

## Mehdi Azhdary Moghaddam

### Professor



Faculty : Engineering

Departments : Civil Engineering

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University of Sistan and Baluchestan, Daneshgah Ave., Zahedan,  
Iran.

## Education

- ✓ B.Sc, Civil Engineering, Sistan and Baluchestan University - 1988
- ✓ MS, Civil Engineering- Hydraulic Structures, University of Roorkee India - 1992
- ✓ PhD, Civil Engineering- Hydraulic Structures, University of Ottawa Canada - 1997

## Courses

- |                                   |                          |
|-----------------------------------|--------------------------|
| 1. Fluid Mechanics                | 2. Hydraulic structures  |
| 3. Higher Engineering mathematics | 4. Engineering Hydrology |

## Master Thesis

### 1. investigation a novel formulation of seepage in soil based on stochastic finite element method

جواد مزگي نژاد, [Hamed Ghohani Arab, Mehdi Azhdary Moghaddam, ]  
نیمسال دوم سال تحصیلی 96-97

### 2. Investigation on analysis of seepage in earth dams

امیره نخعی, [Mohammad Givehchi, Mehdi Azhdary Moghaddam]  
نیمسال اول سال تحصیلی 90-91

### 3. The Effects of Sedimentary Condition on Geometric Stable Section of

فرشاد گرگیج, [Mehdi Azhdary Moghaddam]  
نیمسال اول سال تحصیلی 90-91

### 4. prediction of sediment in karavandar basin Using Cellular Automata and suitable approach to delay in sedimentation

مجید ریس باف فکور, [Mehdi Azhdary Moghaddam]  
نیمسال اول سال تحصیلی 90-91

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## Journals Papers

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### 2021

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#### 1. Analysis of Flow in Porous Media using Combined Pressurized-Free surface Network

Seyed Mehdi Mohammadizadeh, Mehdi Azhdary Moghaddam, Nasser Talebbeydokhti

JOURNAL OF POROUS MEDIA Volume: (24) 1 - 15

#### 2. Reservoir quality management with CE-QUAL-W2/ANN surrogate model and PSO algorithm (case study: Pishin Dam, Iran)

, , Mehdi Azhdary Moghaddam, Seyed Arman Hashemi Monfared

Arabian Journal of Geosciences Volume: (14) 1 - 18

#### 3. Investigation on Flow Air Concentration Effect on Distance of the Chute Spillway Aerators

Elham Nakhaei zainali, Mehdi Azhdary Moghaddam

Volume: (53) 1 - 21

#### 4. Conversion Factors between Non-Destructive Tests of Cubic and Cylindrical Concrete Specimens

Ali Poorarbabai, Mohammad Reza Ghasemi, Mehdi Azhdary Moghaddam

AUT Journal of Civil Engineering Volume: (5) 1-1 - 1-14

#### 5. Evaluation of the effects of cotton cultivation on the supply and demand of water resources of the Pishin basin in the southeastern regions of Iran under climate change scenarios

Yasin Zamani, Mohsen Hamidianpour, Seyed Arman Hashemi Monfared, Mehdi Azhdary Moghaddam

Volume: (9) 23 - 44

### 2020

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#### 6. Reliability Mesh Convergence Analysis by Introducing Expanded Control Variates

, Mohsen Rashki, Hamed Ghohani Arab, Mehdi Azhdary Moghaddam

Frontiers of Structural and Civil Engineering Volume: (14) 1012 - 1023

#### 7. Evaluation of Cavitation Occurrence Based on Reliability in Chute Spillways by Using First Order Reliable Method and Monte Carlo Simulation Method from 18 Spillways Laboratory Models, Iran

