

University of Tehran
Institute of Geophysics
[University of Tehran]
[Tehran], [state] [zip]
Iran

bidokhti@yahoo.com
Phone: [+2161118284]
Mobile: [mobile]
Fax: [fax]
Website: [Ut.ac.ir]

A.A. Bidokhti, Ph. D. Prof.

https://www.researchgate.net/profile/AA_Bidokhti

Education: Ph. D. in Geophysical Fluid Dynamics, Dynamics of Atmosphere and Ocean (Newcastle and Cambridge UK), 1982.

Research Experience

May 1992 – present **Faculty Member, Professor of Environmental Fluid Dynamics.**
University of Tehran, Institute of Geophysics.

Skills & Activities

Skills Turbulence, Aerosols, Convection, SODAR, Atmosphere, Fluid Mechanics, Computational Fluid Dynamics, Numerical Simulation, Turbulence Modeling, CFD Simulation, Experimental Fluid Mechanics, Atmospheric Physics, Atmospheric Pollution, Aerosol Science, Hot Wire Anemometry, Fluid Turbulence, Computational Fluid Mechanics, Atmospheric Dispersion, Oceanography, Meteorology, Climate Modeling, Aquatic Ecosystems, Climate Change, Numerical Modeling, Weather, Ocean Currents, Ozone, Fluid Dynamics

Languages English, Persian

Scientific Memberships IP, Society of Geophysics of Iran, Member of Marine Society.

Interests Fluid flow phenomena

Publication Highlights

[authors]: [title]. [details]

Books

A.A. Bidokhti: *fundamental of fluid dynamics*. 08/2004; University of Tehran., ISBN: 964-03-4866-x

A.A. Bidokhti: Atmospheric boundary layer, to be published.

Journal Publications

- Somayeh Arghavani, , and Abbas Ali Akbar Bidokhti. "Evaluation the effects of urban green space scenarios on near-surface turbulence and dispersion related parameters: A numerical case study in Tehran Metropolis." *URBAN FORESTRY & URBAN GREENING* 59, no. 59 (2021): 127012.
- Alireza Bahmanzadegan Jahromi, , Kamran Lari, and Abbas Ali Akbar Bidokhti. "Modeling of wind driven waves and estimation of wave energy in Chabahar Bay." *INTERNATIONAL JOURNAL OF COASTAL & OFFSHORE ENGINEERING* 5, no. 1 (2021): 55-64.
- Hesameddin Mehrfar, Masoud Torabi Azad, Kamran Lari, and Abbas Ali Akbar Bidokhti. "Seasonal Variations of the Coastal Currents and Eddies in the Persian Gulf: A Numerical Case Study." *MARINE TECHNOLOGY SOCIETY JOURNAL* 54, no. 1 (2020): 44-52.
- Hesameddiin Mehrfar, Masoud Torabi Azad, Kamran Lari, and Abbas Ali Akbar Bidokhti. "A numerical simulation case study of the coastal currents and upwelling in the western Persian Gulf." *Journal of Ocean Engineering and Science* 23, no. 29 (2020): 1-10.
- Mohammad Akbarinejad, Abbas Ali Akbar Bidokhti, Mohammad Akbarinasab, , and Sara Alahyaribaik. "Internal Gravity Waves Spectrum Generated by a Cylindrical Body Moving in a Stratified Fluid." *Journal of Applied Fluid Mechanics* 13, no. 04 (2020): .
- Amir Siahsarani, Ali Karami Khaniki, Abbas Ali Akbar Bidokhti, and Majid Azadi. "Sensitivity analysis of the numerical aspect of the SWAN for the tropical cyclone wave simulations in the Gulf of Oman." *Arabian Journal of Geosciences* 13, no. 15 (2020): .
- Maryam Gharibzadeh, Abbas Ali Akbar Bidokhti, and Khan Alam. "The interaction of ozone and aerosol in a semi-arid region in the Middle East: Ozone formation and radiative forcing implications." *ATMOSPHERIC ENVIRONMENT* 245, no. 118015 (2021): 118015.
- Behrooz Bafandeh, Abbas Ali Akbar Bidokhti, Kamran Lari, and . "Experimental and numerical study of gas to liquid ratio in stratified gas-saturated liquid blowouts' plumes." *International Journal of Environmental Science and Technology* 18, no. 6 (2021): .
- Abdolsamad Rahnemania, Abbas Ali Akbar Bidokhti, and Javad Babagoli Mata Kalae. "Study of ice formation in the Caspian Sea using numerical simulations." *Journal of the Persian Gulf* 9, no. 33 (2021): .
- Amir Siahsarani, Ali Karami Khaniki, Abbas Ali Akbar Bidokhti, and Majid Azadi. "Numerical Modeling of Tropical Cyclone-Induced Storm Surge in the Gulf of Oman Using a Storm Surge–Wave–Tide Coupled Model." *Ocean Science Journal* 56, no. 3 (2021): .
- A.A. Bidokhti: *A climatological study of the Low Level Jet in Central Desert of Iran (Dashte Kavir)*. *Journal of the Earth and Space Physics* 12/2019;, DOI:10.22059/jesphys.2019.284464.1007133
- Abdossamad Rahnemania, A.A. Bidokhti, M. Ezam, Kamran Lari, Sarmad Ghader: *The effect of bottom friction on the variability of the salinity front in the Persian Gulf*, *J. of Hydrophysics*, 2019.
- Mina Mohammadi Pasand, Abbasali Aliakbari Bidokhti, Hesameddin Mehrfar: *Seasonal variations of eddies in North Indian Ocean using wind data and satellite altimetry* *J. of Hydrophysics*, 2019, .

