever graduate from USTO. He received his master's degree in Architecture from the University of Colorado, and a Ph.D. in Architecture from Texas A&M University.

In addition to the United States, professor Boubekri has also taught at various universities around the world including Canada, Kuwait, the United Arab Emirates. Dr. Boubekri's general research interests explore the relationship between architectural design, sustainable technologies and building environmental performance. Over the past two decades, his work has specifically focused on the intersection of the built environment and human health. Through numerous publications including more than 120 articles, book chapters as well as and two books, Dr. Boubekri explores the impact of light in general and daylight in particular, on building occupants' circadian rhythm, sleep quality, cognitive performance and overall health and well-being.

Dr. Boubekri is a SRS Sirrine-Caudill Fellow, a two-times Senior Fulbright Research Fellow and was a Scholar in Residence at the prestigious Oskar von Muller Forum in Munich, Germany. Dr. Boubekri's work has been featured in print, television and on-line media outlets including the BBC, CNN, the Wallstreet Journal, CBC Radio Canada, Times of India, Huffington Post, Business Week, and many others.

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Nouredine Bourahla is a Professor of structural dynamics and earthquake engineering, and head of the scientific board of the civil engineering department at ENP (Ecole Nationale Polytechnique) Algiers, Algeria.

After graduating from ENP, he joined Bristol University (UK) where he completed a Ph.D. in 1990. At the Earthquake Engineering Research Centre (EERC, Bristol) he was heavily involved in seismic small-scale testing of steel frames on the six-axis shaking table. He was also involved in data processing of seismic qualification testing. Beside the research activity, he performed teaching activity as tutor of strength of materials and structural computer aided learning for undergraduate students.

In 1991 he joined the University of Blida (Algeria) as a lecturer, where he co-founded an autonomous civil engineering department, established a research team and built up a resource of tools for full- scale ambient vibration testing of buildings. The team was awarded several research grants CNEPRU and PNR by the Ministry of Higher Education to provide support for postgraduate training (formation par la recherche). In addition to teaching duties at undergraduate and post-graduate levels, he supervised more than 50 PFE (research subjects) and about 30 M.Sc. and Ph.D. theses and provided specialized training on FE modelling and analysis for GECOTEC engineers (continuing education).

In 1992, he pursued a training course on higher education teaching, 'Education engineering and didactic' CEPEC, in Lyon, France and became an active member in higher education curriculum design where he contributed in updating structural dynamics and earthquake engineering syllabus for undergraduate courses.

He worked for two years as a research associate at the national earthquake engineering center in Algiers (CGS) where he contributed to set a methodology for the seismic vulnerability studies of masonry buildings with a team from IZIIS Skopje.

In 2003, he received the T.K. Shieh award from the ICE (Institution of Civil Engineers, UK) as a co-author with a team from Oxford (UK) for a publication on seismic behaviour of knee bracing system. The interest in structural dynamics continued and extended to experimental modal identification of dams (Taksebt, Koudiet Asserdoune, Beni-Haroun) in the perspective of establishment of a vibration-based health monitoring scheme. Since 2009, he has been working and leading a R&D unit on cold formed steel to help putting into practice the design and construction of CFS buildings in Algeria.
Prof. Bourahla is author or co-author of more than 80 publications in journals, peer reviewed conferences, reports, books or chapters and he is a member of several scientific boards at universities and national research centres as well as the technical committee of the Algerian seismic code of bridges (RPOA).

As specialist consultant, he has worked on numerous engineering projects such as the design and construction of a world class earthquake laboratory having a 6m x 6m six axis shaking table (CGS), seismic vulnerability studies and strengthening of existing ancient masonry/RC buildings, technical assistance on various types of structures such as high capacity stadiums, cement plants, electrical power plants and other industrial installations.

Antonio BRANCACCIO, M.Sc., P.E.
Technical Director
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Antonio is a structural engineer with a solid technical background acquired internationally along the course of his professional and educational path in the field of assessment and seismic retrofitting of existing structures, infrastructures and historical masonry buildings.

