# Curriculum Vitae of Dr. Ali Shalbafan

## I. Current Position

- Associate Professor, Department of Wood Science and Technology, Tarbiat Modares University, Iran.

## II. Education records

- **Bachelor study:** Wood Science & Technology, Faculty of Natural Resources, Zabol University, Iran, 2001-2004, (*project: Microscopic anatomy of wood stem and branch in Gleditschia Caspica*).
- **Master study:** Wood Science & Technology, Faculty of Natural Resources, Tarbiat Modares University, Iran, 2004-2006 (*thesis: Non-destructive evaluation of standing beech trees using ultrasonic technique*).
- **Doctorate study:** Physics and Mechanics of Engineered Wood Products, Department of Wood Physics and Mechanics, University of Hamburg, Germany, 2009-2013 (*thesis: Investigation of foam materials to be used in lightweight wood-based composites*).

## III. Professional and academic experiences

- **Scientific collaborator and project manager,** Bern University of Applied Sciences (BFH), Institute for Building Materials and Biobased Products, Switzerland: since July 2021.
- **Associate Professor,** Tarbiat Modares University, Iran: since 2020 – now.
- **Assistant Professor,** Tarbiat Modares University, Iran: 2014 - 2019.
- **Research associate,** Swiss Krono Group, Berlin: July - December 2013.
- **Research assistant**, Universität Hamburg, Germany: March 2012 - June 2013.
- **Ph.D student**, Universität Hamburg, Germany: July 2009 - June 2013.
- **Lecturer,** University of Applied Science and Technology, Arak Branch, 2008 - 2009 (part time).
- **Teacher,** Technical vocational school in Qom, Iran: July 2006 - June 2008.
- **Mater student,** Tarbiat Modares University, Iran: September 2004 - February 2006.

## IV. Research career breaks

- Teacher at a technical vocational school in Qom, Iran: July 2006 till June 2008 (as military service).
- Preparation for doctoral study at the Universität Hamburg, Germany (June 2008 until June 2009).

## V. Research interests

- Bio-based composite materials: process technology, evaluation, and optimization.
- Development of mineral-based adhesive for wood composites.
- Cascading use of resources to develop value-added (wood) composites.

## VI. Projects coordinator/supervisor

- **National projects in Switzerland**
  - Development of a mineral binder to substitute fossil-based adhesives in engineered wood products. Swiss Innovation agency (Innosuisse), Omya International AG as partner, Project No. 103.563 IP-EE, 2023 – 2025.
  - Development of hemp-lime bricks based on hemp grown in Switzerland: exploring the potential of hemp hurd as a by-product. HAFL and Hanfhandwerk as partners, Sustainability Office in BFH, Project No. J.015062-10-60FE-, 2023 – 2024.

- **International projects**
  - Development of a plant-based mineral-bonded insulation composite using eco-design strategies. Leading Hause South Asia and Iran (ZHAW), submitted, 2024 – 2025.

- Optimization of the density profile simulation as a path towards intelligent production in wood-based composite industries. International joint research project between Switzerland and Iran, Leading Hause South Asia and Iran (ZHAW), 2020 – 2022.
- Multifunctional mineral binders for the production of advanced wood-based products. International joint research project between Switzerland and Iran, Leading Hause South Asia and Iran (ZHAW), 2018 – 2019.

- **International short-term scientific missions**
  - Analysis of the core layer characteristics of foam core panels using 2D digital image correlation. Swiss National Science Foundation (SNSF), Project No. IZK0Z2_162531, July - September 2015.
  - Innovative geopolymer binder improved by nano materials for engineered wood products industries. German Academic Exchange Service, Project No. 91600325, July - September 2017.
  - Optimization and further functionalization of innovative geopolymer binder for manufacturing of engineered wood products. Swiss National Science Foundation (SNSF), Project No. IZSEZO_186480, July - September 2019.

