



Certificate of participation

AWARDED TO

TAHAR BERRABAH AMINA

For attending the geotechnical, structural and materials engineering first international conference held at Biskra university, Algeria, on 05-07 December 2021,

with an Oral presentation:

“Ansys modeling of "rock foundation"- "reservoir water"- "multi-arch dam" interaction phenomenon.”

Co-authors: Belabaci Zeyneb, Djamel Ouzandja, Moussi Wahiba



General Chair



Dr. Mok FEIA
en Géotechnique

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Biskra

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First International Conference on Geotechnical, Structural and Advanced Materials Engineering
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Ansys modeling of "rock foundation" - "reservoir water" - " multi-arch dam" interaction phenomenon

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ABSTRACT

During earthquakes, it is obvious that the foundation rock and reservoir water affect the dynamic response of gravity dams. A parametric study was performed in the present article to view the combined effect of rock foundation, reservoir water presence on the modal behavior of “El mefrouch” multi-arch concrete dam situated at Tlemcen, Algeria. three approaches were adopted to investigate the "rock foundation"- " multi-arch dam" interaction phenomenon: the fixed support foundation, the massless rock foundation and the mass rock foundation using numerical Ansys code. Add mass approach were used to model the reservoir water using SURF element available in Ansys code library. Obtained results are compared and discussed.

Keywords: "rock foundation"- " dam" interaction, modal behavior, fluid-dam interaction.

Sunday 5th December 2021

08:00 - 09:00	Registration
09:00-10:00	Opening and Welcome Ceremony
10:00 - 10:30 Plenary session	Pr. Said KENAI "Performance of recycled aggregates from construction and demolition waste in ordinary and self-compacting concrete" <i>Professor - Blida 1 University</i>
10:30 - 10:50 Plenary session	Mr. Omar Khaber "Stratégie nationale de gestion des risques de catastrophes" <i>Délégation nationale aux risques majeurs - Ministère de l'intérieur</i>
10:50 - 11:00	Debate

11:00 - 11:15	Coffee break	
11:15-12:00	Parallel Session 1 - Salle de projection dept. Architecture Structural theme - Session Chair Pr. Abdelouahab Tati	
11:15 - 11:30	ID 22	Fracture parameters formulation for single edge notched of composite plate Mostefa Lallam , Abdel Kader Djebli , Abdel Hamid Mammeri
11:30 - 11:45	ID 28	Behaviour of semi-rigid steel frames to sequential earthquakes Mohamed Saadi , Djarir Yahiaoui , Tarek Mansouri
11:45 - 12:00	Debate	

11:15-12:00	Parallel Session 1 - Salle des soutènements dept. Génie Civil et Hydraulique Geotechnical theme - Session Chair Pr. Sadok Benmebarek	
11:15 - 11:30	ID 576	Modélisation numérique du comportement dynamique d'un mur de soutènement sous séisme Zakaria Bouraoui , Mohamed Babouri
11:30 - 11:45	ID 595	Les géosynthétiques de renforcement dans les ouvrages géotechniques Abdelouahab Abdelkader
11:45 - 12:00	Debate	

11:15-12:00	Parallel Session 1 - Salle de l'Audiovisuel Material theme - Session Chair Pr. Abdelhamid Guettala	
11:15 - 11:30		al composition and thermal behavior of new cellulosic fibers extracted from banana N. Lemita , S. Daghboudj and Fares Mohammed Laid Rekbi
11:30 - 11:45		Active Evaluation via Pulse Echo Method of Damage in DCB Specimen from Composite Fares Mohammed Laid Rekbi , Abdelhak Khechai , Rafik Hlimi , Mabrouk Hecini
11:45 - 12:00	Debate	

12:00 - 13:30	Lunch	
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14:00-15:00	Parallel Session 2 - Salle de projection dept. Architecture Structural theme - Session Chair Pr. Abdelhafid Ounis	
14:00 - 14:15	ID 78	er Analysis of Different Numerical Models for Predicting the Nonlinear Response of R

14:00 - 14:15	ID 70	Abdelhakim ZENDAOUI, Djarir YAHIAOUI, Mohamed SAADI
14:15 - 14:30	ID 213	of the soil-tunnel interaction on the over ground vibration due to the surface traffic load Abderrahim Achouri, Mohamed Nadir Amrane
14:30 - 14:45	ID 105	Sliding mode active structural vibration control Leyla Fali, Abdelghani Idder, Khaled Zizouni, Ismail Khalil Bousserhane
14:45 - 15:00	Debate	