- S. Farrokhi Mogaddam, A. A. Bidokhti, F. Ahmadi Givi, M. Ezam: *Evaluation of physical changes (temperature and salinity) in the Persian Gulf waters due to climate change using field data and numerical modeling*. International journal of Environmental Science and Technology 10/2019;, DOI:10.1007/s13762-019-02532-y
- Abdossamad Rahnemania, A.A. Bidokhti, M. Ezam, Kamran Lari, Sarmad Ghader: *A Numerical Study of the Frontal System between the Inflow and Outflow Waters in the Persian Gulf*. Journal of Applied Fluid Mechanics 09/2019; 12(5)., DOI:10.29252/jafm.12.05.29770
- B. Tajfirooz, M. Ezam, A. A. Bidokhti, K. Lari: *Evaluation of probabilistic and deterministic methods for estimating energy potential of tidal currents in the Khuran Strait, the Persian Gulf*. International journal of Environmental Science and Technology 08/2019;, DOI:10.1007/s13762-019-02501-5
- Somayeh Arghavani, Hossein Malakooti, Abbasali Aliakbari Bidokhti: *Numerical evaluation of urban green space scenarios effects on gaseous air pollutants in Tehran Metropolis based on WRF-Chem model*. DOI:10.1016/j.atmosenv.2019.116832
- Javad Babagoli Matikolaei, Abbasali Aliakbari Bidokhti: *An experimental study of flow regimes of a gravity current over a Cape in a stratified environment*. Ocean Dynamics 05/2019; 69(10)., DOI:10.1007/s10236-019-01272-4
- Javad Babagoli Matikolaei, Abbasali Aliakbari Bidokhti, Maryam Shiea: *Some aspects of the deep abyssal overflow between the middle and southern basins of the Caspian Sea*. Ocean Science 04/2019; 15(2):459-476., DOI:10.5194/os-15-459-2019
- Chenour Mohammadi, Manuchehr Farajzadeh, Y. Ghavidel, A.A. Bidokhti: *Evaluation of estimator variables in air temperature estimation in January and June based on land cover*. Journal of the Earth and Space Physics 04/2019; 45(1):129-147., DOI:10.22059/jesphys.2018.253769.1006985
- Amir Bagheri, A.A. Bidokhti, Maryam Gharaylou, Reza Khalife: *Experimental study of the effect of hydrophilic particles on fog modification*. Journal of the Earth and Space Physics 01/2019;, DOI:10.22059/jesphys.2019.262718.1007027
- Maryam Gharibzadeh, Khan Alam, Yousefali Abedini, Abbasali Aliakbari Bidokhti: *Classification of aerosols using multiple clustering techniques over Zanjan, Iran, during 2010-2014*. 01/2019; 99(1):02007., DOI:10.1051/e3sconf/20199902007
- Maryam Gharibzadeh, Khan Alam, Yousefali Abedini, Abbasali Aliakbari Bidokhti, Amir Masoumi, Humera Bibi, Bahadar Zeb: *Climatological analysis of the optical properties of aerosols and their direct radiative forcing in the Middle East*. Journal of Atmospheric and Solar-Terrestrial Physics 01/2019; 183., DOI:10.1016/j.jastp.2019.01.002
- A Valipour, A A Bidokhti: *An analytical model for the prediction of rip spacing in intermediate beaches*. Journal of Earth System Science 12/2018; 127(8)., DOI:10.1007/s12040-018-1013-5
- Saeed Fahadipour, M Azadi, A. A. Bidokhti, Habib Allah Sayari, O. Alizadeh-Choobari: *Study and Simulation of Severe Dust Storms in the West and Southwest of Iran*. DOI:10.3103/S106837391809008X
- Chenour Mohammadi, Manuchehr Farajzadeh, Yousef Ghavidel Rahimi, Abbasali Aliakbar Bidokhti: *Comparison of univariate and multivariate geographically weighted regression for estimating air temperature over Iran*. Arabian Journal of Geosciences 07/2018; 11(13)., DOI:10.1007/s12517-018-3653-9

- Elham Ghasemifar, manuchehr farajzadeh, yousef ghavidel rahimi, abbasali aliakbari Bidokhti: *Analysis of spatiotemporal variations of cloud fraction based on Geographic characteristics in Iran*. Journal of the Earth and Space Physics 04/2018; 44(1)., DOI:10.22059/jesphys.2018.216027.1006843
- Maryam Gharibzadeh, Khan Alam, Yousefali Abedini, Abbasali Aliakbari Bidokhti, Amir Masoumi, Humera Bibi: *Characterization of aerosol optical properties using multiple clustering techniques over Zanzan, Iran, during 2010–2013*. Applied Optics 04/2018; 57(11):2881-2889., DOI:10.1364/AO.57.002881
- Javad Babagoli Matikolaie, Abbasali Aliakbari Bidokhti, Maryam Shiea: *Some aspects of the deep abyssal overflow between the middle and southern basins of the Caspian Sea*. Ocean Science Discussions 02/2018;, DOI:10.5194/os-2018-13
- Elham Ghasemifar, Manuchehr Farajzadeh, Yousef Ghavidel Rahimi, Abbasali Aliakbari Bidokhti: *Precipitation rate climatology related to different cloud types using satellite imagery over Iran*. Arabian Journal of Geosciences 02/2018; 11(4)., DOI:10.1007/s12517-018-3419-4
- Elham Ghasemifar, Manuchehr Farajzadeh, Matthew Charles Perry, Yousef Ghavidel Rahimi, Abbasali Aliakbari Bidokhti: *Correction to: Analysis of spatiotemporal variations of cloud fraction based on geographic characteristics over Iran*. Theoretical and Applied Climatology 01/2018; 134(3-4)., DOI:10.1007/s00704-017-2351-y
- H. Deldar, A. A. Bidokhti, V. Chegini: *An Investigation of the Effects of Internal Waves on Sound Propagation in a Stratified Medium with a Sloping Bed*. Acoustical Physics 01/2018; 64(1):58-63., DOI:10.1134/S1063771018010049
- Mojdeh Hafezi, Ali R. Mohebalhojeh, A.A. Bidokhti, Parviz Irannejad, Samaneh Sabetghadam: *On the Relation Between the Large-Scale Tropospheric Circulation and Air Quality in Tehran*. Journal of the Earth and Space Physics 01/2018; 43(4).
- Saeid Farhadipour, Majid Azadi, Abbasali Aliakbari Bidokhti, Omid Alizadeh-Choobari, Habib Allah Sayari: *Dust storms in west and southwest Iran and their impact on radiation fluxes: A case study*.
- Elham Ghasemifar, Manuchehr Farajzadeh, Matthew Charles Perry, Yousef Ghavidel Rahimi, Abbasali Aliakbar Bidokhti: *Analysis of spatiotemporal variations of cloud fraction based on geographic characteristics over Iran*. Theoretical and Applied Climatology 11/2017; 134(3)., DOI:10.1007/s00704-017-2308-1
- F. Komasi, A. Aliakbari-Bidokhti, S. Sabetghadam: *Spatial distribution of the atmospheric mixed-layer depth over Tehran using numerical simulations*. Journal of the Earth and Space Physics 10/2017; 43(3):553-568.
- Maryam Gharibzadeh, Khan Alam, Yousefali Abedini, Abbasali Aliakbari Bidokhti, Amir Masoumi: *Monthly and seasonal variations of aerosol optical properties and direct radiative forcing over Zanzan, Iran*. Journal of Atmospheric and Solar-Terrestrial Physics 09/2017; 164., DOI:10.1016/j.jastp.2017.09.006
- B. Kalantari, A. Aliakbari-Bidokhti, E. Mobarak-Hosn: *Study of the Lee waves formation over Zagros Mountain and its influences on Clear Air Turbulence (CAT)*. Journal of the Earth and Space Physics 07/2017; 43(2):451-459.