Mehdi Azhdary Moghaddam, Amin Hasanlipour shahrabadi

KSCE Journal of Civil Engineering Volume: (24) 1169 - 1182

#### 8. The calculation of the reliability index in nonlinear problems: A new method

, Mehdi Azhdary Moghaddam

ain shams engineering journal Volume: (11) 705 - 716

9. A refined subset simulation for the reliability analysis using the subset control variate

Azam Abdollahi, Mehdi Azhdary Moghaddam, Seyed Arman Hashemi Monfared, Mohsen Rashki, Yong Li

STRUCTURAL SAFETY Volume: (87) 102002-1 - 102002-13

10. A comparison of CMIP6 and CMIP5 projections for precipitation to observational data: the case of Northeastern Iran

Yasin Zamani, Seyed Arman Hashemi Monfared, Mehdi Azhdary Moghaddam, Mohsen Hamidianpour

THEORETICAL AND APPLIED CLIMATOLOGY Volume: (142) 1613 - 1623

11. Concrete Compressive Strength Prediction Using Neural Networks Based on Non-destructive Tests and a Self-calibrated Response Surface Methodology

Ali Poorarbabi, Mohammad Reza Ghasemi, Mehdi Azhdary Moghaddam

JOURNAL OF NONDESTRUCTIVE EVALUATION Volume: (39) 1-78 - 11-78

12. Multi-purpose Design of Water Supply Networks in Order to Reduce Pressure Surplus of Network (Case Study: İsmail Abad Water Supply Network)

Mohammad Yousefi, Mohammad Givehchi, Mehdi Azhdary Moghaddam, JAFAR JAFARI-ASL

Volume: (14) 1240 - 1251

13. Subset simulation method including fitness-based seed selection for reliability analysis

Azam Abdollahi, Mehdi Azhdary Moghaddam, Seyed Arman Hashemi Monfared, Mohsen Rashki, Yong Li

ENGINEERING WITH COMPUTERS Volume: ( ) -

14. Modeling Short Term Rainfall Forecast Using Neural Networks, and Gaussian Process Classification Based on the SPI Drought Index

Saeed Azimi, Mehdi Azhdary Moghaddam

WATER RESOURCES MANAGEMENT Volume: (34) 1369 - 1405

15. Control of bed scour downstream of ski-jump spillway by combination of six-legged concrete elements and riprap

, Mehdi Azhdary Moghaddam, Mahmood Shafai Bajestan, Hazi Mohammad Azamathulla

ain shams engineering journal Volume: (11) 1047 - 1059

16. Concrete compressive strength prediction using non-destructive tests through response surface methodology

Ali Poorarbabi, Mohammad Reza Ghasemi, Mehdi Azhdary Moghaddam

ain shams engineering journal Volume: (11) 939 - 949

17. Assessing the Reliability of Cavitation on Chute Spillway by Using Form and Monte Carlo Simulation Method

Amin Hasanali-pour shahrabadi, Mehdi Azhdary Moghaddam

Volume: (43) 87 - 99

18. Identification and ranking of dam construction project risks using Jackknife resampling method along with interval analysis

Farzad Fadaei, Mehdi Azhdary Moghaddam, Mohammadreza Shahraki

Journal of Critical Reviews Volume: (7) 3411 - 3418

19. Risk assessment of dam construction projects using delphi method and multicriteria Decision making techniques (TOPSIS) and shannon entropy models

Farzad Fadaei, Mehdi Azhdary Moghaddam, Mohammadreza Shahraki

Journal of Critical Reviews Volume: (7) 1050 - 1054

## 2019

20. Prediction of annual drinking water quality reduction based on Groundwater Resource Index using the artificial neural network and fuzzy clustering

Saeed Azimi, Mehdi Azhdary Moghaddam, Seyed Arman Hashemi Monfared

JOURNAL OF CONTAMINANT HYDROLOGY Volume: (220) 6 - 17

21. Determination of the Optimum Angle of the Floating Solar Panels to Reduce Evaporation and Energy Production by the Ansys Fluent Model (Case study: Chahnimeh No. 4 Sistan)