- **National projects in Iran**
  - Development of technical knowledge and localization of agricultural lignocellulosic waste utilization in wood-based panels. Iran Vice-Presidency for Science and Technology, 2020 - 2022.
  - Optimization of developed geopolymer binder for using in wood-based panels industries. Iranian Vice-Presidency for Science and Technology, National Elites Foundation, 2018 - 2019.
  - Development of natural absorbent materials for reduction of formaldehyde emission from wood-based panels. Iran National Science Foundation, code no: 95848907, 2017 - 2019.
  - Evaluation of acoustic properties and thermal conductivity of lightweight foam core particleboards. Research deputy of Tarbiat Modares University, 2016 - 2017.
  - Innovative foam core particleboard produced by one-step process for forest conservation. Iran National Science Foundation, code no: 93012950, 2015 - 2016.

## VII. Mentorship activities

### - Supervised Master students/thesis

- **Kamran Choupani Chaydarreh,** Development of one-step process of foam core particleboard production using thermosetting foam as core layer and properties evaluation of produced panels.
- **Hedi Hassannejad:** The Effect of chitosan addition on formaldehyde emission, physical and mechanical properties of medium density fibreboard.
- **Saber Jafarnejad**: Production and evaluation of lightweight wood-based panels using expandable polystyrene granules.
- **Zeinab Zare**: Evaluation of wood-plastic composite produced from old-corrugated container (OCC) recycling process waste.
- **Masoud Bahrami:** Properties of produced wood-based panels using novel mineral binders.
- **Javad Khakzad:** Production of lightweight tubular fiberboard and evaluation of its physical and mechanical properties.
- **Saber Faghiri:** Evaluation of physical and mechanical properties of fiber-layered composites made from recycled paper.
- **Farzaneh Allahverdipoorazar**: Evaluation of aluminosilicate powder type on the properties of Laminated Veneer Lumber produced by geopolymer binder.
- **Amin Nadali**: The influence of production parameters on the properties of plywood produced with geopolymer binder.
- **Somayeh Jamalpoor**: Lightweight fibreboard using recycled polystyrene as a part of the binder.
- **Javad Kazemirad**: Improving the performance of geopolymer binder for production of the laminated veneer lumber (LVL) using additives.
- **Mohammad Reza Bakhsi**: Effect of chipping method on properties from waste particleboards.

- **Zeinolabedin Vosoghi**: Effect of chitosan and activated carbon on activation energy of urea formaldehyde.
- **Amin Khatiri:** Evaluation of particle board made from wheat straw using citric acid as adhesive.
- **Mojtaba Rezanejad**: Development of electrically conductive wood-based composites using woven conductive mesh for furniture industry.

- **Supervised PhD students/thesis (some still under supervision)**
  - **Saeed Khojasteh-Khosro,** Development and evaluation of lightweight sandwich panels using fibers as faces and bio-based foam as core layer.
  - **Neda Eghtedarnejad:** Improving the quality of particleboard made from date palm frond waste by controlling the production process parameters.
  - **Mohamad Porjafar:** Production and evaluation of medium density fibreboard electromagnetic shielding with carbon fibre and iron oxide nanoparticles.
  - **Habib Noori:** Evaluation the potential of waste polystyrene foam as wood adhesive.
  - **Mohamad Hamed:** The effect of particle size and amount of recycled polyurethane foams on physical and mechanical properties of lightweight wood composites.
  - **Saleh Zare:** Efficiency of magnesium compounds on fire resistance and functional properties of heat-treated wood.
  - **Parastoo Asgharzadeh,** Development of lightweight wood-based panels using foamable tannin-based adhesives.
  - **Rahim Mohebbi**-Gargari, Development of machine learning algorithms to predict the properties of industrial medium density fibreboard (MDF).