- H. Deldar, A. Aliakbari-Bidokhti, V. Chegini, M. Akbarinasab: *A laboratory study of the effect of internal waves on acoustic propagation*. Journal of the Earth and Space Physics 04/2017; 43(1):181-192.
- R. Mirzaei-Shiri, S. Ghader, M. Mazraeh-Farahani, A. AliAkbari-Bidokhti: *Numerical solution of the shallow water equations using fourth-order compact MacCormack scheme*. Journal of the Earth and Space Physics 04/2017; 43(1):209-228.
- Samaneh Sabetghadam, masoud khoshsima, A.A. Bidokhti: *Simulation of entrainment near a density stratified layer: Laboratory experiment and LIDAR observations*. Journal of the Earth and Space Physics 02/2017; 42(4).
- Javad Babagoli Maticolaei, Abbas Ali AliAkbbari-Bidokhti, Maryam Shiea: *Some aspects of the deep abyssal overflow between the middle and southern basins of the Caspian Sea*. Ocean Science Discussions 01/2017;, DOI:10.5194/os-2016-87
- Pejman M, Aliakbari Bidokhti A, Gharaylo M: *A Laboratory Study the Role of Turbulence in Growth of Cloud Droplets in Presence of Aerosols Environment*. DOI:10.4172/2332-2594.1000205
- M.M. Namin, A.A. Bidokhti, A.K. Khaniki: *Estimation of turbulence parameters in a shallow sea using numerical simulation with sensitivity to vertical mixing parameterization*. Indian Journal of Geo-Marine Sciences 01/2017; 46(9):1788-1798.
- A.H. Tabee, A. Karami-Khaniki, A.A. Bidokhti, K. Lari: *Designing of device for sediment grain size measuring*. Ecology, Environment and Conservation 01/2017; 23(1):37-42.
- H. Daghigh, A. Karami Khaniki, A.A. Bidokhti, M. Habibi: *Prediction of bed ripple geometry under controlled wave conditions: Wave-flume experiments and MIKE21 numerical simulations*. Indian Journal of Geo-Marine Sciences 01/2017; 46(3):529-537.
- Eram Ghazi, Abbasali Aliakbari Bidokhti, Mojtaba Ezam, Masoud Torabi Azad, Smaeyl Hassanzadeh: *Physical Properties of Persian Gulf Outflow Thermohaline Intrusion in the Oman Sea*. Open Journal of Marine Science 01/2017; 07(01):169-190., DOI:10.4236/ojms.2017.71013
- A.A. Bidokhti, Z. Shariepour, S. Sehatkashani: *Corrigendum to "Some resilient aspects of urban areas to air pollution and climate change, case study: Tehran, Iran" [Scientia Iranica 23(5) (2016) 1994-2004]*. 11/2016; 23(6):1994-2004., DOI:10.24200/sci.2016.2300
- Esmail Gheysari, Sarmad Ghader, Abbas-Ali Aliakbbari-Bidokhti: *Numerical solution of incompressible Boussinesq equations using sixth-order combined compact scheme*.
- A.A. Bidokhti: *Some resilient aspects of urban areas to air pollution and climate change, case study: Tehran, Iran*. Scientia Iranica 09/2016; 23(5).
- A.A. Bidokhti: *Dust detection and AOT estimation using combined VIR and TIR satellite images in urban areas of Iran*. Scientia Iranica 09/2016; 23(5):1984-1993., DOI:10.24200/sci.2016.2265
- Seyyed Shafi Mousavi, Manuchehr Farajzadeh, Yousef Ghavidel, Abbasali Aliakbari Bidokhti: *Climatic variability of the column ozone over the Iranian plateau*. Meteorology and Atmospheric Physics 08/2016; 129(3):309-320., DOI:10.1007/s00703-016-0474-9
- O. Alizadeh-Choobari, A.A. Bidokhti, P. Ghafarian, M.S. Najafi: *Temporal and spatial variations of particulate matter and gaseous pollutants in the urban area of Tehran*. Atmospheric Environment 07/2016; 141:443-453., DOI:10.1016/j.atmosenv.2016.07.003