Antonio is the Technical Director of the Italian company **COSTRUTTORI Srl (www.costruttorisrl.it)** working in the field of design, construction and maintenance of civil and industrial buildings, restoration of historical monumental buildings and seismic retrofit of existing structures and infrastructures. Additionally, he coordinates the Research & Development Department of the company **EXPERIMENTATIONS (www.experimentations.it)**, specialized in the field of laboratory and site testing of construction materials and soils, NDT testing services, structural assessment, quality control management, third-party engineering consultancy, long-term monitoring and control of structures and infrastructures.

Antonio has been based in Dubai (UAE) working as structural engineer for the company *Thomas Bell-Wright International Consultants,* being involved in many projects located in the Middle East region. In Italy, for the company *Tec.Inn. Innovative Technologies*, he was involved in the seismic upgrade and structural strengthening of RC and historical masonry buildings in earthquake damaged areas (L'Aquila 2009, Emilia 2012, Central Italy 2016). As consultant engineer, he conducted assessment and restoration projects of relevant historical buildings in North Africa as well as strengthening projects of RC buildings in the Middle East region.

Antonio is a registered engineer in Italy and recent projects include: *Structural assessment and seismic retrofit of the Faculty of Civil Engineering* at the University of L'Aquila (Italy) damaged by 2009 L'Aquila earthquake; *Structural assessment of the Italian Embassy headquarters in Tripoli and Benghazi (Libya)* damaged by fire events during the February 17th Revolution; *Structural assessment, damage evaluation and FRP strengthening of a fire damaged industrial warehouse in Dubai (UAE); Structural assessment and design of restoration works of the "Al Nakah" Mosque in Tripoli (Libya); Structural assessment and design of restoration works of the "Ahmed Basha" Koranic School in Tripoli (Libya); Structural assessment and design of restoration works of the "Gurgi" Mosque in Tripoli (Libya); Structural assessment and design of restoration works of the "Murad Agha" Mosque in Tajura (Libya);* etc.

He has a Master of Science in Civil Engineering from the University of Naples Federico II (Italy) and a Master of Science in Structural Engineering from the Missouri University of Science and Technology (USA). He has conducted many projects internationally (Europe, Middle East and North Africa), he is ACI and IABSE member, he currently publishes research papers and speaks at many international technical seminars and conferences.
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Amar A. CHAKER, Ph.D., F.AEI, F.EMI, F.ASCE
Director, Engineering Mechanics Institute of ASCE

Dr. Chaker obtained a degree of "Ingénieur Civil" from "Ecole Nationale des Ponts et Chaussées", Paris, France and a Ph.D. degree in Civil Engineering from the University of Illinois at Urbana-Champaign.

He joined ASCE in 1999 where he has worked in the Technical and International Activities Division, the Transportation and Development Institute, the Civil Engineering Research Foundation, the Architectural Engineering Institute, and the Building Security Council. He has been the director of the Engineering Mechanics Institute of ASCE since its creation in 2007.

As technical director of the Algerian State Organization for Technical Control of Building Construction (CTC), he co-chaired the committee that developed the Algerian standard for the earthquake-resistant design of buildings and participated in its subsequent revisions. He also participated in major post-

earthquake investigations, in a seismic hazard and urban microzonation study for the region of Chlef and conducted the structural design review and the structural analysis of many complex projects.

He has been a tenured full professor and director of the Civil Engineering Institute of the University of Science and Technology in Algiers, Algeria and has held faculty positions at the University of Illinois at Urbana-Champaign and Drexel University. His areas of interest include earthquake engineering, structural dynamics, computational mechanics, probabilistic methods, and disaster risk management and resilience.

He was the founding president of the Algerian Earthquake Engineering Association. He is a member of ASCE and EERI and is active in several technical committees. He served on the editorial boards of *Earthquake Engineering and Structural Dynamics* and *Annales Maghrébines de l'Ingénieur*. He is the author or co-author of over 60 publications. He is an associate editor of *Natural Hazards Review* and a reviewer for several peer-reviewed journals.

Tarik HADJ-HAMOU, Ph.D.