## VIII. Teaching duties and institutional responsibilities

- **Master courses taught:** Advanced wood-based composites (4 ETS), Particles-based composites (3 ETS), Fiber-based composites (3 ETS), Sandwich panels (4 ETS), Natural fibres (3 ETS).
- **Ph.D courses taught:** Market analysis of raw materials and lignocellulose products (3 ETS), Process analysis and control of lignocellulose products (3 ETS), Modelling in composite products (3 ETS).
- **Institutional responsibilities:** Member of the supervisory, evaluation, and optimization committee of the faculty (2014-2018), Member of the faculty research council (2016-2019), Responsible for the engineered wood products laboratory (since 2018).

## IX. Prizes and fellowships

- Elected and honoured by the Faculty of Education of Tarbiat Modares University as "**Selected Excellent Professor**", May 2020.
- Awarding the research grant memorial of Dr. Kazemi-Ashtiani, Iranian National Elite Foundation, Iran (2017-2018).
- Awarding the best presentation at the Joensuu Forestry Networking Week, Finland (20-25$^{th}$ May 2012).
- Awarding the scholarship for PhD study at the University of Hamburg, Germany, from Ministry of Science, Research & Technology of Iran (2009 - 2012).

## X. Organization of conferences/seminars

- National seminar and Interdisciplinary Debate regarding “the Iranian Northern Forest Rest Plan”, Tarbiat Modares University, Iran, March 2015.
- International Seminar on “Productivity improvement of wood-based panels industries”. Tarbiat Modares University, Iran, October 2019.

## XI. Outreach and contribution to open science

- Assigning the European patent (EP 2875924 B1) ownership to Swiss Krono Group, Switzerland.
- Establishment and equipping of the engineered wood products laboratory at Tarbiat Modares University (2014 - 2020).

# Publication list of Dr. Ali Shalbafan

## I. Academic Identity


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|---|---|
| **ORCID No.** | 0000-0002-7355-5977 |
| **H-index** | |
| **Scopus** | 13 |
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| **i10-index** | 23 |
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| | a_sh1674@yahoo.com |
| **Academic & social links** | |


## II. Granted Patents

- **Ali Shalbafan** and Hedi Hassannejad, Mehdi Rahmaninia (2020). Wood-based panels using chitosan and modified chitosan as formaldehyde scavengers. **USPTO**: United States Patent and Trademark Office, (Granted).

- **Ali Shalbafan** and Johannes Welling (2017). Wood-based panels, method for manufacturing them and their use. EP2875924 B1, **EPO**: European Patent Office (Granted).

- **Ali Shalbafan** and Hedi Hassannejad, Mehdi Rahmaninia (2017). Reduction of formaldehyde emission from wood-based panels using eco-friendly scavenger. Industrial Property General Office, Iranian Patent Organization (Granted).

- **Ali Shalbafan** and Kamran Choupani Chaidarreh (2016). Continuous production of innovative sandwich panels using injected thermosetting foam as core layer and its products thereof. Industrial Property General Office, Iranian Patent Organization (Granted).

- **Ali Shalbafan** (2015). Lightweight wooden-based panels using foamable beads and manufacturing process thereof. Industrial Property General Office, Iranian Patent Organization (Granted).

## III. Book chapter

- **Shalbafan A. 2022.** Foams in Wood Composites. In: P.K S., M.S. S., Thomas S. (eds) Phenolic Based Foams. Gels Horizons: From Science to Smart Materials. Springer, Singapore. https://doi.org/10.1007/978-981-16-5237-0_16.

## IV. Peer reviewed publications

- Khatiri, A., **Shalbafan, A.**, Kazemi Najafi, S. 2025. Development of straw particleboard using an environmentally friendly adhesive. *Maderas: Ciencia y Technologia*, under review.

- Mohebby, B., Zare, M.S., **Shalbafan, A.**, 2025. Mineralization of heat-treated Fir wood with magnesium oxychloride: thermal characteristics and flame retardation. *European Journal of Wood and Wood Products*, *in press*.

- Zare, M.S., Mohebby, B., **Shalbafan, A.**, 2025. Mineralization of heat-treated fir wood with magnesium oxychloride: study of physical and structural properties. *Wood Science and Technology*, 59(1): 1-30.

