



Yahya Kooch

Soil Ecology

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H-Index (Google scholar) = 35

Google Scholar link: <https://scholar.google.com/citations?user=UB-kHBcAAAAJ&hl=en>

H-Index (Scopus) = 31

Scopus link: <https://www.scopus.com/authid/detail.uri?authorId=25226780100>

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Education and Career

Since Jul22/2020 – to date

Associate Professor, Faculty of Natural Resources, Tarbiat Modares University (TMU), IRAN.

November5/2012 – Jul22/2020

Assistant Professor, Faculty of Natural Resources, Tarbiat Modares University (TMU), IRAN.

September22/2008 – Jun19/2012

Doctoral studies at the Faculty of Natural Resources, Tarbiat Modares University (Iran) (Title of PhD thesis: Soil variability related to pit and mound, canopy cover and individual tree in a Hyrcanian Oriental Beech stand, northern Iran).

September23/2005 – September20/2008

M.Sc studies at the Faculty of Natural Resources, University of Mazandaran (Iran) (Title of M.Sc thesis: Determination and differentiation of plant ecological units and relation to some soil properties in Khanikan lowland forest of Chalous, Iran).

September 23/2000 – September 20/2004

B.Sc studies at the Faculty of Natural Resources, Gorgan University of Agriculture Sciences and Natural Resources (Iran).

Research experience abroad

- 6-month (September 28/2011- March 7/2012) research stay in Germany (Gottingen city), in Gottingen University, invited by Prof. Dr. Norbert Lamersdorf (Title of Project: Fluxes of CO₂, N₂O and CH₄ following windthrow events at Solling forest, central Germany).
- 2-month (August 6 – October 3; 2023) research stay in China (Changchun city), in Northeast Institute of Geography and Agroecology and Northeast Normal University, Invited by Professor Donghui WU
- 2-month (July 7 – September 3; 2024) research stay in China (Changchun city), in Northeast Institute of Geography and Agroecology and Northeast Normal University, Invited by Professor Donghui WU
- 3-months (September 28– December 19; 2024) research stay in Czech Republic (Ceske Budejovice and Prague cities), in BIOLOGY CENTER CAS (Institute of Soil Biology and Biogeochemistry) and Charles University, Invited by Professor Jan Frouz

Scientific activity

His scientific activity concerns research topics in the field of soil ecology as well as biogeochemistry cycle.

Graduate students

- 1- *Samaneh Haji Mirza Aghayee*, M Sc- Analysis of plant ecological groups associated with soil factors in Sardabrood forests of Chalous, Iran. (Completed)
- 2- *Leila Aghajani*, M Sc- Studying of edaphical parameters in native and non-native plantations, Chi-Bagh distric, Iran. (Completed)
- 3-*Kolsom Foladi*, M Sc- Assessment the effects of dead tress on soil physico-chemical properties, Kachid district, Iran. (Completed)
- 4-*Javad Jafari*, M Sc- Relationship between ecosystem units and soil characters in Darkash forests, Iran. (Completed)
- 5-*Maryam Bazyari*, M Sc- The ecological effects of forest roads on plant biodiversity and soil feature in forestry planning of Mazandaran, Iran. (Completed)
- 6-*Abdollah Motahari-Fard*, M Sc- The effect of different land use on soil particulate organic matter, Iran. (Completed)
- 7-*Mahsa Dadashi*, M Sc- The environmental effects of afforested types on soil carbon sequestration, Iran. (Completed)
- 8-*Ahmad Eshaghi*, M Sc- Analysis of ecosystem units in Oak site, Iran. (Completed)
- 9-*Fatemeh Gheibi*, M Sc- Effect of pure and mixed reforested stands of redwood-maple and alder on plant biodiversity and soil fertility indices, Iran. (Completed)
- 10-*Marzieh Salarvand*, M Sc- Variability of soil eco-physiological indices and plant diversity associated with different land use, Iran. (Completed)
- 11-*Sakineh Mollayee Darabi*, M Sc- Dynamic of soil gas fluxes and base cations in relation to pit and mound landscapes of Beech forest stand (Case study: Darabkola Forest), Iran. (Completed)
- 12-*Razieh Rafiyee Jaled*, M Sc- Effect of land cover on variability of controlling factors of the most important greenhouse gases and base cations of soil (Case Study: Chamestan Forest of Noor), Iran. (Completed)
- 13-*Masomeh Soleimani*, M Sc- Effect of native and non-native plantations on stability of soil aggregate and particulate organic matter (Case Study: Forest Seed Center of Khazar), Iran. (Completed)

14-*Kosha Parsamehr*, M. Sc- Land change modeling of Mazandran Province and its implication in identifying optimal areas for reducing emissions from deforestation and forest degradation (REDD) projects. (Completed)

15-*Masoud Baran Cheshmeh*, M. Sc- Comparison of understory woody species and soil properties in popolar and alder monocultures. (A case study: Gorgisara-Mazandaran). (Completed)

16- *Mohammad Bayranvand*, M. Sc- Analysis of morpho-functional structure of humus forms in relation to tree ecological groups. (Completed)

17-*Fatemeh Rostayee*, M. Sc- The effect of *Alnus subcordata* L., *Populus deltoids* L. and *Taxodium distichum* L. Rich plantations on soil fine root biomass and net nitrogen mineralization. (Completed)

18-*Maryam Fazlolahi*, PhD- Effect of catena landscape on soil eco-physiological indices and some features of Oriental Beech (*Fagus orientalis* Lipsky) stand, Iran. (Completed)

19-*Behzad Bakhshandeh Navrodi*, PhD- Influence of tree diversity on herb-layer diversity and some soil properties in Oriental Beech forests (Case study: Beech Forest of Asalem-Guilan Province). (Completed)

20-*Mahya Tafazzoli*, PhD- Reclamation of contaminated forest soil using paper mill sludge and nanotechnology. (Completed).

21-*Kheirollah Sheikholeslami*, M. Sc-The effect of broad-leaved and needle-leaved stands on understory covers and soil fertility (Neirang – Noushahr forest management planning). (Completed).