Seyed Arman Hashemi Monfared, Mehdi Rezapour, , Mehdi Azhdary Moghaddam

Volume: (5) 1297 - 1307

22. Strengthening Defected Dam Gates under Cavitation Vibration Using CFRP

Omid Yousefi, Mehdi Azhdary Moghaddam, Nasser Keikhaie

Volume: (19) 825 - 831

23. System-level reliability sensitivity analysis by using weighted average simulation method

Mohsen Rashki, Mehdi Azhdary Moghaddam, Mahmoud Miri

QUALITY AND RELIABILITY ENGINEERING INTERNATIONAL Volume: (35) 1826 - 1845

24. Experimental Study on Effect of Stepped Spillway Slope for Flow Regimes and Flow Field of Hydraulic Parameters (Case Study: Siahbisheh dams spillway)

Amin Hasanlipour shahrabadi, Mehdi Azhdary Moghaddam, Mohammadreza Kavianpour

Volume: (33) 139 - 149

25. The Changes in Sectors Demanding Water Resources on the Basis of Climate Change and Uncertainty

Yasin Zamani, Seyed Arman Hashemi Monfared, Mohsen Hamidianpour, Mehdi Azhdary Moghaddam

International Journal of Climate Change: Impacts and Responses Volume: (11) 15 - 31

26. Comparison and Measurement of Evaporation From Water Surface of the Reservoirs in Arid Areas and Evaluation of A Glass Cover to Reduce Evaporation

Seyed Arman Hashemi Monfared, , Mehdi Azhdary Moghaddam, , Azam Abdollahi

journal of hydrosiences and environment Volume: (3) 14 - 29

27. Estimation of scour depth around submerged weirs using self-adaptive extreme learning machine

, Mehdi Azhdary Moghaddam, M. Shafai Bajestan, H. Md. Azamathulla

JOURNAL OF HYDROINFORMATICS Volume: (21) 1082 - 1101

28. Numerical Simulation of Chute Energy Dissipation with Submerged Cylindrical Obstacle using Flow 3D Model

, Mehdi Azhdary Moghaddam, Gholamreza Azizyan, Kamran Khalifehei

Volume: (41) 17 - 28

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## 2018

29. Synoptic analysis of extreme rainfall over 20 mm precipitation for flood warning in Sistan and Baluchestan

Mohsen Rezaei, Mehdi Azhdary Moghaddam, Gholamreza Azizyan,

Volume: (6) 47 - 62

30. Spatial assessment of the potential of groundwater quality using fuzzy AHP in GIS

Saeed Azimi, Mehdi Azhdary Moghaddam, Seyed Arman Hashemi Monfared

Arabian Journal of Geosciences Volume: (11) 1 - 22

31. An image processing approach for investigation on transport of iron oxide nanoparticles (FE<sub>3</sub>O<sub>4</sub>) stabilized with poly acrylic acid in two-dimensional porous media

mohsen golzar, Mehdi Azhdary Moghaddam, ,

JOURNAL OF CONTAMINANT HYDROLOGY Volume: (211) 77 - 84

32. Statistical Downscaling of Global Climate Model Outputs to Monthly Precipitation via Extreme Learning Machine A Case Study

, Mehdi Azhdary Moghaddam, Seyed Arman Hashemi Monfared,

Environmental Progress and Sustainable Energy Volume: (37) 1853 - 1862

33. Performance comparison of four turbulence models for modeling of secondary flow cells in simple trapezoidal channels

Mohanna Tajnesaie, Ehsan Jafari Nodoushan, Reza Barati, Mehdi Azhdary Moghaddam

ISH Journal of Hydraulic Engineering Volume: () -

34. Large-scale association analysis of climate drought and decline in groundwater quantity using Gaussian process classification (case study 609 study area of Iran)

Saeed Azimi, Mehdi Azhdary Moghaddam, Seyed Arman Hashemi Monfared

Journal of Environmental Health Science and Engineering Volume: (16) 129 - 145

### 35. Anomaly Detection and Reliability Analysis of Groundwater by Crude Monte Carlo and Importance Sampling Approaches