- Khojasteh-Khosro, S., **Shalbafan, A.**, Thoemen, H. 2024. Improving the compatibility of polylactic acid-polycarbonate blends with nanoclay and Joncryl as chain extenders. *Journal of applied Polymer Science,* 141(41): e56081.

- Rezanezhad, M., **Shalbafan, A.**, Thoemen, H. 2024. Influence of panel density and carbon nets on the characteristics of novel multifunctional particleboard. *Wood Materials Science and Engineering*, under review.

- Rezanezhad, M., **Shalbafan, A.**, Thoemen, H. 2024. Development of electrically conductive wood-based composites using carbon nets. *Polymer Composites*, 45: 1985-1997.

- Noori, H., **Shalbafan, A.** Kazemi-Najafi, S. 2023**.** Development of plywood bonded with a novel adhesive film made from polystyrene foam waste dissolved in D-limonene. *Wood Materials Science & Engineering,* 18(6): 2082 - 2092.

- Hamed, M, Nosrati, B., **Shalbafan, A.** Dahmardeh, M.G. 2022**.** Production and evaluation of lightweight particles board using expanded polyurethane foam. *Journal of Wood and Paper Science Research*, 38(2): 87-99.

- **Shalbafan, A.,** Thoemen, H. 2023. Development of mineral-bonded plywood with magnesium oxychloride as a binder using the hot-pressing process. *Polymers*, 15(4): 805.

- Tschannen, C., **Shalbafan, A.,** Thoemen, H. 2023. Development of an electrically conductive MDF-panel – Evaluation of carbon content and resin type. *Polymers*, 15(4): 912.

- Pourjafar, M., Behrooz, R, **Shalbafan, A.** Nayyeri, V. 2023**.** Preparation and characterization of electromagnetic shielding medium-density fiberboard using Iron oxide nanoparticles. *Wood Materials Science and Engineering*, 18(4): 1360-1371.

- Jamalpour, S., **Shalbafan, A.,** Kazemi-Najafi, S. 2022. Evaluation of lightweight fiberboard using recycled polystyrene as a part of binder. *Journal of Wood and Forest Science and Technology*, 29(1): 1-24.

- Khojasteh-Khosro, S., **Shalbafan, A.,** Thoemen, H. 2022. Consumer behavior assessment regarding lightweight furniture as an environmentally friendly product. *Wood Materials Science and Engineering*, 17(3): 192-201.

- **Shalbafan, A.,** Thoemen, H. 2022. Influence of pressing schedule and adhesive content on the rheological behavior of wood fiber-furnish mats. *Materials*, 15(4): 1413.

- Pourjafar, M., Behrooz, R, Nayyeri, V., **Shalbafan, A.** 2022**.** Medium density fiberboard (MDF) with efficient electromagnetic shielding: preparation and evaluation. *Bioresources*, 17(1): 1518-11532.

- Eghtedarnejad, N., Kazemi-Najafi, S., **Shalbafan, A.,** 2021. The effect of chipping method on the geometry of particles produced from date palm frond. *Bioresources,* 16(1): 1131.

- Khojasteh-Khosro, S., **Shalbafan, A.,** Thoemen, H. 2021. Development of ultra-light foam-core fiberboard for furnoture application. *European Journal of Wood and Wood Products*, 79(6): 1435-1449.

- Allahverdipoorazar, F., **Shalbafan, A.,** Berthold, D. 2021. Geopolymer as a multifunctional mineral binder to produce laminated veneer lumber: effect of various aluminosilicate powder types on panels and geopolymer binder features. *European Journal of Wood and Wood Products*, 79(2): 349-362.

- **Shalbafan, A.,** Chaydarreh, K. C., Welling, J. 2021. Effect of blowing agent concentration in rigid polyurethane foam on the properties of foam core particleboard. *Wood Materials Science and Engineering*, 16(2): 85-93.