- A.A. Bidokhti: *Impact of wind and thermal forcing on the seasonal variation of three-dimensional circulation in the Caspian Sea*. Indian Journal of Geo-Marine Sciences 05/2016; 45(05)(9).
- M. Mohandesi Namin, A. A. Bidokhti, A. Karami Khaniki, I. Hasan Zadeh, M. Torabi Azad: *A Study of the Performances of Different Turbulence Schemes in Numerical Simulation of Hydrodynamics of a Semi-Closed Sea (Persian Gulf)*. Marine Geodesy 03/2016; 39(2):1-24., DOI:10.1080/01490419.2015.1134736
- Abbas-Ali A Bidokhti, Maryam Gharaylou, Nafiseh Pegahfar, Samaneh Sabetghadam, Maryam Rezazadeh: *Characteristics of extreme dust events observed over two urban areas in Iran*. Journal of Earth System Science 03/2016; 125(2)., DOI:10.1007/s12040-016-0668-z
- Amin A. Bidokhti: *Flow Visualization of Internal Waves and Wakes of a Streamlined Body in a Stratified Fluid*. Journal of Applied Fluid Mechanics 03/2016; 9(2):635-641., DOI:10.18869/acadpub.jafm.68.225.24419
- S. Sedigh Marvasti, A. Gnanadesikan, A. A. Bidokhti, J. P. Dunne, S. Ghader: *Challenges in modeling spatiotemporally varying phytoplankton blooms in the Northwestern Arabian Sea and Gulf of Oman*. Biogeosciences 02/2016; 13(4):1049–1069., DOI:10.5194/bg-13-1049-2016
- Scientia Iranica, S Sehatkashani, M Vazifedoust, Gh Kamali, A A Bidokhti: *Sharif University of Technology Dust detection and AOT estimation using combined VIR and TIR satellite images in urban areas of Iran*.
- A A Bidokhti, Z Shariepour, S Sehatkashani: *Sharif University of Technology Some resilient aspects of urban areas to air pollution and climate change, case study: Tehran, Iran*.
- Maryam Gharibzadeh, Khan Alam, Abbasali Aliakbari Bidokhti, Yousefali Abedini Yousefali Abedini, Amir Masoumi: *Radiative Effects and Optical Properties of Aerosol during Two Dust Events in 2013 over Zanzan, Iran*. Aerosol and Air Quality Research 01/2016; 17(3)., DOI:10.4209/aaqr.2016.04.0161
- A.S. Jahromi, K. Lari, A. Morsali, A.A. Bidokhti, M.J.S. Fard: *Assessment of salinity gradient power in Bahmanshir River estuary based on reverse electrodialysis method*.
- Masoud khoshsima, Samaneh sabetghadam, A.A. Aliakbari Bidokhti: *Estimation of atmospheric particulate matter (PM10) concentration based on remote sensing measurements and meteorological parameters: Application of artificial neural network*. Journal of the Earth and Space Physics 12/2015; 41(3):499-510.
- A. Valipour, A. Karami Khaniki, A. A. Bidokhti: *Study of undertow oscillations using an analytical model and some numerical simulations*. Indian Journal of Geo-Marine Sciences 10/2015; 44(10):1622-1629.
- S Sedigh Marvasti, A Gnanadesikan, A A Bidokhti, J P Dunne, S Ghader: *Blooms in the Northwestern Arabian Sea and Gulf of Oman Challenges in modelling spatiotemporally varying phytoplankton blooms in the Northwestern Arabian Sea and Gulf of Oman Blooms in the Northwestern Arabian Sea and Gulf of Oman*. Biogeosciences Discussions 07/2015; 12(12):9651-9693., DOI:10.5194/bgd-12-9651-2015
- Mozhdeh Hafezi, Mozhgan Rezaeimanesh, Alireza Mohebalhojeh, Abbas Ali Akbari Bidokhti, Mohammad Ali Nasr Esfahani: *Application of the split jet and Rossby-wave breaking indices to study the critical air pollution episodes in Tehran during Nov. and Dec. 2010*.
- Shervin Sharafatmandjoor, Nor Azwadi Che Sidik, Hora Chitsaz Boroujerdi, Ali Akbar Bidokhti: *Analysis of the Curvature Field of a Density-Driven Convective Flow*. Numerical Heat Transfer Applications 02/2015; 67(5):589–596., DOI:10.1080/10407782.2014.937278

- Mahmood Akhyani, Vahid Chegini, Abbasali Aliakbari Bidokhti: *An appraisal of the power density of current profile in the Persian Gulf and the Gulf of Oman using numerical simulation*. *Renewable Energy* 02/2015; 74:307–317., DOI:10.1016/j.renene.2014.08.015
- M. Jafari, A.A. Bidokhti, S. Ghader, A.H. Javid, A. Karami. Khaniki: *Study on Annual Variability of Mixed Layer Depth in Oman Sea by GOTM Model*. *Advances in Environmental Biology* 01/2015; 9(2):842-850.
- M. Shiea, A.A. Bidokhti: *The study of upwelling in the eastern coast of the Caspian Sea using numerical simulation*.
- Moha Taeibi-Rahni, Azadeh kermani Ranjbar, Abbas-Ali Ali-Akbari Bidokhti: *Study of a rising bubble undergoing collisions with porous medium using lattice Boltzmann method*. *Indian Journal of Geo-Marine Sciences* 01/2015;
- S. Habibi, A.A. Bidokhti: *A three dimensional numerical simulation for prediction of oil trajectory due to extraction activity in region between Khark Island and Busher Port in winter, Persian Gulf, Iran*.
- S. Sehatkashani, G. Kamali, M. Vazifedoust, A.A. Bidokhti: *Synoptic and spectral analysis of some dust events in western and southwestern Iran*. *Advances in Environmental Biology* 08/2014; 8(13):793-806.
- A. Valipour, A. Karami Khaniki, A. A. Bidokhti: *Investigating the reactions of rip current pattern and sediment transport in rip channel against changes of bed parameters using numerical simulations*. *Indian Journal of Geo-Marine Sciences* 05/2014; 43(5).
- H. Malakooti, Bidokhti A A: *A Modeling Study of Boundary Layer Wind Flow over Tehran Region during a High Pollution Episode*. *Journal of Applied Fluid Mechanics* 04/2014; 7(2):299-313.
- Maryam Gharaylou, N. Pegahfar, A.A. Bidokhti: *Electrical charge transfer modeling (lightning) in cloud and its implementation in a one-dimensional prognostic cloud model*. *Journal of the Earth and Space Physics* 03/2014; 40(1):137-148.
- M. Khoshsima, A. A. Bidokhti, F. Ahmadi-Givi: *Variations of aerosol optical depth and Angstrom parameters at a suburban location in Iran during 2009-2010*. *Journal of Earth System Science* 01/2014; 123(1), DOI:10.1007/s12040-013-0380-1
- Z. Sharipour, A.A. Bidokhti: *Study of atmospheric total ozone variations due to winter synoptic scale disturbances over Iran*. *Journal of the Earth and Space Physics* 01/2014; 40(4):139-154.
- Z. Shariepour, A.A. Bidokhti: *An investigation on the status of troposphere NO₂ over Iran during 2004 to 2012*. *Journal of Environmental Studies* 01/2014; 40(1):65-78.
- S. Sabetghadam, F. Ahmadi-Givi, Y. Golestani, A.A. Aliakbari-Bidokhti: *The impact of urban air pollutants on atmospheric visibility in Tehran, 2008*. *Journal of the Earth and Space Physics* 01/2014; 39(4):109-122.
- L. Khosrosereshki, P. Irannejad, A.A. Aliakbari-Bidokhti: *A comparison of dust emission schemes in estimation of vertical dust flux in dust source regions of iran*. *Journal of the Earth and Space Physics* 01/2014; 40(1):201-216.
- Mohammad Hossein Shoushtari, Naji F., Bidokhti A. A.: *A laboratory study of the role of ions in warm cloud formation*. *Journal of the Earth and Space Physics* 12/2013; 39(4):123-134.