14:00-15:00	Parallel Session 2 - Salle des soutenances dept. Génie Civil et Hydraulique	
	Geotechnical theme - Session Chair Pr. Salah Messast	
14:00 - 14:15	ID 586	ement d'un Ouvrage d'Art sur Oued M'zi au Niveau de Sidi Hakoum : Problème et Solution Adel Nehaoua
14:15 - 14:30	ID 474	Apports de la télédétection et des systèmes d'information géographique à l'établissement A. SEDDIKI, M. KHEMISSA
14:30 - 14:45		Modélisation numérique de l'interaction sol-Structure traitant le comportement dynamique Mohamed Babouri, Zakaria Bouraoui, Abdelmajid Derga
14:45 - 15:00	Debate	

14:00-15:00	Parallel Session 2 - Salle de l'Audiovisuel	
	Material theme - Session Chair Pr. Leila Zeghichi	
14:00 - 14:15		Physical-mechanical behavior of industrial waste-based Naoual Handel, Aziza Boutouta, Sara Djouimaa
14:15 - 14:30		Critical Buckling Temperature Assessment of FGM Sandwich Plates Resting on Elastic Foundation Chitour M, Bouhadra A. h, Menasria A.R, MAMEN .B ,Tounsi A. O and Benguediab
14:30 - 14:45		Investigation on the effects of recycled pavement materialson the properties of self-compacting concrete Toufik Boubekour, Mohamed Salhi
14:30 - 14:45	Debate	

15:00-16:00	Parallel Session 3 - Salle de projection dept. Architecture	
	Structural theme - Session Chair Pr. Djamel Hamadi	
15:00 - 15:15	ID 135	Investigation on the thermomechanical behavior of honeycomb core sandwich panels with B. MEZIANI, S. AIT TALEB, A. SI SALEM, M.A. BOUZIDI
15:15 - 15:30	ID 174	Comparative study between two box CFS sections assembled in different ways in bending Maizi Salah Eddine, Hadidane Yazid
15:30 - 15:45	ID 180	Modeling of axisymmetric shell structures by the finite element method Bachir Labiodh, Mourad Chalane
15:45 - 16:00	Debate	

15:00-16:00	Parallel Session 3 - Salle des soutenances dept. Génie Civil et Hydraulique	
	Geotechnical theme - Session Chair Pr. Abdelhak Mabrouki	
15:00 - 15:15	ID 427	Physical model predicting water retention curves for granular materials based on tension L. Bouacida, S. Feia
15:15 - 15:30	ID 439	Shear behavior of sand geotextile interface Sidali Denine, Noureddine Della, Mahdi Missoum Benziane, Hadjer Feknous

15:30 - 15:45	ID 142	Numerical analysis of a cantilever sheet pile wall BAHLOUL ILHAM, BELABED LAZHAR 2, BENAMARA F.ZOHRA 3
15:45 - 16:00	Debate	

15:00-16:00	Parallel Session 3 - Salle de l'Audiovisuel	
	Material theme - Session Chair Pr. Ahmed Bouaziz	
15:00 - 15:15		Caractérisation expérimentale des sables de construction de la région sud et sud-est de l'Algérie Abdelaziz Logbi, Toufik Choungara, Mohamed Mani, Tarek Djedid
15:15 - 15:30		Study on the reuse of powdered glass waste for developing an ecological self-consolidating concrete Bouleghebar Yasmina, Bentchikou Mohamed
15:30 - 15:45		Nonlinear stability analysis of thin rectangular FGM plates resting on variable elastic foundation Himeur Nabil, Menasria Abderrahmane, Mamen Belgacem, Bouhadra Abdelhakim
15:45 - 16:00		Thermal Analysis of Fire Resilience of Hybrid and Self-Compressed Fiber Reinforced Concrete Mohamed ZITOUNI, Belkacem LAMRI et Abdelhak KADA
16:00 - 16:15		Thermoelastic behavior of FG sandwich plates using HSDTB Billel REBAI, A. Bouhadra
16:15 - 16:30	Debate	

16:00-17:00	Parallel Session 4 - Salle de projection dept. Architecture	
	Structural theme - Session Chair Pr. Lamine Belounar	
16:00 - 16:15	ID 547	Seismic analysis of concrete gravity dams considering material nonlinearity of dam-foundation interaction Djamel Ouzandja, Amina Tahar Berrabah
16:15 - 16:30	ID 579	Further applications of a solid strain based finite element for static and dynamic plate analysis Lazhar Derradji, Toufik Maalem, Tarek Merzouki, Abderraouf Messai
16:30 - 16:45	ID 594	Large deflection geometrically nonlinear bending of sandwich beams with flexible core Sattar Jedari Salami
16:45 - 17:00	ID 370	Ansys modeling of "rock foundation"- "reservoir water"- "multi-arch dam" interaction problem Tahar Berrabah Amina, Belabaci Zeyneb, Djamel Ouzandja, Moussi Wahiba
17:00 - 17:15	Debate	