- Eghtedarnejad, N., Kazemi-Najafi, S., **Shalbafan, A.** 2020. The effect of chipping method on the geometry of particles produced from Date Palm frond. *Bioresources*, 16(1): 1131-1143.

- **Shalbafan, A.,** Nadali, A., Theomen, H. 2020. A multifunctional mineral binder for plywood production: the effect of manufacturing parameters on bonding quality. *Materials*, 13(10): 2360.

- **Shalbafan, A.,** Hassannejad, H., Rahmaninia, M. 2020. Formaldehyde adsorption capacity of chitosan derivatives as bio-adsorbents for the wood-based panels. *International Journal of Adhesive and Adhesion*, 102: 102669 (1-8).

- Hassannejad, H., **Shalbafan, A.,** Rahmaninia, M. 2020. Reduction of formaldehyde emission from medium density fiberboard by chitosan as scavenger. *The Journal of Adhesion*, 96(9): 797-813.

- Jafarnezhad, S., **Shalbafan, A.,** Luedtke, J. 2020. Effect of the polystyrene granules type and content on the physical and mechanical properties of the lightweight wood-based panels. *Journal of Wood and Forest Science and Technology*, 27(1): 111-125.

- Khakzad, J., **Shalbafan, A.,** Kazemi-Najafi, S. 2020. Lightweight tubular fiberboard: Effect of hole diameters and number on panel properties. *Maderas. Ciencia Y Tecnología*, *22*(3): 311-324.

- Khojasteh-Khosro, S., **Shalbafan, A.,** Thoemen, J. 2020. Evaluation of adhesion strength of coatings and face layers properties of foam core lightweight panels. *Journal of Color Science and Technology*, 14(1): 1-11.

- Khojasteh-Khosro, S., **Shalbafan, A.,** Thoemen, J. 2020. Furniture manufacturers attitudes about lightweight wood-based panels for furniture application. *European Journal of Wood and Wood Products*, 78(3): 593-603.

- **Shalbafan, A.,** Theomen, H. 2020. Geopolymer-bonded laminated veneer lumber as environmentally friendly and formaldehyde-free product: effect of various additives on geopolymer binder features. *Applied Sciences*, 10(2): 593.

- Bahrami, M., **Shalbafan, A.,** Welling, J. 2019. Development of plywood using geopolymer as binder; effect of silica fume on the plywood and binder characteristics. *European Journal of Wood and Wood Products*, 77:981-994.

- Barbu, M.C., **Shalbafan, A.,** 2018. Universitatare Ausbildung fur Holzwissenscahft in Eropa und welweit. Teil 26: Iran. *Holztechnologie*, 59(6): 53-58.

- Jafarnezhad, S., **Shalbafan, A.,** Luedtke, J. 2018. Effect of surface layers compressibility and face-to-core-layer ratio on the properties of lightweight hybrid panels. *International Wood Products Journal*, 9(4): 164-170.

- **Shalbafan, A.,** Jafarnezhad, S., Luedtke, J. 2018. Evaluation of low-density hybrid panels using expandable granules: effect of granules diameter and content. *European Journal of Wood and Wood Products*, 76(5):1505-1514.

- Jafarnezhad, S., **Shalbafan, A.,** Luedtke, J. 2018. Effect of expanded polystyrene granules on the physical and mechanical properties of hybrid lightweight panels. *Journal of Wood and Paper Industries*, 9(3): 383-396.

- Jafarnezhad, S., **Shalbafan, A.,** Luedtke, J. 2018. Effect of expandable and expanded granules diameter on the properties of hybrid-lightweight panels. *Journal of Forest and Wood Products*, 70(4): 719-728.

- Dietenberger, M. A., **Shalbafan, A.,** Welling, J. 2017. Cone calorimeter testing of foam core sandwich panels treated with intumescent paper underneath the veneer. *Fire and Materials*, 42(3): 296-305.

- **Shalbafan, A.,** Welling, J., Hasch, J. 2017. Effect of aluminosilicate powders on the applicability of innovative geopolymer binders for wood-based composites. *European Journal of Wood and Wood Products*, 75(6):893-902.