- Maryam Gharaylou, Peyman Zawar-Reza, Abbas-Ali A. Bidokhti, Majid-M. Farahani: *Implementation of a new cumulus parameterization scheme based on an explicit time-dependent tilting cloud model in ARPS model*. *Meteorology and Atmospheric Physics* 11/2013; 122(3):145-158., DOI:10.1007/s00703-013-0280-6
- Akbarimoghadam, Aliakbari-Bidokhti, P.3 Irannejad: *A radiative-advective model for estimation of nocturnal cooling in a basin surrounded by topography (Rafsanjan basin)*. *Journal of the Earth and Space Physics* 07/2013; 39(2):111.
- Masoud Sadrinasab, Mohamad Akbarinasab, Abasali Bidokhti, Vahid Chegini, Mehdi Mehdizadeh: *The effect of the fluctuations influx acoustic signal in the laboratory*. *Journal of the Earth and Space Physics* 01/2013; 39(3):120-143.
- Z. Sharipour, A.A. Bidokhti, M.A. Saghafi: *Investigation of total ozone seasonal distribution over Iran area for 2007-2008*. *Journal of the Earth and Space Physics* 01/2013; 39(1):135-149.
- M. Khoshshima, A.A. Bidokhti, F. Ahmadi-Givi: *Evaluation of aerosol optical depth using visibility and remote sensing data in urban and semi urban areas in Iran*. *Journal of the Earth and Space Physics* 01/2013; 39(1):163-174.
- Z. Shariepour, A.A. Aliakbari Bidokhti: *Investigation of surface ozone over Tehran for 2008-2011*. *Journal of the Earth and Space Physics* 01/2013; 39(3).
- S. Hamzehei, A.A. Bidokhi, M.S. Mortazavi, A. Gheiby: *Red tide monitoring in the Persian Gulf and Gulf of Oman using MODIS sensor data*.
- I Soltanzadeh, AA Aliakbari-Bidokhti, P Zawar-Reza: *Study of local winds over Tehran using a single-layer urban model coupled with WRF under ideal conditions*. *Journal of the Earth and Space Physics* 01/2013; 38(4-4):207-221.
- M. Khoshshima, F. Ahmadi-Givi, A.A. Bidokhti, S. Sabetghadam: *Impact of meteorological parameters on relation between aerosol optical indices and air pollution in a sub urban area*. *Journal of Aerosol Science* 01/2013; 68., DOI:10.1016/j.jaerosci.2013.10.008
- S. Hamzehei, A.A. Bidokhti, M.S. Mortazavi, A. Gheiby, M. Ebrahimi, F. Saraji: *Field Study of the 2008-2009 Red Tide in the Northern Strait of Hormuz*. *Life Science Journal* 12/2012; 9(4):4727-4733.
- M. Sadatkiaee, A. Karami-Khaniki, A. Aliakbari-Bidokhti: *The effect of wave parameters on the current patterns and sediment transport in the Inlets*. *Life Science Journal* 12/2012; 9(4):4734-4739.
- Mohammad Akbarinasab, Vahid Chegini, Ali Akbari Bidokhti, Sadrinasab: *A Simulation Study of Multipath Characteristics of Acoustic Propagation in the Strait of Hormuz*.
- Mohammad Reza Khalilabadi, A.A. Bidokhti: *Design and Construction of an Optimum Wave Flume*. *Journal of Applied Fluid Mechanics* 07/2012; 5(3):99-103.
- Karami K, Ghader S. :, Bidokhti A. A, Joghataei M, Neyestani A, Mohammadabadi A *Planetary and tidal wave-type oscillations in the ionospheric sporadic-E layers over Tehran region*. *Journal of Geophysical Research Atmospheres* 04/2012; 117(A4-Vol. 117)., DOI:10.1029/2011JA017466

- N. Pegahfar, A. A. Bidokhti: *Similarity relations in a stable and relatively neutral surface layer in an urban area with complex topography (Tehran)*. Environmental Fluid Mechanics 02/2012; 13(1)., DOI:10.1007/s10652-012-9257-0
- H. Jalal Kamali, A. Ali-Akbari Bidokhti, H. Amiri: *Possible thermal seismic precursors along Western boundary of Lut plate (IRAN)-Kerman area*. Journal of the Earth and Space Physics 01/2012; 38(2).
- S. Hamzei, A.A. Bidokhti, M.S. Mortazavi, A. Ghebi: *Utilization of satellite imagery for monitoring harmful algal blooms at the Persian Gulf and Gulf of Oman*.
- A.A. Bidokhti: *ESTIMATION OF SALINITY, HEAT AND BUOYANCY BUDGETS OF THE INFLOW COASTAL CURRENT INTO THE PERSIAN GULF FROM THE STRAIT OF HORMUZ*.
- Mahmood Akhyani, V. Chegini, A. A. Bidokhti: *Evaluating of Global warming by analysis of the sea surface temperature in the Persian Gulf and the Gulf of Oman*.
- Mohammad Joghataei, Mohebalhojeh A. R., Aliakbari-Bidokhti A. A.: *Balance and inertia-gravity waves in a two-layer baroclinic model*. Journal of the Earth and Space Physics 01/2012; 38(3):189-203.
- S. M. Mosaddad, A. A. Bidokhti, H. Basirparsa: *An Observational and Numerical Modeling of Thermocline Development in the Persian Gulf*. Marine Geodesy 01/2012; 35(1):32-48., DOI:10.1080/01490419.2011.637846
- Azimeh Zare, Parviz Irannejad, Abass A. A. Bidokhti: *Effects of triatomic atmospheric gases on radiation balance in the central desert region of Iran*.
- N Pegahfar, A A Bidokhti, P Zawar-Reza, M M FARAHANI: *Study of vertical wind profiles in an urban area with complex terrain (Tehran)*. Journal of Earth System Science 10/2011; 120(5)., DOI:10.1007/s12040-011-0106-1
- Soltanzadeh, P Zawar-Reza, AA Aliakbari-Bidokhti, AA Jalali, AH Torkzadeh: *Study of local winds over Tehran using WRF in ideal conditions*. Iranian Journal of Physics Research 09/2011; 11(2).
- A.-A. Bidokhti, Ghader S., Shahsavari M.: *Numerical Simulation of Down-Slope Flows in a Confined Stratified Region*. Journal of the Earth and Space Physics 07/2011; 37(3):229-240.
- Nafiseh Pegahfar, Ali-Akbari Bidokhti, Zawar-Reza: *A study of non-dimensional wind gradient and turbulent intensity, using the Monin-Obukhov similarity theory in a roughness sub-layer of an urban area with complex topography (Tehran)*.
- Nafiseh Pegahfar, Aliakbari-Bidokhti, Zawar-Reza: *Parameterization of nocturnal stable boundary layer height (NSBLH) and effect of NSBLH on air pollution in an urban area with complex topography (Tehran)*. Journal of the Earth and Space Physics 03/2011; 38(4).
- B. Alijani, A. Mofidi, Z. Jafarpour, A.-A. Bidokhti: *Atmospheric circulation patterns of the summertime rainfalls of southeastern Iran during July 1994*. Journal of the Earth and Space Physics 01/2011; 37(3):205-227.
- S. Ghader, A. Aliakbari-Bidokhti, S. Falahat: *Numerical solution of conservative form of two-dimensional compressible and non-hydrostatic equations of the atmosphere using second-order MacCormack method*. Journal of the Earth and Space Physics 01/2011; 37(2).

