

## **Dr. Marcin Klisz, Eng.**

My research focuses on population genetics and dendroecology, and in particular on intra-specific growth variation of forest trees under unstable climatic conditions. My studies include long-term, multi-environmental provenance experiments in the temperate climate zone in Europe. My current projects relate to the acclimatization of non-native trees in Europe. I am currently developing a pan-European tree ring network for Douglas-fir covering the southern Baltic region at the boundary of three bioclimatic zones (temperate continental, oceanic, southern boreal). The aim of the project is to determine the spatio-temporal variation in climate sensitivity of Douglas-fir and to predict future climate-growth relationships considering optimistic and pessimistic climate scenarios. In combination with species distribution modeling, this could allow the development of new strategies for the management of non-native tree species in Europe.

### Qualifications

2021 Habilitation, Forestry, Forest Research Institute, Poland

2011/12 PhD, Forestry, Forest Research Institute, Poland, supervisors: prof. Stefan Zajączkowski

1999/9 MSc, Forestry, Warsaw University of Life Sciences, Poland, supervisors: prof. Joanna Werka

### Qualifications – workshops and internships

1. 2006/10 – 2008/2 Wood and wood fibers laboratory, Swedish University of Agricultural Sciences (SLU, Umeå); 3 visits, 18 weeks in total.
2. 20.06 – 24.06.2016 *3rd Training school in Quantitative Wood Anatomy*, Centre of Studies of Alpine Environment, San Vito di Cadore, Italy
3. 1.08 – 8.08.2016 *Plant ecology and digital wood anatomy 2016*, Siberian Federal Institute, Cheremushki, Abakan, Russia
4. 12.09 – 18.09.2016 *27th European Dendroecological Fieldweek*, Kranjska Gora, Slovenia
5. 26.11 – 4.12.2016 *16th international course on „Wood Anatomy and Tree-Ring Ecology”* Klosters Dorf, Switzerland
6. 9.01 – 29.01.2017 Swiss Federal Institute for Forest, Snow and Landscape Research - WSL, Dendrosciences RG, Switzerland
7. 7.02 – 9.02.2017 *Individualistic growth response tree-ring network IGR – R workshop*, Wageningen, Netherlands
8. 15.05.2017 *Methods of quantitative and functional wood anatomy*, Svetlogorsk, Russia

9. 25.09 – 29.09.2017 *From xylogenesis to dendroecology: dendrochronology, quantitative wood anatomy and stable isotopes*, University of Naples Federico II, Portici and Caserta, Italy
10. 10.09 – 17.09.2017 *28th European Dendroecological Fieldweek*, Vosges Mountains, France
11. 26.11 – 2.12.2017 *17th international course on „Wood Anatomy and Tree-Ring Ecology”* Klosters Dorf, Switzerland
12. 23.10.2018 *At the pulse of trees: analyzing dendrometer and sap flow data*, University of Greifswald, Germany
13. 25.06 – 29.06.2018 *5th Training school in Quantitative Wood Anatomy*, Centre of Studies of Alpine Environment, San Vito di Cadore, Italy
14. 1.10 – 7.10.2018 *Quantitative wood anatomy seminar*, Institute of Forestry and Rural Engineering, Tartu, Estonia
15. 2019/1 – 2019/4 Université du Québec at Chicoutimi (UQAC), Département des Sciences Fondamentales, Laboratoire d'écologie végétale et de la faune terrestre, Quebec, Canada
16. 2020/1 – 2020/4 Dipartimento Territorio e Sistemi Agro-Forestali Università degli Studi di Padova Agripolis (TESAF), Italy

### Profile

Keywords of research specializations: provenance experiments, climate adaptation, marginal populations, non-native tree species, quantitative wood anatomy

### Employment

2021/12 Professor (Associate), Department of Silviculture and Forest Tree Genetics, Forest Research Institute

2012/4 Professor (Assistant), Department of Silviculture and Forest Tree Genetics, Forest Research Institute

2004/4 assistant, Department of Silviculture and Forest Tree Genetics, Forest Research Institute

### Coordination of research projects

1. Genetic aspects of wood properties of European larch, project no 24 12 17, funded with Ministry of Science and Higher Education subsidy, (main executor, implemented)

2. Adaptation of the Norway spruce provenance to the growth in western and eastern Poland, project no 24.02.38, funded with Ministry of Science and Higher Education subsidy, (main executor, implemented)
3. Adaptive potential of silver fir and Douglas-fir in the gradient of the climatic conditions of northern Poland, project no 90.02.47, funded with Ministry of Science and Higher Education subsidy, (main executor, under implementation)