22-*Roghayeh Farokhzadeh*, M. Sc-Growth, physiology and biochemical responses of forest species saplings to acidic rainfall richen with nitric and sulphuric acids. (Completed).

23- *Kebrya Jafari*, M. Sc-The role of different land-uses on amounts of soil carbon sequestration. (Completed).

24-*Faezeh Sadat Tarighat*, M. Sc-The effect of broad-leaved tree species on soil ammonification and nitrification process in a coastal forest stand. (Completed).

25-*Behnaz Samadzadeh*, M. Sc-Variability analysis of soil carbon mineralization rate, nematode and earthworm populations in a plain forest stand. (Completed).

26- *Akram Sadat Kazemi Sangdehi*, M. Sc- Effect of *pseudomonas putida* 169 on growth, gas exchanges and mineral absorbtion of *Pinus nigra* var. *Pallasiana* seedlings subjected to salinity stress. (Completed).

27- *Nastaran Armat*, M. Sc.- Analysis of vegetation characteristic and nitrogen mineralization in the different range land management (Case Study: Rangeland of Koopar). (Completed).

28-*Negar Moghimian*, PhD- Analysis of soil ecochemical indices and cyanobacteria diversity in vadose zone under different land use variant. (Completed).

29- *Zohre Zoghi*, PhD- Effects of biochar, zeolite and perlite on the soil improvement and physiology of Oak (*Quercus castaneifolia* C.A.M) seedlings characteristics under drought stress. (Completed).

30-*Mohammad Kazem Parsapoort*, PhD- Dynamic of microbial catabolic diversity in relation to labile fractions of soil organic matter in nitrogen-fixing and non-nitrogen-fixing forest stands (Completed).

31- *Razie Sanji*, M. Sc.- Comparison of litter quality, earthworm biomass and biochemical indices of soil under four afforested tree stands (Completed).

32- *Baharak Abdollahzadeh*, PhD- Impact of tree mixture in rural plantation on greenhouse gases emission from the soil (A case study Khargoosh Dare Park- Tehran) (Completed).

33- *Mohammad Bagher Mahmodi*, PhD- The effect of slope position in catena on stand biodiversity indices and soil eco-chemical properties in mixed forest of Beech, Asalem (Completed).

34- *Seyed Mostafa Moslemi*, PhD- Effect of forest different types on plant diversity, soil microbial population and dynamics of greenhouse gases (GHG) at center Hyrcanian Forests (Completed).

35- *Atefeh Karimian Behnamiri*, PhD- Effect of canopy covers on litter quality and soil characteristics in Hyrcanian Beech forests (Completed).

36- *Mahmod Tavakoli*, M. Sc.- Detritivores diversity in relation to litter and soil quality characters in degraded and reclaimed forest areas of Hyrcanian region (Completed).

37- *Afsaneh Farhadifar*, M. Sc.- The effects of land cover on soil C and N fractions in Kojur region (Completed).

38- *Atena Kianmehr*, PhD- The effect of canopy composition on the litter fall and soil respiration in pure and mixed stands of beech and hornbeam (Completed).

39- *Omid Sheikh Najardeh*, M. Sc.- Study of the effect of broad-leaved afforested and natural forest stands on the composition and diversity of understory and some of the soil fertility characteristics (Case study: Series 1 Patum, Forest Management plan of Kheyroudkenar College, Noshahr) (Completed).

40- *Javad Alizadeh*, M. Sc.- The effect of forest over story on the vegetation structure of the floor and some of soil properties in Noshahr Region (Completed).

41- *Samaneh Haji Mirza Aghayee*, PhD- Plant diversity and nitrogen dynamics in natural stand and plantations of Saharabad forest - Mazandaran province (Completed).

42- *Mohammad Bayranvand*, PhD - The effects of elevation and tree canopy composition on soil micro biome in north forests of Iran. (Completed).

43- *Arezo Sadeghi*, PhD - Site classification based on soil properties, humus types and carbon sequestration in western forests of Guilan, Iran. (Completed).

44- *Somayyeh Ehsani*, M. Sc. Effect of land cover change on organic matter stratification and ecological stoichiometry of soil microbial indices. (Completed).

45- *Fatemeh Heidari*, PhD. Variability of morphological-physiological characteristics of Kochia prosterata [L.]. Species and soil affected by chitosan natural polymer and biochar produced from Azolla filiculoides (Completed).

46- *Leila Zandi Sarabsoreh*, PhD. The trend of soil characteristics changes due to the change of ecosystems natural land use in Kaysar, Mazandaran province (Completed).

47- *Fatemeh Azarian Moghadam*, PhD. The effect of land covers and management on soil eco-physiology, carbon and nitrogen stocks in arid lands of Tehran Province (Completed).

48- *Milad Azizi Mehr*, M. Sc. The effect of forest degradation and land cover change on dynamic of soil carbon and nitrogen mineralization in the Hyrcanian region (Completed).

49- *Niloufar Noghre*, M. Sc. The effect of vegetation cover changes on labile fractions of organic matter and soil micro biome of Central Alborz Rangelands (Completed).

50- *Mehdi Mirdar Harijani*, PhD. The effect of Beech and Hornbeam canopy cover in pure and mixed conditions on qualitative characteristics of litter layers and forest soils fertility (Case Study: Golband Management Plan) (Completed).

51- *Maryam Bazyari*, PhD. Effect of reforestation on regeneration, plant diversity and physical and chemical properties of soil for selecting the most appropriate forest stand in the Hyrcanian region. (Completed).

52- *Hasan Sam Daliri*, PhD. The effect of forest exploitation and fire on the quantity and quality of runoff, sediment and soil properties in Khairud forest (Completed).

53- *Mahnaz Karamian*, PhD. The effect of tree species on soil biological and biochemical properties. (Completed).

54- *Elham Ghaderi*, M. Sc. The effect of canopy composition of Black Hawthorn and Barberry on soil function indicators in Western Mazandaran (Completed).