Saeed Azimi, Mehdi Azhdary Moghaddam, Seyed Arman Hashemi Monfared

WATER RESOURCES MANAGEMENT Volume: (32) 4447 - 4467

### 36. Optimum Design of Stepped Spillway for Maximizing Energy Dissipation using Differential Evolution Algorithm and Firefly Algorithm and Combines both Algorithms

, Mehdi Azhdary Moghaddam

Volume: (5) 39 - 49

### 37. Analysis of drought recurrence conditions using first-order reliability method

Saeed Azimi, Mehdi Azhdary Moghaddam, Seyed Arman Hashemi Monfared

International Journal of Environmental Science and Technology Volume: ( ) -

## 2017

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### 38. Water Quality Parameters Analysis in Karoon River Considering the Dust of Khoozestan

Saeed Azimi, Mehdi Azhdary Moghaddam, Seyed Arman Hashemi Monfared

Volume: (9697) 15 - 22

### 39. Numerical Modelling of Water Entrance into a Wet Tank Using a Modified Wave Propagation Algorithm

, , Mehdi Azhdary Moghaddam

Volume: (17) 168 - 178

### 40. Quality analysis of Chemical parameters

Saeed Azimi, Mehdi Azhdary Moghaddam, Seyed Arman Hashemi Monfared

Volume: (41) 15 - 22

### 41. Water Quality Planning in Rivers Assimilative Capacity and Dilution Flow

Seyed Arman Hashemi Monfared, , shane snyder, Gholamreza Azizyan, Bahareh Pirzadeh, Mehdi Azhdary Mo

BULLETIN OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY Volume: (99) 531 - 541

### 42. Experimental Study of Air Inception Point Location on Stepped Spillways

Gholamreza Azizyan, Mehdi Azhdary Moghaddam, Amin Shahrabadi,

Volume: (11) 91 - 98

### 43. Comparison of Adaptive Neuro Fuzzy Inference System (ANFIS) and Support Vector Machines (SVM) for discharge capacity prediction of a sharp-crested weirs

Ali Forudi, moghtaba sanei, Mehdi Azhdary Moghaddam

Volume: (11) 772 - 784

44. Evaluation of IDF curve production methods by relationship based on combination of fractal nature of precipitation

Mehdi Azhdary Moghaddam,

Volume: (24) 271 - 282

45. A Hybrid Artificial Neural Network and Particle Swarm Optimization Algorithm for Statistical Downscaling of Precipitation in Arid Region

, Mehdi Azhdary Moghaddam, Seyed Arman Hashemi Monfared,

Ecopersia Volume: (5) 1991 - 2006

46. Performance evaluation of artificial neural networks in statistical downscaling of monthly precipitation (Case study Minab watershed)

, Mehdi Azhdary Moghaddam, Seyed Arman Hashemi Monfared,

Environmental Resources Research Volume: (5) 169 - 182

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## 2016

47. پیش بینی کیفیت آب در جریان های یک بعدی به کمک تابع انتقال آلودگی جدید و اصلاح معیار همگرایی

Bahareh Pirzadeh, Mehdi Azhdary Moghaddam

Volume: (23) 147 - 162

48. Water quality prediction in one-dimensional flow by means of new advective transport function and convergence criteria modification

Seyed Arman Hashemi Monfared, , Bahareh Pirzadeh, Mehdi Azhdary Moghaddam

Volume: (23) 147 - 162

49. Scale Effect of the Water Surface Profile on Ogee Spillway with Curvature in Plan and Converging Training Walls

Jalal Sheikh kazemi, , Mehdi Azhdary Moghaddam

Volume: (17) 119 - 136

50. Using Assimilation Capacity and Affected Distance for Water Quality Management in One-dimensional River Flow

Seyed Arman Hashemi Monfared, , Bahareh Pirzadeh, Mehdi Azhdary Moghaddam

International Journal of Earth Sciences and Engineering Volume: () -

51. Hydro-geochemical characteristics and groundwater quality assessment in Iranshahr plain aquifer, Iran

, Mehdi Azhdary Moghaddam

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Environmental Earth Sciences Volume: (75) 1 - 14