16:00-17:00	Parallel Session 4 - Salle des soutenances dept. Génie Civil et Hydraulique	
	Geotechnical theme - Session Chair Dr. Nabil Houhou	
16:00 - 16:15	ID 99	Long-term soil deformations on the performance of RC bridges considering soil-structure interaction K. Bezih, R. Demagh, M. Djenane and M. Laouche
16:15 - 16:30	ID 518	Numerical evaluation of the bearing capacity of strip footings in cohesionless soil under inclined loading Guetari Ahlem, Remadna Mohamed saddek, Benmebarek Sadok
16:30 - 16:45	ID 552	Reinforcement of buildings located on slopes undergoing shallow landslides using helical nails Mehdi Dib, Besma Bouteche, Salim Kouloughli
16:45 - 17:00	ID 563	Effects of salinity of the porous medium on particle transport behavior in saturated soil Lyacine Bennacer, Nasre-Dine Ahfir, Abdellah Alem
17:00 - 17:15	ID 265	Improvement of bearing capacity of reinforced soft clay Khaoula Chenche, Meriem Fakhreddine Bouali, Ines Hamrouni

18:00 - 21:00

Gala Dinner at Maurice Lahan Hotel

Monday 6th December 2021

08:30 - 09:00 Plenary session	Pr. Atilla ANSAL "Probabilistic approach in seismic microzonation" <i>Professor - Özyeğin University, Turkey</i>
09:00 - 09:30 Plenary session	Dr. Sadok FEIA "L'intelligence artificielle sur les investigations géotechnique: Glissement de terrain de Mila 2020" <i>Maitre de conférences - Université de Biskra</i>
09:15 - 09:45	Debate

09:45 - 10:00	Coffe break
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10:00-11:00	Parallel Session 5 - Salle de projection dept. Architecture	
	Structural theme - Session Chair Pr. Mohamed Guenfoud	
10:00 - 10:15	ID 184	Numerical evaluation of the performance of a reinforced concrete frame subjected to fire Ismail Haouach , Belkacem Lamri , Abdelhak Kada
10:15 - 10:30	ID 98	Evaluation of a new four-node quadrilateral element for analysis of the shell structures ABDERRAHMANI Sifeddine , HAMADI Djamal
10:30 - 10:45	ID 225	Effet d'un système passif hybride de type HDRB-FPS sur la réponse sismique d'un bâtiment Ounis Hadj Mohamed , Zataâr Nassima , Ounis Abdelhafid
10:45 - 11:00	Debate	

10:00-11:00	Parallel Session 5 - Salle des soutenances dept. Génie Civil et Hydraulique	
	Geotechnical theme - Session Chair Pr. Zoha Derriche	
10:00 - 10:15	ID 389	Spatial analysis and mapping of the susceptibility to landslides: application on the road network Mebirouk Nadjib , Messast Salah , Amrane Moussa
10:15 - 10:30	ID 55	Laboratory investigation on the effect of xanthan gum content and sample preparation on the shear strength of sand Mehdi Missoum Benziane , Goufi Abd Elmalik , Nouredine Della
10:30 - 10:45	ID 84	Lateral pressures acting on circular shafts Abdelmajid Meftah , Naïma Benmebarek , Sadok Benmebarek
10:45 - 11:00	Debate	

10:00-11:00	Parallel Session 4 - Salle de l'Audiovisuel	
	Material theme - Session Chair Pr. Abdelghani Merdas	
10:00 - 10:15		Propagation behavior of steel fiber reinforced rebars concrete (SFRR) under flexural loading Nacira Saoudi , Hayet Cherfa , Tabouche Amarouche , Bensaid Samir
10:15 - 10:30		Hygro-thermal buckling of FG sandwich plates resting on elastic foundations S.Refracfi , A.Menasria , A. Bouhadra , A. A.Bousahla , F. Bouazza , A.Tounsi
10:30 - 10:45		Performance study of fiber-reinforced mortars based on dredging sludge Mohamed Salhi , Toufik Boubekeur , Said Choucha , Amar Benyahia , Hachemi Benadda