55- *Atefeh Shah Piri*, M. Sc. Analysis of detritivores and decomposers changes related to stoichiometry of plant and soil quality characters (Completed).

56- *Khadijeh Taghipor*, M. Sc. Survey and modeling of soil quality in less degraded and degraded forest ecosystems in the north of Ilam province (Completed).

56- *Fatemeh Alidadi*, PhD. Land use change effect on soil carbon sequestration and fertilizing around Karkheh River (Completed).

57- *Masoumeh Amani*, M. Sc. Effect of degradation intensity of wooded rangelands on soil health indicators of Kojur region, Nowshahr (Completed).

58- *Nahid Jafarian*, PhD. Effects of biological and biochemical properties of soil on ecosystem functions of different habitats of *Quercus Brantii* in Ilam province (Completed).

59- *Rohollah Rostami*, PhD. The impact of human activities on plant richness, plant diversity and some soil characteristics in the Hyrcanian plain forests (Completed).

60- *Morteza Esmaeilzadeh Rodsari*, PhD. Slash reinforcement on the recovery of soil physical properties, runoff and sediment yield in a skid trail, ten years after the operation (In Progress).

61- *Javad Cheraghi*, PhD. Effect of Catena position and shape on woody species diversity and composition and soil properties in protected and degraded Zagros forests (Completed).

62- *Zahra Mohmedi Kartalayee*, PhD. Biogeochemical cycling of carbon and nitrogen in wooded and non-wooded lands of Kojur region, Nowshahr (Completed).

63- *Fatemeh Dolat Zarei*, M. Sc. Assessment of soil quality in pure and mixed habitats of Hawthorn plant (Completed).

64- *Afsaneh Farhadifar*, PhD. The effect of Catena landscape on the horizons evolution and differentiation of soil characteristics of semi-arid rangelands of Central Alborz (In Progress).

65- *Saied Tahmasbian*, PhD. Carbon and nitrogen dynamics of vegetation cover, soil and carbon dioxide under different range management regimes in cold semi-arid region (case study: vineyard rangeland of Qazvin province) (In Progress).

66- *Naser Ebrahimi Malekshah*, PhD. The relationship between *Hedera pastuchovii* woron distribution with habitat conditions and host species and the ecophysiological effects of its presence on host trees in central Hyrcanian forests (In Progress).

67- *Mahmood Tavakoli*, PhD. Analysis of the new index of soil quality with the approach of evaluating the performance of forest habitats restored in the Glendrood watershed (In Progress).

68- *Atefeh Shahpiri*, PhD. Evaluating the effect of vegetation degradation intensity on soil microbial catabolic diversity and biological fertility index (Completed).

69- *Fatemeh Alvani*, PhD. The effect of fire intensity and duration on soil quality characteristics and vegetation cover) Case study: Rangelands of Gilangharb City (In Progress).

70- *Zeinab sohrabzadeh*, M. Sc. Analysis of the effect of some medicinal shrub covers on soil functional indicators in a semi-arid climate (Completed).

71- *Hamid Reza Mehdizad Samakosh*, M. Sc. Estimation of carbon sequestration of oak (*Quercus castaneifolia*), maple (*Acer velutinum*) and oak (*Alnus subcordata*) species in Bandpey forest of Babol (Completed).

72- *Sahar Ghorbanpor*, PhD. Effects of secondary succession on vegetation and soil characteristics in the replacement rangelands of the degraded Beech Forest of the Mazandaran Province (Chardangeh Sari) (In Progress).

73- *Halimeh Joloro*, PhD. Evaluation of carbon sequestration under different scenarios of land use, climate change and land management in Kojur watershed of Nowshahr city (In Progress).

74- *Shahab Royanian*, PhD. Dynamics of pure and mixed *Picea abies* stands in Makaroud of Kelardasht (In Progress).

75- *Liping Wang*, PhD. Soil carbon storage and its potential degradation risks assessment in the farmlands across Eastern China (In Progress).

76- *Hamed Zal Nejad*, PhD. A study of plant species diversity and soil characteristics in canopy gaps of central Hyrcanian beech (*Fagus orientalis* Lipsky) forests (In Progress).

77- *Masoumeh Amani*, PhD. Analysis of ecosystem services based on soil functional indicators in semi-arid land covers (In Progress).

78- *Farideh Mazlomi*, PhD. Comparison of growth, soil properties and species diversity of mycorrhizal fungi in broadleaf and coniferous plantations of Amol plain (In Progress).

79- *Nastaran Kahrom*, PhD. Functional diversity and biotic interactions change in Coastal ecosystem (Case Study: Miyankaleh Peninsula) (In Progress).

80- *Khadijeh Lotfizadeh*, PhD. Investigation of heavy metals in soil and phytoremediation potential of some Rangeland species in Landfill Sites (Study Area: Zarrinabad and Poshtkouh of Sari) (In Progress).

81- *Seyedeh Saeideh Tamjidi Eram Saadati*, PhD. Evaluation of biodiversity, soil physicochemical properties and functional diversity of plant species in canopy gaps of Central Hyrcanian Beech Forests (In Progress).

82- Fatemeh Heidari, *Post doc researcher*. The effect of vegetation covers degradation and restoration in the Hyrcanian region on soil carbon and nitrogen cycles (In Progress).

83- *Mahin Foldai*, PhD. The relationship between soil labile organic matter fractions, invertebrate population and ecophysiology activities in Dasht-Nazir, west of Mazandaran (In Progress).

84- *Razieh Movahedin*, PhD. Evaluating the impact of forest sites degradation and restoration on understory plant diversity and soil health in the Western Hyrcanian region (In Progress).

85- *Davoud Gholampour*, PhD. Eco physiological and biochemical responses of *Quercus castaneifolia*, *Carpinus orientalis* and *Pyrus boissieriana* and changes in litter and soil characteristics in response to pollution from the Kiasar Cement Factory (In Progress).

86- *Zahra Amiri Ebrahim Mohammadi*, M. Sc. Effect of land-use change with different ages on soil biological and non-biological fertility indicators (In Progress).