Dr. Tarik Hadj-Hamou received his degree in Civil Engineering from the National Polytechnic School in Algiers, in 1975 and his master's and Ph.D. degrees from Stanford University in California in 1978 and 1982, respectively with an emphasis on geotechnical earthquake engineering. He holds Professional Engineer (P.E.) Licenses in the States of California, Arizona and Nevada

He started his engineering career as a junior engineer at the BEREG, the engineering arm of the now defunct DNC-ANP, on design of reinforced concrete structures.

Upon receipt of his Ph.D. he joined Tulane University in New Orleans, Louisiana as professor of civil engineering where he taught undergraduate and graduate classes in geotechnical engineering, earthquake engineering and risk analysis from 1983 through 1992.

He left Tulane in 1992 to join the firm SIMECSOL (now part of ARCADIS) in Paris, France to start and manage a Department of Research and Development focused on the storage of nuclear waste and develop an international practice. He has worked on transportation project such as the Lisbon, Paris, and Cairo Metro, supervising of tunnel design, and on petroleum and industrial projects in China, Vietnam, Nigeria, and Brazil.

Dr. Hadj-Hamou left France in 1997 to join Geosyntec Consultants in Huntington Beach, California where he worked mostly on waste management projects (landfills) and geotechnical projects. In 2007 he joined Joint SLR International Corporation, Irvine California in 2007 working on waste and geotechnical projects but also extending into mining with projects in Canada, the U.S., and Central and South America.

Dr. Hadj-Hamou has been involved in a wide variety of projects involving static and pseudo-static stability of earthen structures (dikes, buttresses, deep fills, and road embankment), evaluation of seismic hazard, evaluation of static and seismically induced liquefaction, use of advanced numerical analyses (e.g., finite element methods) to evaluate slope deformations and flows of water through slopes, and design of stabilization measures for marginal sites (e.g., grouting, drainage systems).

Dr. Hadj-Hamou has been called upon to evaluate the damages of earthen structures (dikes, buttresses, deep fills, and road embankment) subjected to changes in water regime and the associated loss in shear strength resulting in failure or potentially excessive deformation, most recently at sites in Qatar, the Mauritius Island, and Monaco, France.

Dr. Hadj-Hamou was a Lecturer at the Ecole Centrale de Paris in 1990 and Adjunct Professor of Geotechnical Engineering at the Ecole National des Ponts et Chaussées, Paris, France from 1992 to 1995. Dr Hadj-Hamou has authored over 70 articles and research reports, including being a co-author of "Geotechnical Earthquake Engineering for Highways - Volume I: Design Principles and Volume II: Design Examples" Geotechnical Engineering Circular No. 3, FHWA-SA-97-076, U.S. Department of Transportation, Federal Highway Administration, Washington,

Dr. Hadj-Hamou is member of the American Society of Civil Engineers and the International Geosynthetics Society.

Omar KHEMICI, Ph.D., P.E.

Dr. Khemici, a consultant, has thirty-five years of professional experience in the field of earthquake engineering and catastrophe risk management. As Director in the Model Development Group of CoreLogic, a global catastrophe modelling team specializing in the development of risk assessment, risk mitigation and risk transfer software tools, Dr. Khemici's led a team of scientists and engineers whose responsibilities included the development of vulnerability models, the technical documentation, the models validation and the testing of stochastic cat models worldwide. In this capacity, he managed related model components for earthquake, hurricane, flood, wildfire, terrorism and industrial accidents.
In a previous role at CoreLogic, he managed several US and international cat bonds where he provided the analytics for property and liability coverage. He also led for several years the analysis of portfolios of major insurance and reinsurance companies in the US, Europe and Asia.

Dr. Khemici was successively with Jack Benjamin and Associates (JBA) in Mountain View, CA, and Ammann & Whitney in New York, NY before joining EQE International, then ABS Consulting which were acquired by CoreLogic. At JBA and EQE he provided seismic expertise to the US nuclear power industry. He inspected several US plants, analyzed the seismic capacity of their components and provided retrofit solutions. Dr. Khemici contributed to a major utility study for the Electric Power Research Institute (EPRI) defining the Operating Basis Earthquake exceedance criterion in nuclear power plants. In this study he introduced the Cumulative Absolute Velocity (CAV) parameter as a new earthquake damage indicator. At Ammann & Whitney in New York, Dr. Khemici was responsible for the definition of the seismic design provisions of several important facilities including the extension of the Dulles International Airport Terminal in Washington, DC. He also evaluated the seismic resistance of existing unreinforced masonry buildings and provided detailed retrofit schemes.
Dr. Khemici's work in Algeria included teaching various courses at the ENITA, the USTHB and at the University of Algiers. He also participated in the damage surveys conducted by US engineering teams following the 1980 Al Asnam Earthquake and the 2003 Boumerdes Earthquake.
Dr. Khemici received his Engineer degree from the National Polytechnic School in Algiers, in 1975 and his master's and Ph.D. degrees from Stanford University in California in 1978 and 1982, respectively. He holds a Professional Engineer (P.E.) License in the State of California.