- Faramarz Madjidi, Abas Ali Bidokhti, Sarmad Ghader, Nabyolah Mansori: *A Numerical Model for the Study of Thermal Effect of Grass-Covered Parks in a Humid Urban Area*. Scientific online letters on the atmosphere: SOLA 01/2011; 7(1):185-188., DOI:10.2151/sola.2011-047
- A.R. Saadatabad, A.A. Bidokhti: *Urbanization Effects on Local Climate in Tehran Megapolis*. Research Journal of Environmental Sciences 01/2011; 5(1):1-21., DOI:10.3923/rjes.2011.1.21
- Azimeh Zare, parviz Irannejad, Abbas A. A. Bidokhti: *INVESTIGATION AND COMPARISON OF PARAMETRIZATION METHODS OF RADIATION IN CLIMATE AND NUMERICAL WEATHER FORCASTING MODELS*.
- Ehsan Sadighrad, Farhang Ahmadi-Givi, A. A. Bidokhti: *Finite element modeling of surface layer circulation in the Caspian Sea*.
- M. Ezam, A. A. Bidokhti, A. H. Javid: *Numerical simulations of spreading of the Persian Gulf outflow into the Oman Sea*. Ocean Science 10/2010; 6(4)., DOI:10.5194/os-6-887-2010
- Sarmad Ghader, Bidokhti A. A., .Falahat S: *Numerical Solution of Unsteady Two-Dimensional Rossby Adjustment Problem Using Fourth-Order Compact MacCormack Scheme*. Journal of the Earth and Space Physics 08/2010; 36(3):151-173.
- Sarmad Ghader, Bidokhti A .A, Falahat S.: *Numerical Solution of Conservative Form of Two-Dimensional Compressible Equations of Atmosphere Using Second-Order MacCormack Scheme*.
- Rabab Mashayekhi, Parviz Irannejad, Johann Feichter, Abbas Ali Akbari Bidokhti: *Direct and indirect radiative effects of aerosols using the coupled system of aerosol HAM module and the Weather Research and Forecasting (WRF) model*.
- Rezapour N, Fattahi M, A. A. Bidokhti: *Possible soil thermal response to seismic activities in Alborz region (Iran)*. Natural hazards and earth system sciences 03/2010; 10(3)., DOI:10.5194/nhess-10-459-2010
- A.A. Bidokhti, Shariepour Z.: *Upper air meteorological conditions of acute air pollution episodes (case study: Tehran)*. Journal of Environmental Studies 02/2010; 35(52):1.
- Saviz Sehatkashani, Mehdi Salehi Barough, A.A. Bidokhti, A.Ranjbar: *The Numerical Study of Low Level Jets Formation in South Eastern of Iran*.
- R. Mashayekhi, P. Irannejad, A.A. Aliakbari-Bidokhti: *The simulation of aerosols and its radiative forcing using the new coupled system of aerosol HAM model with the Weather Research and Forecasting (WRF) model*. Journal of the Earth and Space Physics 01/2010; 36(2).
- M. Gharaylo, M. Mazraeh Farahani, A.A. Aliakbari-Bidokhti: *Review of cumulus convective parameterization schemes in large and meso-scale models*. Journal of the Earth and Space Physics 01/2010; 36(1).
- H. Jalal Kamali, A. A. Bidokhti, Amiri H: *Relation between integral effect of sub-surface temperature variation (I) and seismic effects*. Natural hazards and earth system sciences 11/2009; 9(6)., DOI:10.5194/nhess-9-1815-2009
- Foroozan Arkian, Amir-Hussain Meshkatee, Ali Akbar Bidokhti: *The effects of large-scale atmospheric flows on beryllium-7 activity concentration in surface air*. Environmental Monitoring and Assessment 09/2009; 168(1-4):429-39., DOI:10.1007/s10661-009-1124-1

- Mashayekhi R, Irannejad P, Feichter J, A. A. Bidokhti: *Implementation of a new aerosol HAM model within the Weather Research and Forecasting (WRF) modeling system*. Geoscientific Model Development Discussions 07/2009; 2(2)., DOI:10.5194/gmdd-2-681-2009
- A. Sedaghatkerdar, S. Sehatkashani, A. A. Bidokhti, A. A. Majborian: *Study the Gap Wind in the Sepeed-Rood Valley of Iran Using a Hydraulic Model*. Research Journal of Environmental Sciences 02/2009; 3(2):232-238., DOI:10.3923/rjes.2009.232.238
- Abbasali Akbari Bidokhti, Seyed Majid Mosaddad, Hooshang Basirparsa: *Development of Summer Thermocline in the Persian Gulf*. 01/2009; 1(4):71-80., DOI:10.18848/1835-7156/CGP/v01i04/37285
- F. Ahmadi Givi, S. Sabetghadam, A.A. Aliakbari-Bidokhti: *Studying the fluctuation of mixed layer height of Tehran, using MM5 modeling system*.
- M. Gharaylo, A.A. Aliakbari-Bidokhti, M.M. Farahani: *Numerical study of convective cloud development using Explicit Time-dependent Tilting cloud Model (ETTM)*. Journal of the Earth and Space Physics 01/2009; 35(3).
- S. M. Mosaddad, A. A. Bidokhti, M. Ezam: *Current Modeling of Water in a River Meander Considering Civil Engineering Problems in Building the Coastal Walls*. DOI:10.1007/978-3-540-89465-0_166
- Ezam M, A. A. Bidokhti, A. H. Javid: *Numerical simulations of spreading of the Persian Gulf outflow into the Oman Sea*. Ocean Science 01/2009; 6(4)., DOI:10.5194/osd-6-3057-2009
- A. A. Bidokhti, M. Khoshshima, S. Sabetghadam, H. M. Khalesifard: *Estimation of urban mixed layer height in Zanjan using LIDAR observations and numerical modeling*. Journal of Earth System Science 12/2008; 117(6):925-934., DOI:10.1007/s12040-008-0077-z
- O. Alizadeh-Choobari, M. Azadi, A. A. Bidokhti: *The effects of the Alborz mountain range on the development of synoptic weather systems*. Journal of the Earth and Space Physics 06/2008; 34(1):9-24.
- Foroozan Arkian, Maryam Salahinejad, Ali Akbar Bidokhti, Amir Meshkatee: *Analysis of gross alpha, gross beta activities and beryllium-7 concentrations in surface air: Their variations and statistical prediction model*. Environmental Monitoring and Assessment 06/2008; 140(1-3):325-30., DOI:10.1007/s10661-007-9870-4
- A. A. Bidokhti, M. Ezam: *The structure of the Persian Gulf outflow subjected to density variations*. Ocean Science 05/2008; 5(1)., DOI:10.5194/osd-5-135-2008
- ROSS W. GRIFFITHS, ALI A. BIDOKHTI: *Interleaving intrusions produced by internal waves: A laboratory experiment*. Journal of Fluid Mechanics 05/2008; 602:219 - 239., DOI:10.1017/S0022112008000839
- A.Sedaghatkerdar, Saviz Sehatkashani, A.A.bidokhti: *An observational study for a gap wind:a study casein Sepeed -Rood , Iran*. Research Journal of Environmental Sciences 05/2008; 2(5):366-376., DOI:10.3923/rjes.2008.366.376
- M.Moradi, A.H.Meshkati, M. Azadi, Abbasali Aliakbari Bidokhti: *Numerical simulation of the impact of orography on active synoptic weather systems over Iran*. Journal of the Earth and Space Physics 01/2008; 34(1).
- F. Jafarian Abyaneh, A.A. Bidokhti: *A survey of the effects of meteorological elements on the outflow gravity current from Persian Gulf*. Journal of Environmental Studies 01/2008; 33(44):11-18+2.