87- *Ezattolah Khatib-Nia*, PhD. The trend of changes in the organic carbon stock of natural Yew (*Taxus baccata* L.) stands in the Hyrcanian Forests (In Progress).

Research projects

- Nomination of Hyrcanian Forest for inscription on the UNESCO world heritage list (In English, Completed).
- With 8 research projects in Persian (Completed).
- With 4 research projects in Persian + with 1 research project in Sweden (In Progress).

As reviewer

- World Applied Science Journal
- Forest Science and Practice Journal
- Forest Ecology and Management
- Journal of Forestry Research
- Journal of Forest Science
- European Journal of Soil Sciences
- Polish Journal of Environmental Studies
- Turkish Journal of Agriculture and Forestry
- Caspian Journal of Environmental Sciences
- Heliyon
- Pedosphere
- IForest
- Plant Ecology and Evolution
- Land Degradation and Development
- Science of the Total Environment
- Global Change Biology
- Agroforestry Systems
- Environment, Development and Sustainability
- Journal of Biological Diversity (Biodiversitas)
- Journal of Nusantara Bioscience (Nus Biosci)
- Journal of Agricultural Science and Technology (JAST)
- Environmental Pollution
- Scientific Reports
- Madera y Bosques
- Applied Soil Ecology
- Plant and Soil
- European Journal of Soil Biology

- Journal of Environmental Management
- Functional Ecology
- Catena
- Environmental Monitoring and Assessment
- BMC Ecology
- mSystems
- Regional Environmental Change
- Geography and Sustainability
- CERNE
- Journal of Arid Land
- Geoderma Regional
- Cleaner Environmental Systems
- Frontiers in Microbiology
- Journal of Soil Science and Plant Nutrition
- Journal of Plant Nutrition and Soil Science
- Forestry: An International Journal of Forest Research
- Frontiers in Plant Science
- Frontiers in Environmental Science
- Soil Research Journal
- Environmental Science and Pollution Research
- Canadian Journal of Forest Research
- Science of the Total Environment
- Soil and Tillage Research
- Agriculture, Ecosystems and Environment
- Journal of Arid Environments
- Forests
- Sustainability
- Fire Ecology
- Soil Use and Management
- Soil Biology and Biochemistry
- FEMS Microbiology Ecology
- Ecotoxicology and Environmental Safety
- Transportation Research Part D
- Rangeland Ecology and Management
- Environmental Earth Sciences
- Journal of Hazardous Materials
- Pedobiologia - Journal of Soil Ecology
- Agricultural and Forest Meteorology
- Environmental Technology and Innovation
- International Journal of Sediment Research
- Soil Advances
- Geoderma
- Computers and Electronics in Agriculture
- Soil organisms
- Resources, Conservation & Recycling
- Soil Ecology Letters
- Environmental Research
- and, as reviewer in 17 Iranian Journals (In Persian).

Editorial roles

- Editorial Board of *Catena* (Elsevier, IF = 5.40), from April 2020 - to date
- Editorial Board of *Applied Soil Ecology* (Elsevier, IF = 4.80), from May 2023 - to date
- Editorial Board of *Ecology of Iranian Forests* (In Persian), from February 2024 - to date

Scientific publications

A) Peer-reviewed publications (ISI) with Impact Factor

1-Lotfalian, M., Emadian, F., **Kooch, Y.** and Parsakhoo, A. 2010. A method for economic and environmental evaluation of logging damages on regeneration and stand in Southern Caspian forests. *Scandinavian Journal of Forest Research*, 25: 78-88.

Impact factor: 1.668 (Q2)

2-**Kooch, Y.**, Hosseini, S.M., Zaccone, C., Jalilvand, H., Hojjati, S. M., 2012. Soil organic carbon sequestration as affected by afforestation: the Darab Kola forest (North of Iran) case study. *Journal of Environmental Monitoring*, 14: 2438-2446.

Impact factor: 2.592 (Q2)

3-**Kooch, Y.**, Zaccone, C., Lamersdorf, N. P., Tonon, G. 2014. Pit and mound influence on soil features in an Oriental Beech (*Fagus orientalis* Lipsky) forest. *European Journal of Forest Research*, 133: 347-354.

Impact factor: 2.017 (Q1)

4-**Kooch, Y.**, Hosseini, S. M., Samonil, P. and Hojjati, S. M. 2014. The effect of windthrow disturbances on biochemical and chemical soil properties in the Northern mountainous forests of Iran. *Catena*, 116: 142 - 148.

Impact factor: 3.191 (Q1)

5-**Kooch, Y.**, Mollaei Darabi, S. and Hosseini, S. M. 2015. The effects of pits and mounds following windthrow events on soil features and greenhouse gas fluxes in a temperate forest. *Pedosphere*, 25: 1-13.

Impact factor: 1.734 (Q3)

6-Fazlolahi Mohammadi, M., Jalali, S. Gh., **Kooch, Y.** and Theodose, T. A. 2015. The influence of landform on the understory plant community in a temperate Beech forest in northern Iran. *Ecological Research*, 30: 385 - 394.

Impact factor: 1.283 (Q3)

7-Bakhshandeh, B., Abrari, K., Pilehvar, B. and **Kooch, Y.** 2015. Interactions between tree and herb layers vegetation along a gradient of tree composition in Hyrcanian forests. *Russian Journal of Ecology*, 46: 483–486.

Impact factor: 0.430 (Q4)

8- Fazlolahi Mohammadi, M., Jalali, S. Gh., **Kooch, Y.** and Said-Pullicino, D. 2016. Slope gradient and catena shape effects on soil profiles in the northern mountainous forests of Iran. *Eurasian Soil Science*, 49: 1366-1374.

Impact factor: 0.960 (Q4)

9- **Kooch, Y.**, Moghimian, N., Bayranvand, M. and Alberti, G. 2016. Changes of soil carbon dioxide, methane and nitrous oxide fluxes in relation to land use/cover management. *Environmental Monitoring and Assessment*, 188: 346.