10:45 - 11:00	Debate	
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11:00-12:00	Parallel Session 6 - Salle de projection dept. Architecture	
	Structural theme - Session Chair Dr. Mohamed Ouajdi Belarbi	
11:00 - 11:15	ID 593	The Generalized Differential Quadrature for the static and free vibration analysis of c F. Tornabene ¹ , M. Viscoti ^{*1} and R. Dimitri ¹
11:15 - 11:30	ID 284	Numerical study on granular materials in a confined media: Effect of an obstacle on Mohamed Kechachni, Mohammed Djermane, Mebrika Benyamine
11:30 - 11:45	ID 486	Vibration analysis of plates in interaction with a fluid using a strain-based Kirchhoff e Faïçal Boussem Abderahim Belounar, Lamine Belounar, Fortas Lahcene
11:45 - 12:00	Debate	

11:00-12:00	Parallel Session 6 - Salle des soutenances dept. Génie Civil et Hydraulique	
	Geotechnical theme - Session Chair Pr. Khelifa Abbeche	
11:00 - 11:15	ID 137	Effect of Vegetal Fibers on the Shear Strength of Sandy Soil Hachemi Adda Berkane, Noureddine Della, Sidali Denine, Mahdi Missoum Benziane
11:15 - 11:30	ID 152	linear Numerical simulation on dynamic soil-structure interaction under earthquake ex Khadidja Sekhri, Djarir Yahyaoui , Bilel Adeel Withra
11:30 - 11:45	ID 206	oratory study on the mechanical behavior of Chlef sand: Effect of different types of fi Mahmoudi, Abdellah Cheriftaiba, Leila Hazout, Amine Taibi, Hamou Azaiez, Mostefa
11:45 - 12:00	Debate	

11:00-12:00	Parallel Session 5 - Salle de l'Audiovisuel	
	Material theme - Session Chair Dr. Ahmed Amine Daikh	
11:00 - 11:15		Remoted presentation
11:15 - 11:30		de comportement dynamique des plaques FGM Sandwich sur fondation élastique va MESSAOUDI, A. Bouhadra, B. MAMEN, A. Menasria, A. TOUNSI and M. BENGUEDI
11:30 - 11:45		Elaboration et étude du comportement mécanique et de durabilité d'une brique de te BENCHEIKH Mohamed , CHOUKEIR Sawsen, AMRIOU Abderrachid
11:45 - 12:00	Debate	

12:00 - 13:30	Lunch	
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14:00-15:30	Parallel Session 7 - Salle de projection dept. Architecture	
	Structural theme - Session Chair Pr. Abdelouheb Tati	
14:00 - 14:15	ID 526	Strengthening web post buckling of cellular beam using pultruded GFRP profiles Guedaoura Hamda, Dr Hadidane Yazide
14:15 - 14:30	ID 527	The optimum approach to determine the mechanical properties of Algerian historical Hatem SEBOUI, Allaeddine ATHMAN, Antonio FORMISANO
14:30 - 14:45	ID 528	Dynamic behavior of cracked bridge structures under moving loads Mahieddine Chettah, Sihem Chaib, Nabil Djebbar, Rachid Lassoued
14:45 - 15:00	ID 538	Modelling Of Columns In A Metal Hangar During A Fire

14:45 - 15:00	ID 550	Nadia Otmani-Benmehidi, Wissem Innal
15:00 - 15:15	ID 541	3D numerical analysis of the effect of deep braced excavation on nearby single pile Tamir Amari, Mohamed Nabil Houhou
15:15 - 15:30	Debate	

Parallel Session 6 - Salle de l'Audiovisuel		
14:00-15:30	Material theme - Session Chair Pr. Mohammed Sid Ahmed Houari	
14:00 - 14:15		Bending behavior of laminated sandwich beams under hygrothermal loading Aman Garg, H.D. Chalak
14:15 - 14:30		Thermomechanical response of FG plates on variable elastic foundation Mohamed ALI_RACHEDI, Abdelhakim BOUHADRA, Abderrahmane MENASRIA, Sa
14:30 - 14:45		Experimental evaluation of dynamic modulus of elasticity and hygroscopicity behavior oussine Atiki, Bachir Taallah, Sadok Feia, Kamal Saleh Almeasar, Abdelhamid Guett
14:45 - 15:00		Combined use of tires rubber waste and hydrated cement on properties of self compacti Amel Bouabaz, Rachid Djebien, Leila Kharef, Mouloud Belachia
15:00-15:15		Hygro-thermo-mechanical loading effects on bending behavior of FG plates resting o MAMEN, Abdelhakim Bouhadra, Abderrahmane Menasria, Bouzid Merazka, Abdeloua
15:15 - 15:30	Debate	