- Abdossamad Rahnemania, A.A. Bidokhti, M. Ezam, Kamran Lari, Sarmad Ghader: *جبهه پذیری تغییر عددی مطالعه فارس خلیج در خروجی و ورودی آبهای بین*. Fourth International Conference on Oceanographic Oceanography in the Persian Gulf; 01/2019
- Amir Bagheri, A.A. Bidokhti, Maryam Gharaylou: *An investigation of the effect of urban smoke particles on the cold clouds snow crystals precipitation*. International Conference on Society and Environment; 09/2018
- Amir Bagheri Mosleh-Abadi, A.A. Bidokhti, Maryam Gharaylou: *Laboratory study of the effect of salt aerosols sampled from Lake Urmia on the effective radius of cloud droplets*. 18th Iranian Geophysical Conference; 05/2018
- Amir Bagheri Mosleh-Abadi, A.A. Bidokhti, Maryam Gharaylou, Reza Khalife: *Laboratory study of the estimation size distribution of cloud droplets in the presence of soot aerosols*. 18th Iranian Geophysical Conference; 05/2018
- Amir Bagheri, A.A. Bidokhti, Maryam Gharaylou: *Laboratory study of the effect of clay particles of Kavir desert on the cloud Albedo and precipitation*. The 2nd International Conference on Dust; 04/2018
- Soheil Yousefshahi, A.A. Bidokhti, Sarmad Ghader: *Numerical study of thunderstorm gust front structure : A case study of 2 Jun 2014 thunderstorm in Tehran*. 9th Numerical Weather Prediction Conference, I.R of Iran Meteorological Organization, Tehran, Iran; 01/2017
- :Babagoli J., Bidokhti A.A., Shiea M., Ghader *sAn analytic model for the structure of the gravity current from the middle to the southern*. The ۱۲th International Conference on Coasts, Ports and Marine Structures (ICOPMAS ۲۰۱۶); ۱۱/۲۰۱۶
- S. M. Mousavizadeh, A. A. Bidokhti, O. Alizadeh-Choobari: *Investigating sensitivity of the Shin-Hong boundary-layer scheme to the vertical resolution*. 17th Iran's Geophysics Conference; 05/2016
- Soheil Yousefshahi, Sarmad Ghader, Abbas Ali AliAkbbari-Bidokhti: *Influence of modification of land use and topography on WRF numerical simulations*. The 17th Iranian Geophysics Conference; 05/2016
- Esmail Gheysari, Sarmad Ghader, Abbas Ali AliAkbbari-Bidokhti: *Numerical Solution of Lock exchange flow using sixth-order combined compact scheme*. The 17th Iranian Geophysics Conference; 05/2016
- Hamed Fahandezh Sadi, Mahdi Hadian, Alireza Roudbari, A.A. Bidokhti, Maryam Gharaylou: *An experimental study of the role of Surfactant materials on opacity and lifetime of fog*. 17th Iranian Geophysical Conference; 05/2016
- P Moradi, M H Shoushtari, A A Bidokhti, Maryam Gharaylou: *Laboratory study of turbulence effect on growth of warm cloud droplets*. 17th Iranian Geophysical Conference; 05/2016
- Mohammad Hossein Shushtari, Maryam Gharaylou, A.A. Bidokhti, Pejman Moradi: *The effect of ionization on the nucleation of smoke aerosols and warm cloud formation*. 17th Iranian Geophysical Conference; 05/2016
- Farahnaz Taghavi, Mahdi Mard Azad, AbbasAli AliAkbbari Bidokhti: *Investigation of Multi-scale and Unsteady Characteristics of Deep Foehn Events Over Alborz Mountains*. 16th Conference on Mesoscale Processes; 08/2015