Amar KHENNANE, Ph.D.

Dr. Amar Khennane is an academic at the University of New South Wales at the Australian Defence Force Academy in Canberra (Australia).
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Dr. Khennane's background is in computational mechanics. His research areas cover bioCementitious materials, Composite materials, Timber, Reinforced concrete, and Hybrid
Structure. He is also the author of a very successful book on finite element,
https://www.amazon.com/dp/1466580208, which has now been adopted by many universities around the world.

Dr. Khennane earned his Ph.D. from the University of Queensland, Australia, (1992), a M.Sc. from Heriot Watt University, UK (1987), and a Bachelor of Engineering and Science for the University of Tizi-Ouzou, Algeria (1985).

Ahmed MANSOURI

Ahmed Mansouri studied Architectural Engineering at Biskra institute of architecture. He obtained his Doctor of Engineering degree in Architectural Planning from Nagoya Institute of Technology (Japan). Part of his teaching experience was conducted in Japan, teaching graphic design, Architecture and Architectural Planning at Japanese universities. His research experience was conducted under the

supervision of Prof. Naoji Matsumoto and related to environmental psychology, Kansei Engineering and design theory. His professional experience covers eight years of supervision related to the design and realization of the campus of the university of Batna 1, in addition to different architectural projects realized in Algeria.

Leila YAZID-HAMROUN, AIA, NCARB, LEED AP
Senior Preservation Architect- Tetra Tech, Inc.,

Ms. Hamroun-Yazid, is an accomplished historic preservation architect, with over twenty-five years of national and international experience providing design, planning, management and cultural analysis services primarily for existing buildings. Her multilingual and multicultural background informs a nuanced perspective on the historical, political, social and economical contexts that shape interventions on the existing building fabric. By bringing together design and technical knowledge from the combined disciplines of architecture, planning, conservation, and building diagnostics, she is committed to imaginative design solutions, that provide a contemporary experience while respecting the integrity and character of the building or structure.

Ms. Hamroun-Yazid has a distinguished record of developing strategies for the long-term stewardship of the built heritage with a commitment to customized solutions, adapted to the nature, scale and context of each project. Her effective, and inclusive approach seeks to create consensus between the multitude of stakeholders and governmental entities involved in the process, informed by a thorough - and practical - knowledge of relevant codes and standards, and latest technological innovations. Her projects have a common theme: extending the life of existing properties in a manner consistent with the Client's mission, while providing an enhanced experience, and minimizing operating costs through energy savings and streamlined maintenance.

Ms. Hamroun-Yazid is consistently enriching her professional practice with presentations at national conferences, teaching opportunities, educational programming, and mentoring activities. She is an adjunct instructor in the graduate historic preservation program at Goucher College, has been a guest speaker at the University of Delaware, an analytical papers reviewer for the University's School of Urban Planning and Public Policy, a guest critic for studios at Philadelphia University and an adjunct instructor in the Delaware Technical Community College Construction Management and Architectural and Engineering Technology programs. She recently received the 2019 Society of Foreign Consuls of New York Recognition Award for Outstanding Achievements and Contributions to Community Empowerment

Ms. Hamroun-Yazid is a graduate of the Ecole Polytechnique d'Architecture et d'Urbanisme (Algiers, Algeria), and holds a diploma from the Centre d'Etudes Superieures d'Histoire et de Conservation des Monuments Anciens (Centre des Hautes Etudes de Chaillot, Paris, France) and an MA in Urban Affairs and Public Policy from the University of Delaware (Newark, USA).