Parallel Session 7 - Salle des soutenances dept. Génie Civil et Hydraulique		
14:00-15:30	Geotechnical theme - Session Chair Pr. Naima Benmebarek	
14:00 - 14:15	ID 266	and prediction of earth dam behavior using monitoring measures and artificial neural Harbi Leyla, Smail Nadia and Rouissat Bouchrit
14:15 - 14:30	ID 329	alysis and prediction of swelling pressure of subgrade clay for flexible pavement desi lali, Debojit Sarker, Rafik-Boufarah, Khaled-Rais, Zied-Benghazi, Ali Hamdane, Mour
14:30 - 14:45	ID 488	Laboratory Study on Undrained Shear Strength Response of Sandy Soils Considering Leila Hazout ,Abdellah Cherif Taiba, Youcef Mahmoudi, Mostefa Belkhatir
14:45 - 15:00	ID 347	mation minimum anchor lengths of anchored retaining walls by improving failure mod Fatima Zohra Benamara, Lazhar Belabed, Ammar Rouaiguia, Ilham Bahloul
15:00-15:15	ID 23	Insight into the effect of polypropylene fibers on the shear strength of sandy soil hamid Flitti, Bilal Abboub, Mahfoudh Rezime, Noureddine Della, Mehdi Missoum Ber
15:15 - 15:30	Debate	

15:30 16:30	Poster session and coffee break
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Tuesday 7th December 2021

08:30 - 09:00 Plenary session	Siavash GHABEZLOO "behaviour of cement-based materials for integrity assesment of structur
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09:00 - 09:30 Plenary session	Pr. Ashraf AYOUB "Earthquake damage mitigation of critical structures through vibration barriers (ViBa)" <i>Professor - City university of London, UK</i>
09:15 - 09:45	Debate

09:45 - 10:00	Coffe break
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10:00-11:00	Parallel Session 8 - Salle de projection dept. Architecture	
	Structural theme - Session Chair Pr. Lamine Belounar	
10:00 - 10:15	ID 543	Finite element models for the prediction of thermal response of light gauge steel pan Mohammed Hassoune , Abdelhak Kada , Belkacem Menadi , Belkacem Lamri
10:15 - 10:30	ID 546	Numerical analysis of the shear behavior of short concrete corbels reinforced by seve Zaïoune Hiba , Mezhoud Samy
10:30 - 10:45	ID 455	he Effect of Non-Linear Behavior on the Seismic Response of Concrete Gravity Dam htar MESSAAD , Messoud BOUREZANE , Djamel OUZENDJA , Amina Tahar BERRA
10:45 - 11:00	Debate	

10:00-11:00	Parallel Session 8 - Salle des soutenances dept. Génie Civil et Hydraulique	
	Geotechnical theme - Session Chair Dr. Mohamed Sadek Remadna	
10:00 - 10:15	ID 411	Effect of micropiles pre-reinforcement system on the stability of shallow tunnels Djamil Nefla , Nasserdine Diaf , Mustapha Hidjeb
10:15 - 10:30	ID 457	Evaluation of pile group efficiency in clay by numerical approach Abdelkrim FERCHAT , Sadok BENMEBAREK and Mohamed Nabil HOUHOU
10:30 - 10:45	ID 339	Bearing capacity of a strip footing on a reinforced slope med A.A. Al-hajj , Mohamed Saddek Remadna , Walid Chaabani , Imad Eddine Debb
10:45 - 11:00	ID 353	Effect of palm fibers reinforcement on Desiccation cracking in clayey soils Afaf Zeroual , Sadok Feia , Ahmed Bouaziz , Abedali Dadda , Mohamed Nabil Haddoud

10:00-11:00	Parallel Session 7 - Salle de l'Audiovisuel	
	Material theme - Session Chair Dr. Samia Hachemi	
10:00 - 10:15		Effect of proportion of aluminosilicate materials and activator on the mechanical perf Souheila Semache , Fathe Bouteldja , Mouloud Belachia , Sofiane Amziane
10:15 - 10:30		Lightweight blocks with raw earth incorporating expanded polystyrene Safa Layachi , Bachir Taallah , Ouarda Izemmouren
10:30 - 10:45		STATE OF THE ART ON THE FUNCTIONALLY GRADED COMPOSITE MATERIALS Daikh, A.A. , Drai, A. , Belarbi O, M. , Houari, M.S.A
10:45 - 11:00	Debate	

11:00 - 12:00	Closing ceremony and awards
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