- **Shalbafan, A.,** Welling, J. 2017. Thermal and acoustic characteristics of innovative foam core particleboards. *Wood and Fiber Science*, 49(1):73-83.

- Chaydarreh, K. C., **Shalbafan, A.,** Welling, J. 2017. Effect of ingredient ratios of rigid polyurethane foam on foam core panels' properties. *Journal of Applied Polymer Science*, 134(17):44722-1 – 44722-8.

- **Shalbafan, A.,** Rheme, M., Thoemen, H. 2017. Ultra-light particleboard; characterization of foam core layer by digital image correlation, *European Journal of Wood and Wood Products,* 75(1): 43-53.

- **Shalbafan, A.,** Chaydarreh, K. C., Welling, J. 2016. Development of a one-step process for production of foam core particleboards using rigid polyurethane foam. *BioResources*, 11(4):9480-9495.

- **Shalbafan, A.,** Welling, J., Hasch, J. 2016. Geopolmers as potential new binder class for the wood based composite industry. *Holzforschung*, 70(8):755-761.

- **Shalbafan, A.,** Benthien, J. T. and Lerche, H. 2016. Biological characterization of panels manufactured from recycled particleboards using different adhesives. *BioResources*, 11(2):4935-4946.

- **Shalbafan, A.,** Tachmann, O., Welling, J. 2016. Using of expandable fillers to produce low density particleboard. *European Journal of Wood and Wood Products*, 74(1):15-22.

- Sarmin, S. N., Welling, J., Krause, A., and **Shalbafan, A.** 2014. **Investigating the possibility of geopolymer to produce inorganic-bonded wood composites for multifunctional construction material - A review.** *BioResources,* 9(4):7941-7950.

- **Shalbafan, A.,** Behntien, J. T., Welling, J. and Barbu, M. C. 2013e. Flat pressed wood plastic composites made of milled lightweight foam core particleboard residues. *European Journal of Wood and Wood Products*, 71(6):805-813.

- Dietenberger, M. A., **Shalbafan, A.,** Welling, J. and Boardman, Ch. 2013f. Treated and untreated foam core particleboards with intumescent veneer: comparative analysis of cone calorimeter. *Journal of Thermal analysis and Calorimetry*, 114(3):979-987.

- Welling, J. and **Shalbafan, A.** 2013d. Physikalische und mechanische Eigenschaften von leichten HWS-Platten mit in-situ geschäumtem Kern. *Holztechnologie*, 54(2):36-42.

- **Shalbafan, A.,** Dietenberger, M. A. and Welling, J. 2013c. Fire performance of foam core particleboard produced in a one-step process. *European Journal of Wood and Wood Products*, 71(1):49-59.

- **Shalbafan, A.,** Luedtke, J., Welling, J. and Fruehwald, A. 2013b. Physiomechanical properties of ultra-lightweight foam core particleboards: Different core densities. *Holzforshung*, 67(2):169-175.

- **Shalbafan, A.,** Welling, J. and Luedtke, J. 2013a. Effect of processing parameters on physical and structural properties of lightweight foam core sandwich panels. *Wood Material Science and Engineering*, 8(1):1-12.

- **Shalbafan, A.,** Welling, J. and Luedtke, J. 2012b. Effect of processing parameters on mechanical properties of lightweight foam core sandwich panels. *Wood Material Science and Engineering*, 7(2):69-75.

- **Shalbafan, A.,** Luedtke, J., Welling, J., and Thoemen, H. 2012a. Comparison of foam core materials in lightweight wood-based panels made by continuous process, *European Journal of Wood and Wood Products*, 70(1): 287-292.

- Kazemi Najafi, S., **Shalbafan, A.,** and Ebrahimi, Gh. 2009. Internal decay assessment in standing beech trees using ultrasonic velocity measurement, *European Journal of Forest Research*, 128: 245-350.