- Hamed Fahandezh Sadi, A. A. Bidokhti, Maryam Gharaylou, Mohammad Hossein Shoushtari: *An experimental study of the role of surfactant materials on warm cloud formation in laboratory*. Iranian Meteorological Conference 94 (2015); 04/2015
- Hamed Fahandezh Sadi, Abbas-Ali AliAkbbari Bidokhti, Maryam Gharaylou, Mohammad Hossein Shoushtari: *An experimental study of the role of surfactant materials on warm cloud formation in laboratory*. Iranian Meteorological Conference 94 (2015); 04/2015
- A.A. Bidokhti: *Some Climate/Meteorological Aspects of Air Pollution and Its Mitigation in Tehran, Iran*. U.S.-Iran Symposium on Resilient Cities, Irvine, CA on June 16-18, 2014; 06/2014
- Mohammad Hossein Shoushtari, Gharaylou M., Bidokhti A. A.: *Laboratory study of influence of ions and salt aerosols on warm cloud formation*. Urban Environmental Pollution 2014 conference, Toronto; 06/2014
- Maryam Gharibzadeh, Abbasali Aliakbari Bidokhti, Yousefali Abedini, Khan Alam, Amir Masoumi: *The First of International Conference on Dust Aerosol optical properties and radiative forcing over Zanjan*. The First International Conference on Dust, Iran, Ahvaz; 03/2014
- Sh. Moradi, Bidokhti A. A., Gharaylou M., Sh. Jalaie, Shoushtari M. H.: *Study of the Effects of Acidic Ions on Cloud Droplet Formation Using Laboratory Experiments*. International Conference on Environmental Science and Development, Singapore; 02/2014, DOI:10.1016/j.apcbee.2014.10.047
- Mohammad Hossein Shoushtari, A. A. Bidokhti, Shaghayegh Moradi: *A laboratory study of the effects of black carbon and sulfate on the cloud formations*. International Conference on Environmental Planning and Management, Tehran; 11/2013
- Gharaylou, Pegahfar, A. A. Bidokhti: *Idealized simulation of intracloud lightning*. FD2013, 15th conference of fluid dynamics; 11/2013
- Mahmood Akhyani, V. Chegini, A. A. Bidokhti: *Evaluating of Global warming by analysis of the sea surface temperature in the Persian Gulf and the Gulf of Oman*. The 10th International Conference on Coasts, Ports and Marine Structures (ICOPMAS 2012), Tehran; 11/2012, DOI:10.13140/2.1.1819.4725
- Safoura Sedigh Marvasti, Behzad Layeghi, Abbas-Ali Ali-Akbari Bidokhti, Samad Hamzei: *Research on Red Tide in Persian Gulf and Oman Sea using one dimensional model PROBE*. The 10th International Conference on Coasts, Ports and Marine Structures (ICOPMAS 2012); 01/2012
- Safoura Sedigh Marvasti, Behzad Layeghi, Abbas-Ali Ali-Akbari Bidokhti, Samad Hamzei: *Research on Red Tide in Persian Gulf and Oman Sea using one dimensional model PROBE*. The 10th International Conference on Coasts, Ports and Marine Structures-ICOPMAS 2012, Tehran, Iran; 01/2012
- Ehsan Sadighrad, Farhang Ahmadi-Givi, A. A. Bidokhti: *Finite element modeling of surface layer circulation in the Caspian Sea*. OCEANS 2011; 09/2011, DOI:10.23919/OCEANS.2011.6106903
- A.A. Bidokhti, M. Ezam: *On the dynamics and spreading pathway of the Persian Gulf outflow*. 13 AFMC, Dahka; 12/2010
- Mehdi Salehi Barough, Saviz Sehat Kashani, A. A. Bidokhti, A. Ranjbar: *The Numerical Study of Low Level Jets Formation in South Eastern of Iran*. ICESE 2010, Singapore; 10/2010
- A.A. Bidokhti, B. Matany, A. Sedighzadeh: *formation of thermal internal boundary layer in coastal area PDF model*. second international fluid dynamics conference; 01/2010

M. Joghataei, A. R. Mohebalhojeh, A. A. Bidokhti: *balance and inertia-gravity wave for baroclinic two-layer model*. second international fluid dynamic conference; 01/2010

Seyed Majid Mosaddad, Abbasali Akbari Bidokhti, Hooshang Bassirparsa, Farhang Ahmadi Givi, Ali Karami Khaniki: *Development of Summer Thermocline in the Persian Gulf*. 7th IASME/WSEAS International Conference on FLUID MECHANICS and AERODYNAMICS, Moscow, Russia; 08/2009

Shahla Habibi, Ali Akbar Bidokhti: *A Numerical Simulation for the Prediction Movement of Gas Condensate From Spill Accidents in the Assalouyeh Marine Region, Persian Gulf, Iran*. ASME 2008 27th International Conference on Offshore Mechanics and Arctic Engineering; 09/2008, DOI:10.1115/OMAE2008-57010

List of undertaken projects:

- Post-doctoral research associate work with Prof. Rex Britter, Cambridge University, Engineering Department, U.K.:

1. Development and testing of a newly devised conductivity probe (A report is available, March 1985). 2. Development of a multilayer recalculating density-stratified shear flow facility, including the relevant instrumentation and data processing system (A report is available, September 1986). 3. Study of grid-generated turbulence in stratified shear flows in this facility, including the measurements of turbulence intensities, Reynolds stress, density fluctuation and mass flux (A report is available, August 1986). 4. Physical and mathematical modeling of an instantaneous radial release of a dense fluid in a surrounding without or with density-stratification and motion (A report is available, Jan. 1987). 5. Experiments on towing bodies through stratified flows with uniform or step density profiles (Videos are available). 6. Study of the flows in a MOCVD reactor cell (Two reports are available, Aug. 1987, March 1988). 7. Development of numerical dense gas dispersion models, for continuous or instantaneous releases (the models are available).

-Work done at the Atomic Energy Organization of Iran: A Scientific Member of A.E.O.I, Supervising graduate physics students.

1 - Numerical studies of pollution dispersion in urban areas (A report is available Jan. 1990) 2- Study and simulation of diffusion of accidental release of hazardous gases and action plans computer software for the mitigation of their effects. (2 reports are available, 2003).

-Some of the projects done at the Inst. of Geophysics, Tehran University:

1 - Development of an air pollution prediction model for Tehran 2 -Study of thunderstorm outflows in Tehran area 3- Effects of atmospheric turbulence on flying bodies 4- Numerical model of line and point source plumes 5 -Feasibility study of small scale solar ponds 6 - Shallow sea fronts and gravity currents in the Persian Gulf 7 - Microstructures in the Persian Gulf 8 -Laboratory simulations of geophysical fluid dynamical phenomena e.g. baroclinic vortices flow over valleys and mountains. 9- Turbulence measurements in atmospheric boundary layer. 10- Role of internal waves in formation of ocean fine structures. (For Meteorological Organization) 11 -Numerical models for air flow over complex terrain and air pollution dispersion. 12- Outflows from semi-enclosed seas. 13- Turbulent schemes in numerical models of ocean circulations. 14- Numerical simulations of non-homogeneous atmospheric boundary layers. 15- Turbulence on warm cloud formation in laboratory.

Organizing activities for Conferences and Journals: One of the organizers of the National Conference on Fluid Dynamics, (15 times so far, 1992, 93, 94, 96, 98, 2001, 2003, 2005, 2006, 2007, 2008, 2010, 2013, 2017, 2019)

One of Scientific committee of Asian Fluid Dynamics Congress (9th.)

One of the organizers of the Eighth Iranian Geophysical Conference, Tehran, Iran, November 1993.

Editor of three journals: Applied Fluid Mechanics (Physical Society of Iran); Journal of Earth and Space Physics (Institute of Geophysics, Tehran University); Iranian Journal of Geophysics, (Geophysics Society of Iran). A member of center of excellence: Environmental hazards and analysis, since 2005.

Supervision: So far I have supervised some 50 M. Sc Theses and 15 Ph.D. Theses in Meteorology, Physical Oceanography and physics.