52. LABORATORY INVESTIGATION OF THE EFFECT OF THE SIZE OF ORIFICE ON THE PERFORMANCE OF CURVATURE SUBMERGE VANES FOR SEDIMENT LEACHING OF THE VORTEX SETTLING BASIN'S FLOOR

, , , Mehdi Azhdary Moghaddam

ACTA UNIVERSITATIS AGRICULTURAE ET SILVICULTURAE MENDELIANAE BRUNENSIS Volume: (64) 781 - 789

53. Scale Effects on the Discharge Coefficient of Ogee Spillway with an Arc in Plan and Converging Training Walls

, , Mehdi Azhdary Moghaddam

Civil Engineering Infrastructures Journal Volume: (49) 361 - 374

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## 2015

54. Cadmium Uptake by Plant and Transport in Soil Column under Industrial Wastewater Irrigation A Case Study

Ali Mehmandust, Seyed Arman Hashemi Monfared, Mehdi Azhdary Moghaddam

International Journal of Environmental Research Volume: (9) 913 - 922

55. Study on effects of ogee spillway guide walls changes on its hydraulic performance

Ali Forudi, Mehdi Azhdary Moghaddam,

Volume: (7) 64 - 76

56. A method to rank and measure the importance of random variables of random variables on failure probability of structures

Mohsen Rashki, Mahmoud Miri, Mehdi Azhdary Moghaddam

Volume: (33) 19 - 36

57. Discharge Coefficient and Energy Dissipation over Stepped Spillway under Skimming Flow Regime

, , , Mehdi Azhdary Moghaddam

KSCE Journal of Civil Engineering Volume: (19) 1174 - 1182

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## 2014

58. A simulation-based method for reliability based design optimization problems with highly nonlinear constraints

Mahmoud Miri, Mehdi Azhdary Moghaddam

AUTOMATION IN CONSTRUCTION Volume: (47) 24 - 36

59. بررسی آزمایشگاهی اثر صفحات مستغرق انحنا دار با قطاع 06 درجه بر راندمان حوضچه رسوبگیر گردابی

, Mehdi Azhdary Moghaddam, Amin Ahmadi

Volume: (6) 83 - 94

60. closure to A new efficient simulation method to approximate the probability of failure and most probable point

, Mahmoud Miri, Mehdi Azhdary Moghaddam

STRUCTURAL SAFETY Volume: (16) 15 - 16

61. INVESTIGATION ON STABILITY AND TRANSPORT OF IRON OXIDE NANOPARTICLES (Fe<sub>3</sub>O<sub>4</sub>) STABILIZED WITH POLYACRYLIC ACID IN ONE-DIMENSIONAL POROUS MEDIA

, Mehdi Azhdary Moghaddam, , ,

FRESENIUS ENVIRONMENTAL BULLETIN Volume: (23) 2594 - 2601

62. Experimental Study and Numerical Solution of Poly Acrylic Acid Supported Magnetite Nanoparticles Transport in a One-Dimensional Porous Media

, , Mehdi Azhdary Moghaddam

Advances in Materials Science and Engineering Volume: (2014) 1 - 8

63. Experimental investigation of the effect of curvature submerge vane with 60 degree radial section on the efficiency of vortex settling basin