Impact factor: 1.687 (Q3)

10- **Kooch, Y.**, Rostayee, F. and Hosseini, S. M. 2016. Effects of tree species on topsoil properties and nitrogen cycling in natural forest and tree plantations of northern Iran. *Catena*, 144: 65–73.

Impact factor: 3.191 (Q1)

11- Fazlolahi Mohammadi, M., Jalali, S. Gh., **Kooch, Y.** and Theodore, T. A. 2017. Tree species composition, biodiversity and regeneration in response to catena shape and position in a Hyrcanian mountain forest. *Scandinavian Journal of Forest Research*, 32: 80-90.

Impact factor: 1.668 (Q2)

12- Fazlolahi Mohammadi, M., Jalali, S. Gh., **Kooch Y.** and Daniel Said-Pullicino. 2017. The effect of landform on soil microbial activity and biomass in a Hyrcanian Oriental Beech stand. *Catena*, 149: 309-317.

Impact factor: 3.191 (Q1)

13- **Kooch, Y.**, Samadzadeh, B. and Hosseini, S. M. 2017. The effects of broad-leaved tree species on litter quality and soil properties in a plain forest stand. *Catena*, 150: 223–229.

Impact factor: 3.191 (Q1)

14- Bayranvand, M., **Kooch, Y.**, Hosseini, S. M. and Alberti, G. 2017. Humus forms in relation to altitude and forest types in the northern mountainous regions of Iran. *Forest Ecology and Management*, 385: 78-86.

Impact factor: 3.064 (Q1)

15- **Kooch, Y.**, Tarighat, F. S. and Hosseini, S. M. 2017. Tree species effects on soil chemical, biochemical and biological features in mixed Caspian lowland forests. *Trees*, 31:863–872.

Impact factor: 1.842 (Q1)

16-Bayranvand, M., **Kooch, Y.** and Rey, A. 2017. Earthworm population and microbial activity temporal dynamics in a Caspian Hyrcanian mixed forest. *European Journal of Forest Research*, 136: 447-456.

Impact factor: 2.017 (Q1)

17- Moghimian, N., Hosseini, S. M., **Kooch, Y.** and Zarei Darki, B. 2017. Impacts of land use/covers changes on soil microbial and enzyme activities. *Catena*, 157: 407-414.

Impact factor: 3.191 (Q1)

18- **Kooch, Y.** and Bayranvand, M. 2017. Composition of tree species can mediate spatial distribution of C and N cycles in mixed beech forests. *Forest Ecology and Management*, 401: 55-64.

Impact factor: 3.064 (Q1)

19- Tafazoli, M., Hojjati, S. M., Biparva, P. **Kooch, Y.** and Lamersdorf, N. 2017. Reducing soil lead and cadmium bioavailability by using nanoparticles and cellulosic wastes improved tree seedlings biomass. *Journal of Plant Nutrition and Soil Science*, 180: 683-693.

Impact factor: 2.102 (Q2)

20- Parsapour, M. K., **Kooch, Y.**, Hosseini, S. M. and Alavi, S. J. 2018. Litter and topsoil in *Alnus* subcordata plantation on former degraded natural forest land: a synthesis of age-sequence. *Soil and Tillage Research*, 179: 1-10.

Impact factor: 4.67 (Q1)

21- **Kooch, Y.**, Sanji, R. and Tabari, M. 2018. Increasing tree diversity enhances microbial and enzyme activities in temperate Iranian forests. *Trees*, DOI: 10.1007/s00468-018-1674-3.

Impact factor: 1.842 (Q1)

22- Bayranvand, M., **Kooch, Y.** and Alberti, G. 2018. Classification of humus forms in Caspian Hyrcanian mixed forests ecoregion (Iran): comparison between two classification methods. *Catena*, 165: 390-397.

Impact factor: 3.191 (Q1)

23- **Kooch, Y.**, Tavakoli, M. and Akbarinia, M. 2018. Soil biochemical/microbial indicators show perceptible deterioration in topsoil due to deforestation. *Ecological Indicators*, 91: 84-91.

Impact factor: 4.490 (Q1)

24- Parsapour, M. K., **Kooch, Y.**, Hosseini, S. M. and Alavi, S. J. 2018. C and N cycle monitoring under *Quercus castaneifolia* plantation. *Forest Ecology and Management*, 427: 26-36.

Impact factor: 3.064 (Q1)

25-Bakhshandeh, B., Abrari, K., Pilehvar, B. and **Kooch, Y.** 2018. The interactions between tree-herb layer diversity and soil properties in the oriental beech (*Fagus orientalis* Lipsky) stands in Hyrcanian forest. *Environmental Monitoring and Assessment*, 190: 425.

Impact factor: 1.687 (Q3)

26- **Kooch, Y.**, Tavakoli, M. and Akbarinia, M. 2018. Tree species could have substantial consequences on topsoil fauna: a feedback of land degradation/restoration. *European Journal of Forest Research*, 137:793–805.

Impact factor: 2.017 (Q1)

27- **Kooch, Y.**, Sanji, R. and Tabari, M. 2019. The effect of vegetation change in C and N contents in litter and soil organic fractions of a Northern Iran temperate forest. *Catena*, 178: 32-39.

Impact factor: 3.191 (Q1)

28- **Kooch, Y.**, Ehsani, S. and Akbarinia, M. 2019. Stoichiometry of microbial indicators shows clearly more soil responses to land cover changes than absolute microbial activities. *Ecological Engineering*, 131: 99–106.

Impact factor: 3.406 (Q2)

29- Haghverdi, K. and **Kooch, Y.** 2019. Effects of diversity of tree species on nutrient cycling and soil-related processes. *Catena*, 178: 335–344.

Impact factor: 3.191 (Q1)

30- **Kooch, Y.**, Moghimian, N. and Kolb, S. 2019. Microbial hotspot areas of C and N cycles in old-growth Hyrcanian forests top soils. *Forest Ecology and Management*, 446: 93–104.

Impact factor: 3.064 (Q1)

31- **Kooch, Y.** and Bayranvand, M. 2019. Labile soil organic matter is sensitive to forest floor quality of tree species mixtures in Oriental Beech forests. *Ecological Indicators*, 107,105598, 1-10.