- Noori, H., Ghasemian, A., **Shalbafan, A.** and Haji Hassani, R. 2008. Determination of optimum refining of paper made of recovered Kraft liner paper, *Journal of Wood and paper Science Research*, 23(1): 12-19.

- Kazemi Najafi, S**., Shalbafan, A,** and Chaharmahali, M. 2006. A study on profile of three types of medium density fiberboard (MDF) used in Iran market, *Journal of Wood and Paper Science Research*, 20(2): 285-300.

## V. Conference proceedings publications

- Mohebbi-Gargari, R., **Shalbafan, A.,** Alavi, S.J., Amirmazlaghani, M., Sadatnejad, S.H., Thoemen, H. 2025. Potential of machine learning algorithms for predicting the properties of medium-density fiberboard (MDF): preliminary results. 1st International Conference on Artificial Intelligence, Shahid Beheshti University, 25 – 27 February, Tehran, Iran.

- **Shalbafan, A.,** Tschannen, Ch., Schenker, M., Kai, H., Schoelkopf, J, Thoemen, H. Development of a new class of mineral binders to produce wood-based panels. 13th European Wood-based Panels Symposium, 9-11 October 2024, Hamburg, Germany.

- Khojasteh-Khosro, S., **Shalbafan, A.,** Thoemen, H. Improving bio-based polylactic acid properties using polycarbonate. 14th International Seminar on Polymer Science and Technology (ISPST), 11-12 November 2020, Tarbiat Modares University, Tehran, Iran.

- Khojasteh-Khosro, A., **Shalbafan, A.,** Thoemen, H. Evaluation of mechanical properties of lightweight foam-core MDF using expandable polystyrene granules. 2rd National Conference on Knowledge and Innovation in the Wood and Paper Industry, 27-28 February 2019, Tehran University, Karaj, Iran.

- Nadali, A., **Shalbafan, A.,** Thoemen, H. Evaluation of plywood shear strength produced by geopolymer binder. 2rd National Conference on Knowledge and Innovation in the Wood and Paper Industry, 27-28 February 2019, Tehran University, Karaj, Iran.

- **Shalbafan, A.,** Jafarnezhad, S., Luedtke, J. Development of lightweight hybrid wood-based panels using in-situ polystyrene granules. International Panel Products Symposium, 4-5 October 2017, Liandudno, Wales, UK.

- **Shalbafan, A.,** Choupani, K. C., Welling, J. Effect of blowing agent on physical and mechanical properties of foam core particleboards. International Panel Products Symposium, 4-5 October 2017, Liandudno, Wales, UK.

- **Shalbafan, A.,** Welling, J., Hasch, J. Geopolymers as formaldehyde free binders for the wood-based composite industry. 10th European Wood-based Panels Symposium, 5-7 October 2016, Hamburg, Germany.

- **Shalbafan, A.,** Chaydarreh, K. C., Welling, J. Developing one-step process for manufacturing of foam core particleboards using polyurethane. 10th European Wood-based Panels Symposium, 5-7 October 2016, Hamburg, Germany.

- Chaydareh, K. C., **Shalbafan, A.** Evaluation of structural properties of sandwich panels manufactured of polyurethane foam injection. Agricultural development & Healthy Earth, 20 Juanary, 2016, Tehran, Iran.

- Rhême, M., **Shalbafan, A.** and Thoemen, H. Mechanical properties of bio-based foam in ultralight particleboards. COST Action FP1303 Technical Workshop, 24-25 February 2016, Madrid, Spain.

- **Shalbafan, A**. Lightweight wood-based panels as a solution for forest conservation. 2nd conference in New Technology in Wood and Paper Industries, 22-23 October 2014, Chalos, Mazandaran, Iran.