Mojtaba Saneie, Mehdi Azhdary Moghaddam, Amin Ahmadi

Volume: (1) 83 - 94

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## 2013

64. Numerical investigation of contaminant transport in Iranshahr plain aquifer Iran

, Mehdi Azhdary Moghaddam

FRESENIUS ENVIRONMENTAL BULLETIN Volume: (22) 128 - 135

65. Hydraulic design of a trapezoidal labyrinth spillway using computational hydrodynamics

Mehdi Azhdary Moghaddam,

Volume: (13) 1 - 12

66. The usage of artificial neural network in simulation and prediction of flood at Sarbaz drainage basin

Hossein Negaresh, Mehdi Azhdary Moghaddam,

Volume: (31) 15 - 28

67. Optimization of geometry of trapezoidallabyrinth Spillway with using ANFIS models and genetic algorithms (Ute Dam case study in the United States of America)

Mehdi Azhdary Moghaddam,

Volume: (24) 129 - 138

68. Effect of Catenary Action on Reducing the Vulnerability of Steel Bending - Frame Structures versus Progressive Collapse

, Mehdi Azhdary Moghaddam,

Volume: (4) 157 - 165

69. کاربرد شبك هي عصبي مصنوعي در شبیه سازی و پیش بینی سیلاب در حوضه ی آبریز سرپاز.

Hossein Negaresh, Mehdi Azhdary Moghaddam,

Volume: () 15 - 28

70. کاربرد شبکه عصبي مصنوعي در شبیه سازی و پیش بینی سیل در حوضه آبریز سرپاز.

Hossein Negaresh, Mehdi Azhdary Moghaddam,

Volume: () 15 - 28

71. Closure to "A new efficient simulation method to approximate the probability of failure and most probable point

Mohsen Rashki, Mahmoud Miri, Mehdi Azhdary Moghaddam

STRUCTURAL SAFETY Volume: () 15 - 16

## 2012

72. پیش بینی خشکسالي با استفاده از مدل فازی-عصبي، شاخص های اقليمي، پایداری و شاخص (خشکسالي (مطالعه موردی زاهدان)

Mehdi Azhdary Moghaddam, Mahmood Khosravi, , ehsan jafarinadoshan

Volume: (10) 61 - 72

73. assessing the effects of dodar dam construction on the ladiz plain

Mehdi Azhdary Moghaddam,

archives des sciences (MSRT BLACKLIST) Volume: (65) 27 - 35

74. A new efficient simulation method to approximate the probability of failure and most probable point

, Mahmoud Miri, Mehdi Azhdary Moghaddam

STRUCTURAL SAFETY Volume: (39) 22 - 29

## 2011

75. بررسی آسیب ناشی از خللازایی در سرریز با استفاده از منطق فازی.

, Mehdi Azhdary Moghaddam

Volume: (5) 107 - 116

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## 2005

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### 76. A Modified Theory for Rectangular Vertical Drop Structures

Mehdi Azhdary Moghaddam

IASME Transaction Volume: () -

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## Conferences Papers

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## 2017

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### 1. Numerical Investigation on flow characteristics after air vent on chute spillway

16 th Iranian Hydraulic conference

Mehdi Azhdary Moghaddam,

### 2. Performance Evaluation of water treatment plans based on reliability analysis

16 th Iranian Hydraulic conference

, , Mehdi Azhdary Moghaddam, Mohsen Rashki

### 3. ,

Gholamreza Azizyan, Mehdi Azhdary Moghaddam, Farzad Fadaei, Asma Barahouei nezhad

## 2016

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### 4. Determining of Discharge for Meandering Compound Channels Using Experimental Methods

International Conference on Civil Engineering

, Mehdi Azhdary Moghaddam,

### 5. Modeling of Five testing state using Distributed Wave Algorithm

2nd International conference on New Research Achievements in Civil Engineering, Architectural and Urban Management

, Mehdi Azhdary Moghaddam,

## 2015

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### 6. Water Quality Management by Means of Assimilative Capacity Considering Allowable Concentration and Affected Distance

14th National Conference on HYDRAULIC

Seyed Arman Hashemi Monfared, , Bahareh Pirzadeh, Mehdi Azhdary Moghaddam