Impact factor: 4.490 (Q1)

32- Zoghi, Z., Hosseini, S. M., Tabari Kouchaksaraei, M., **Kooch, Y.** and Guidi, L. 2019. The effect of biochar amendment on the growth, morphology and physiology of *Quercus castaneifolia* seedlings under water-deficit stress. *European Journal of Forest Research*, <https://doi.org/10.1007/s10342-019-01217-y>.

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Impact factor: 4.800 (Q1)

103- Heidari, F., Dianati Tilaki, G.A., **Kooch, Y.** and Abdollahi, M. 2025. Improving soil function properties in semi-arid regions using modified-chitosan and biochar. *Journal of Environmental Management*, 390, 126334.

Impact factor: 8.000 (Q1)

104- Mahnaz Karamian, Javad Mirzaei, Mehdi Heydari, **Yahya Kooch**, Daniel C.F.S. Dey. 2025. Seasonal variation of leaf nutrient retranslocation in exotic and indigenous tree species in Zagros Forests, Iran. *Scientific Reports*, 15, 22505.

Impact factor: 4.379 (Q1)

105- **Kooch, Y.**, Heydari, M., Parsapour, M.K. and Valkó, O. 2025. Earthworm: a keystone species of soil quality, health and functions (Review Paper). *Acta Oecologica*, 128, 104106.

Impact factor: 1.500 (Q3)

106- **Kooch, Y.**, Heidari, H., Frouz, J., Haghverdi, K. and Francaviglia, R. 2025. Soil drainage reduces the negative impact of excessive soil moisture contents by improving the N dynamics in coastal forests. *Science of the Total Environment*, 1000, 180471.

Impact factor: 8.00 (Q1)

107- Cheraghi, J., Heydari, M., Rostaminia, M., Omidipour, R., **Kooch, Y.** and Dey D.C. 2025. Landscape position and shape as drivers of soil properties and quality variation along hillslope sequences in a semi-arid Oak Forest. *Journal of Earth Science*, 36 (5): 2286–2302.

Impact factor: 4.70 (Q1)

108- Farhadifar, A., **Kooch, Y.** and Bahmanyar, M.A. 2025. Landform boosts the role of toposequence positions on labile and non-labile fractions of soil organic matter. *Catena*, 261, 109491.

Impact factor: 5.400 (Q1)

109- **Kooch, Y.**, Haghverdi, K., Nouraei, A., Hajimirzaaghaee, S., Amiri, M., Shabani, S. and Zarafshar, M. 2025. Soil health indicators are compromised differently by municipal solid waste leachate under various climate conditions. *Environmental Geochemistry and Health*, 47, 487.

Impact factor: 3.80 (Q1)

110- Shahpuri, A., **Kooch, Y.** and Hojjati, S.M. 2025. Deterioration rate of below-ground organic matter fractions depends on the degradation intensity of above-ground vegetation cover. *Science of the Total Environment*, 1002, 180652.

Impact factor: 8.00 (Q1)

111- Karamian, M., Mirzaei, J., Heydari, M., **Kooch, Y.** and Etesami, H. 2026. Soil culturable heterotrophic bacterial composition in natural and artificial forests: Responses to seasonal variations and tree species in a semi-arid forest ecosystem. *Journal of Arid Land*, <https://doi.org/10.1007/s40333-026-0002-9>; <https://cstr.cn/32276.14.JAL.02600029>.

Impact factor: 3.100 (Q2)

112- Heidari, F., Tilaki, G. A. D., **Kooch, Y.**, and Abdollahi, M. 2025. Modified chitosan and biochar enhance soil fertility and yield of *Kochia prostrata* L. in degraded rangeland. *Journal of Soil Science and Plant Nutrition*, accepted to publish.

Impact factor: 3.100 (Q2)

B) Publications (ISI) without Impact Factor

1-**Kooch, Y.**, Jalilvand, H., Bahmanyar, M. A. and Poormajidian, M. R. 2007. Ecological distribution of indicator species and effective edaphical factors on the northern Iran lowland forests. *Journal of Applied Sciences*, 7 (11): 1475 – 1483.

2-**Kooch, Y.**, Jalilvand, H., Bahmanyar, M. A. and Poormajidian, M. R. 2008. Abundance, biomass and vertical distribution of earthworms in ecosystem units of hornbeam forest. *Journal of Biological Sciences*, 8 (6): 1033 – 1038.

3-**Kooch, Y.**, Hosseini, S. M., Mohammadi, J. and Hojjati, S. M. 2010. The effects of gap disturbance on soil chemical and biochemical properties in a mixed beech – hornbeam forest of Iran. *Ecologia Balkanica*, 2 (1): 39 – 56.

4-**Kooch, Y.**, Hosseini, S. M., Mohammadi, J. and Hojjati, S. M. 2012. Determination of the best canopy gap area on the basis of soil characteristics using of analytical hierarchy process (AHP). *Folia Forestalia Polonica*, 54 (1): 15 – 24.

5-**Kooch, Y.**, Hosseini, S. M., Mohammadi, J. and Hojjati, S. M. 2012. Effects of uprooting tree on herbaceous species diversity, woody species regeneration status and soil physical characteristics in a temperate mixed forest of Iran. *Journal of Forestry Research*, 23 (1): 81 – 86.

6-Haghdoost, N., Akbarinia, M., Hosseini, S. M. and **Kooch, Y.** 2011. Conversion of Hyrcanian degraded forests to plantations: Effects on soil C and N stocks. *Annals of Biological Research*, 2 (5): 385 – 399.

7-Tabari, M., Ahmadloo, F., Yousefzadeh, Y. and **Kooch, Y.** 2012. Effects of soil nutritional status on seedling nursery performance of Arizona cypress (*Cupressus arizonica* var *arizonica* Greene) and Medite cypress (*Cupressus sempervirens* var. *horizontalis* (Mill.) Gord). *African Journal of Plant Science*, 6 (4): 140 – 149.