- Dietenberger, M.A., **Shalbafan, A.** Welling, J. *Foam core particleboards with intumescent FRT veneer: cone calorimeter testing with varying adhesives, surface layer thickness, and processing conditions. BCC: 25th Annual Conference of Recent advances in Flame Retardancy of Polymeric Materials, May 2014, Stamford, CT, USA.*

- *Shalbafan, A., Welling, J. Innovative foam core particleboard produced in an integrated process. 8th Forest-Based Sector Technology Platform (FTP) Conference, March 2013, Barcelona, Spain.*

- Dietenberger, M.A., **Shalbafan, A.** Welling, J. *Cone calorimetry analysis of FRT intumescent and untreated foam core particleboards. NATAS: 40th Annual Conference of North American Thermal Analysis Society, August 2012, Orland, Florida, USA.*

- **Shalbafan, A.,** Welling, J. Innovative lightweight wood-based panels. 4th Joensuu Forestry Networking Week, May 2012, Joensuu, Finland.

- Welling, J., **Shalbafan, A.** Physikalische und Mechanische Eigenschaften von Leichten HWS-Platten mit in-situ Geschäumtem Kern. 15th Holztechnologische Kolloquium. March 2012, Dresden.

- Welling, J., **Shalbafan, A.,** Luedtke, J. and Barbu, M. C. Effect of core densities on mechanical properties of lightweight foam core sandwich panels. The 8th International Conference on Wood Science and Engineering in the Third Millennium. November 2011, Brasov, Romania.

- **Shalbafan, A.,** Welling, J., Benthien, J. and Luedtke, J. Innovative lightweight wood plastic composites produced in a one-step process. 5th International Wood Fibre Polymer Composites Symposium, September 2011 Biarritze, France.

- **Shalbafan, A.,** Welling, J. and Luedtke, J. Effect of pressing schedules on mechanical properties of multi-layered lightweight panels. 65th International Convention of Forest Products Society, June 2011, Portland, Oregon, USA.

- **Shalbafan, A.,** Luedtke, J., Welling, J. Sandwich panels produced in a one-step process following different pressing schemes: mechanical and physical properties. 1st Think Light – International Conference on Lightweight Panels, LIGNA Hannover, 31st May to 1st June 2011, Hannover, Germany.

- **Shalbafan, A.,** Luedtke, J., Welling, J., and Thoemen, H. Multi–layered lightweight panels made by in-process foaming: comparison of core materials. Proceeding of 53rd International Convention of Society of Wood Science and Technology, October 2010, Geneva, Switzerland.

- Kazemi Najafi, S., Ebrahimi Gh. and **Shalbafan, A**. Nondestructive evaluation of beech trees using ultrasonic technique. Proceeding of the 15th International Symposium on Nondestructive Testing of Wood, September 2007, Minesota, USA.

## VI. Reviewer in Journals

- Construction and Building Materials, European Journal of Wood and Wood Products, Wood Materials Science and Engineering, Wood and Fibre Science, BioResources, International Journal of Wood and Wood Products, Journal of Applied Polymer Science, Applied Sciences, Polymers, Journal of Thermal Analysis and Calorimetry, Polmeros, Journal of Forest and Wood Products, Iranian Journal of Wood and Paper Industries, Iranian Journal of Wood and Paper Science Research.

## VII. Voluntary Taught Courses

- Ecodesign of products and buildings, Semester Master course, Institute for Building Materials and Biobased Products, Bern University of Applied Sciences, September 2023 – January 2024 (5 ETS).
- Wood Composites Technology. Semester Master course, Center for Wood Science, Hamburg University, February – July 2011.
- Solid Wood Technology. Semester Master course, Center for Wood Science, Hamburg University, September 2010 – February 2011.
- Mechanics of Wood Products. Semester Master course, Center for Wood Science, Hamburg University, September 2010 – February 2011.
- Process Technology II (technology of Wood-based panels). Semester Master course, Center for Wood Science, Hamburg University, September 2010 – February 2011.

## VIII. Scores

- The top student of Wood and Paper Science & Technology ever since the foundation of Tarbiat Modares University, Iran (Master course).
- Elected and honored by the Faculty of Education of Tarbiat Modares University as "**Selected Excellent Professor**", May 2020.