

***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

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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 (Göttingen city), in Göttingen University, invited by Prof. Dr. Norbert Lamersdorf (Title of Project: Fluxes of CO<sub>2</sub>, N<sub>2</sub>O and CH<sub>4</sub> 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 (České 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 district, Iran. (Completed)
- 3- *Kolsom Foladi*, M Sc- Assessment the effects of dead trees 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 Rafiye Jahed*, 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 poplar 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 *Taxadium 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 Parsapoor, 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 prostrata* [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 detritivors 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* wonon 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- *Ezattollah 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., Zacccone, 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.**, Zacccone, 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 Theodose, 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.

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100- Tingting Xiao, Zhili Feng, Zhuoma Wan, Bing Zhang, Olaf Schmidt, Donghui Wu and **Yahya Kooch**. 2025. Genetic lineages and ecological gradients co-determine the trophic niches of earthworms. *Soil Biology and Biochemistry*, 209, 109884.

Impact factor: 9.800 (Q1)

101- **Kooch, Y.**, Nouraei, A., Mohmedi Kartalaei, Z., Haghverdi, K. and Francaviglia, R. 2025. Comparative analysis of soil functional indicators affected by forest, shrubland and grassland in a semi-arid ecosystem. *Catena*, 258, 109261.

Impact factor: 5.400 (Q1)

102- Mohmedi Kartalaei, Z., **Kooch, Y.**, and Dianati Tilaki, G.A. 2025. Woody vegetation as a sustainable solution for soil restoration and ecosystem management in semi-arid environment. *Applied Soil Ecology*, 213, 106289.

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- Shahpiri, 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-Haghdoust, 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., Eslamdoust, 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 sempervirence* 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 forest, 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](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](https://doi.org/10.1007/698_2022_936).

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