8-**Kooch, Y.** 2012. Response of earthworms' ecological groups to decay degree of dead trees (Case study: Sardabrood Forest of Chalous, Iran). *European Journal of Experimental Biology*, 2 (3): 532 - 538.

9- **Kooch, Y.**, Hosseini, S. M., Mohammadi, J. and Hojjati, S. M. 2013. Soil nutrients status in an old-growth northern hardwood forest: effects of beech and hornbeam individual tree. *Advanced Crop Science*, 3 (2): 171 – 180.

10- Moghimian, N., Habashi, H. and **Kooch, Y.** 2013. Response of soil mesofauna to different afforested types in the north of Iran. *Journal of Applied Environmental and Biological Sciences*, 3(4): 34 - 45.

11- **Kooch, Y.**, Hosseini, S. M., Mohammadi, J. and Hojjati, S. M. 2013. Variability of soil physical indicators imposed by beech and hornbeam individual trees in a local scale. *Biodiversitas*, 14 (1): 25 - 30.

12- Mollaei Darabi, S., **Kooch, Y.** and Hosseini S. M. 2014. Reaction and fractal description of soil bio-indicator to human disturbance in lowland forests of Iran. *Biodiversitas*, 15 (1):58-64.

13- **Kooch, Y.** and Zoghi, Z. 2014. Comparison of soil fertility of *Acer insigne*, *Quercus castaneifolia*, and *Pinus brutia* stands in the Hyrcanian forests of Iran. *Chinese Journal of Applied and Environmental Biology*, 20 (5): 899-905.

14- Rafeie Jahed, R., Hosseini, S. M. and **Kooch, Y.** 2014. The effect of natural and planted forest stands on soil fertility in the Hyrcanian region, Iran. *Biodiversitas*, 15 (2): 206 - 214.

15- Gheibi, F., Akbarinia, M. and **Kooch, Y.** 2015. Effect of *Alnus subcordata*, *Acer insigne* and *Sequoia sempervirens* plantations on plant diversity in Hyrcanian forest of Iran. *Biodiversitas*, 16 (1): 10 - 15.

16- Soleimany Rahimabady, M., Akbarinia, M. and **Kooch, Y.** 2015. The effect of land covers on soil quality properties in the Hyrcanian regions of Iran. *Journal of BioScience and Biotechnology*, 4(1): 73-79.

17- **Kooch, Y.**, Hosseini, S. M., Scharenbroch, B. C., Hojjati, S. M. and Mohammadi, J. 2015. Pedodiversity analysis in the Caspian forests of Iran. *Geoderma Regional*, 5 (1): 4-14.

18- Parsamehr, K., Gholamalifard, M. and **Kooch, Y.** 2019. Comparing three transition potential modeling for identifying suitable sites for REDD+ projects. *Spatial Information Research*. <https://doi.org/10.1007/s41324-019-00273-1>. Accepted.

19- Moghimian, N., Hosseini, S. M., **Kooch, Y.** and Zarei Darki, B. 2019. Evaluating soil biochemical/microbial indices as ecological indicators of different land use/cover in northern Iran. *Acta Ecologica Sinica*, 39: 328-333.

20- Karimiyan Bahnemiri, A., Taheri Abkenar, K., **Kooch, Y.** and Salehi, A. 2019. Evaluation of soil and litter quality indices using analysis hierarchical process (AHP) in Hyrcanian beech forest stands, Northern Iran (Case study: Korkoroud forests in Noshahr). *Journal of Forest Science*, 65: 397-407.

21- Soleimany, M., Eslamdoost, J., Akbarinia, M. and **Kooch, Y.** 2021. Soil aggregate stability index and particulate organic matter in response to differently afforested lands in the temperate regions of Iran. *Journal of Forest Science*, 67: 376–384.

C) Research publications (non-ISI)

1-**Kooch, Y.**, Hosseini, S. M. and Akbarinia, M. 2008. The Ecological Effects of Pit and Mounds Created by Catastrophic Windthrow on Understory of Hyrcanian Forests. *Journal of Silva Balcanica*, 9 (1): 13 – 28.

2-**Kooch, Y.** and Hosseini, S. M. 2010. Response of Earthworms Biomass and Diversity to Windthrow Events and Soil Properties in Hyrcanian Forests of Iran. *Folia oecologica*, 37 (2): 181 – 190.

3-**Kooch, Y.**, Hosseini, S. M., Mohammadi, J. And Hojjati, S. M. 2011. Analysis of Earthworms Patchy Distribution and Variability of Soil Biochemical Properties under Single - Tree Influences. *International Journal of Environmental Research*, 1 (7): 1813 – 1829.

4-Khalilpour, H., Hosseini, S. A., Jalilvand, H., Lotfalian, M., **Kooch, Y.**, Akbari, R. A. and Sohrabi, V. 2010. Determination of the Most Effective Factor on Sediment Production Due to Road in Forest Mountainous Roads. *World Applied Sciences Journal*, 10 (9): 1069 – 1076.

5-Zoghi, Z., Azadfar, D. and **Kooch, Y.** 2011. Influence of physiographic factors on vegetative and morphological characters of Beech plus trees - A case study in Hyrcanian forest. *International Journal of Environmental Sciences*, 1 (7): 839 – 846.

6-Lotfalian, M., Porkia, A., **Kooch, Y.** and Sarikhani, N. 2011. Determination of correction coefficient of skidding distance according to existing road network in Lalis forest of Iran. *International Journal of Natural and Engineering Science*, 5 (3): 9 – 11.

7-Jalilvand, H. and **Kooch, Y.** 2012. Factors influence the distribution and abundance of earthworm communities in difference forest types (man – made and natural forests). *International Journal of Green and Herbal Chemistry*, 1 (1): 26 – 38.

8-Ahmadi, A., Fallah, A. Jalilvand, H. and **Kooch, Y.** 2008. Determining the Best Form Factor Formula for Zarbin (*Cupressus sempervirens* var. *horizontalis*) in North of Iran. *Asian Journal of Biological Sciences*, 1 (1): 39 – 44.

9-Lotfalian, M., Sam Daliri, H., Hosseini, S. A., **Kooch, Y.** and Hadizadeh, Gh. 2012. Determination of the most allowable slope of strip road for skidding timber jack 450C. *International Journal of Science and Nature*, 3 (3): 502 - 506.

10- **Kooch, Y.**, Hosseini, S. M., Mohammadi, J. and Hojjati, S. M. 2013. Effects of pit and mound landscape on soil ecosystem engineers at local scales - a case study in Hyrcanian forest. *Molecular Soil Biology*, 4 (2): 7 - 15.

11- **Kooch, Y.**, Hosseini, S. M., Mohammadi, J. and Hojjati, S. M. 2013. Variability of light and soil physics indicators following gap formation in the Caspian forest, Iran. *Environmental Science: An Indian Journal*, 8 (6): 244 – 251.

12- Mollaei Darabi, S., **Kooch, Y.** and Hosseini S. M. 2014. Dynamic of plant composition and regeneration following windthrow in a temperate beech forest. *International Scholarly Research Notices*, 9 page, Article ID 421457, <http://dx.doi.org/10.1155/2014/421457>.

13- Karami, P., Hosseini, S. M., Rahmani, A., **Kooch, Y.** and Mokhtari, J. 2014. The effects of pure and mixed plantations of Alder (*Alnus subcordata* C.A.Mey) and Poplar (*Populus deltoides* Marsh.) on earthworm abundance and biomass. *International Journal of Environmental Engineering Research*, 3 (1): 7-14.

14- **Kooch, Y.**, Theodose, T. A., and Samonil, P. 2014. The role of deforestation on spatial variability of soil nutrients in a Hyrcanian forest: an analysis of fractal and geostatistic. *Ecopersia*, 2 (4): 779-803.

15- **Kooch, Y.**, Rostayee, F. and Hosseini, S. M. 2015. Soil quality indices in pure and mixed forest stands of southern Caspian region. *Ecopersia*, 3 (2): 987-1001.

16- Samadzadeh, B., **Kooch, Y.** and Hosseini, S. M. 2017. Linkages of litter and soil C: N: P stoichiometry in a temperate broad-leaved forest stands. *Ecopersia*, 5 (4): 1955-1967.

17- Hojjati, S. M., Tavakoli, M., **Kooch, Y.** and Tafazoli, M. 2021. Soil contamination pattern affected by coal mining activities in deciduous temperate forest. *Ecopersia*, 9(1): 23-31.

18- Armat, N., Dianati Tilaki, G.A. and **Kooch, Y.** 2024. The response of topsoil properties and nitrogen transformation to land cover in a semi-arid rangeland (Case Study: Kojur Rangeland in Mazandaran Province, Iran). *Journal of Rangeland Science*, 14 (2): 1-11.

- and 121 published papers in Iranian Journals (In Persian).

D) Articles in Conference Proceedings, and National or International

1-Lotfalian, M., Parsakhoo, A. and **Kooch, Y.** 2008. Reactions between Annual Rings and Timber Logging. News of Forest History, EuroDendro, the long history of wood utilization, publishing abstract in the collection.

2- **Kooch, Y.**, Hosseini, S. M., Mohammadi, J. and Hojjati, S. M. 2010. The ecological effects of wind on soil nutrition elements status in the Hyrcanian forests of Iran. First Serbian forestry congress, 11-13 November 2010, Belgrade, Republic of Serbia, page 211 (Publishing abstract in the collection).

3- **Kooch, Y.** 2015. Soil biological and biochemical activity in response to season and excessive moisture in a mixed oak stand, northern Iran. In: Brabcová V., Kyselková M., Navrátilová D., Pospíšek M., Baldrian P. (Eds.), 2015. Ecology of Soil Microorganisms - Book of Abstracts, Prague, November 29 – December 3, 2015, 357 pp.

4- Tavakoli, M., Hojjati, S. M. and **Kooch, Y.** 2019. Lead and cadmium spatial pattern and risk assessment around coal mine in Hyrcanian dorest, North Iran. ICEAED 2019: International Conference on Ecological Assessment of Environmental Degradation, Vancouver, Canada, May 20-21, 2019, Abstract, page 185, ISNI: 0000000091950263.

5- **Kooch, Y.** and Moghimian, N. 2021. Earthworm diversity and soil-related processes in disturbed Caspian forest. Global Symposium on Soil Biodiversity (19-22 April 2021; virtually), Italy, 5 pages (Poster presentation).

6- **Kooch, Y.** 2023. Hotspots and hot moments for greenhouse gas emission. Invited speaker in The First Regional Youth Forum for Asia and the Pacific for Man & Biosphere (MAB 2023). Theme: Ecosystem Conservation and Food Security. September 24 - 27, 2023, Xingkai Lake, Jixi, China.

- and 87 published papers in Iranian conferences and congresses (In Persian).

E) Book publication

- Ecology of Forest Soils (concepts and algorithms), Jahad-daneshgahi of Mazandaran publications, 414p (In Persian).
- Soil Functional Ecology, Jahad-daneshgahi of Mazandaran publications, 288p (In Persian).
- Earthworms and Ecological Processes, Springer publications, 556p (In English).
- Soil Ecosystem: Principles and Management, Jahad-daneshgahi of Mazandaran publications, 489p (In Persian).

F) Book chapters

1- **Kooch, Y.**, Heydari, M., Lucas-Borja, M.E. and Miralles, I. 2022. Forest soils and greenhouse gas emissions in the natural forest, degraded, and plantation ecosystems. In: The Handbook of Environmental Chemistry. Springer, Berlin, Heidelberg. https://doi.org/10.1007/698_2022_932.

2- **Kooch, Y.**, Heydari, M., Lucas-Borja, M.E. and Miralles, I. 2022. Forest management systems and carbon, nitrogen, phosphorous cycling. In: The Handbook of Environmental Chemistry. Springer, Berlin, Heidelberg. https://doi.org/10.1007/698_2022_936.

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