#### International collaborative activities

4. 2017/1 – 2019/9 SUSTREE Conservation and sustainable utilization of forest tree diversity in climate change (Project n° CE614)
5. 2016/1 – 2018/12 RESPONSE A6 (Biological RESPONSEs to Novel and Changing Environments) (<http://www.mnf.uni-greifswald.de/response>), funded by DFG (German Research Foundation)
6. 2016/1 – 2018/12 The performance of common beech (*Fagus sylvatica*) and related temperate forest ecosystems in face of winter climate change, funded by DFG (German Research Foundation)
7. 2014/11 – 2018/11 MC Substitute, European project COST Action FP1403 (NNEXT - Non-native tree species for european forests - experiences, risks and opportunities) (Action Chair E.Poetzelsberger)
8. 2012/1 – 2016/1 MC Member, European project COST Action FP1106 (STReESS - Studying Tree Responses to extreme Events: a SynthesiS) (Action Chair U.Sass-Klaassen)
9. 2019/10 – 20122/10 MC Member, European project COST Action: CA18201 (An integrated approach to conservation of threatened plants for the 21st Century) (Action Chair Živa Fišer)
10. 2020/4 – 20124/4 MC Substitute, European project COST Action: CA19128 (Pan-European Network for Climate Adaptive Forest Restoration and Reforestation) (Action Chair Vladan Ivetic)

#### Reviewing experience

I was a reviewer of over 30 scientific papers (Canadian Journal of Forest Research, Trees – Structure and Function, Wood, Dendrobiology, Journal of Forest Science, Folia Forestalia Polonica, European Journal of Forest Research, IAWA Journal, Annals of Forest Science, Dendrochronologia, Frontiers in Plant Science, Agricultural and Forest Meteorology, Forest Ecology and Management, Forests, Ecological Indicators, Baltic Forestry).

I am a member of the Editorial Board in Folia Forestalia Polonica scientific journal.

## Recent publications

1. Mataruga, M., Cvjetkovic, B., Cuyper, B. De, Aneva, I., Zhelev, P., Cudlín, P., Metslaid, M., Kankaanhuhta, V., Collet, C., Annighofer, P., Mathes, T., Marianthi, T., Despoina, P., Jonsdottir, R.J., Monteverdi, M.C., Dato, G. De, Mariotti, B., Kolevska, D.D., Lazarevic, J., Floistad, I.S., **Klisz, M.**, Gil, W., Paiva, V., Fonseca, T., Nicolescu, V.-N., Popovic, V., Devetakovic, J., Repac, I., Bozic, G., Kraigher, H., Andivia, E., Diez, J.J., Bohlenius, H., Lof, M., Bilir, N., Villar-salvador, P., 2023. Monitoring and control of forest seedling quality in Europe. *For. Ecol. Manage.* 546, 121308. doi:10.1016/j.foreco.2023.121308
2. Puchałka, R., Paż-Dyderska, S., Jagodziński, A.M., Sádlo, J., Vítková, M., **Klisz, M.**, Koniakin, S., Prokopuk, Y., Netsvetov, M., Nicolescu, V.-N., Zlatanov, T., Mionskowski, M., Dyderski, M.K., 2023. Predicted range shifts of alien tree species in Europe. *Agric. For. Meteorol.* 341. doi:10.1016/j.agrformet.2023.109650
3. Battipaglia, G., Kabala, J.P., Solana, A.P., Niccoli, F., Bräuning, A., Campelo, F., Cufar, K., Luis, M. De, Micco, V. De, **Klisz, M.**, Koprowski, M., Gonzalez, I.G., 2023. Intra - annual density fluctuations in tree rings are proxies of air temperature across Europe. *Sci. Rep.* 13, 12294. doi:10.1038/s41598-023-39610-8
4. Guo, X., Buttò, V., Mohytych, V., **Klisz, M.**, Yann Surget-Groba, Huang, J., Delagrangé, S., Rossi, S., 2023. Plasticity plays a dominant role in regulating the phenological variations of sugar maple populations in Canada. *Front. Ecol. Evol.* 11, 1217871. doi:10.3389/fevo.2023.1217871
5. Netsvetov, M., Prokopuk, Y., Holiaka, D., **Klisz, M.**, Porté, A.J., Romensky, M., 2023. Is there Chernobyl nuclear accident signature in Scots pine radial growth and its climate sensitivity? *Sci. Total Environ.* 878. doi:10.1016/j.scitotenv.2023.163132
6. **Klisz, M.**, Chakraborty, D., Cvjetkovic, B., Grabner, M., Lintunen, A., Mayer, K., George, J.P., Rossi, S., 2023. Functional Traits of Boreal Species and Adaptation to Local Conditions. In: Girona, M.M., Morin, H., Gauthier, S., Bergeron, Y. (eds) *Boreal Forests in the Face of Climate Change. Advances in Global Change Research, vol 74.* Springer, Cham. [https://doi.org/10.1007/978-3-031-15988-6\\_12](https://doi.org/10.1007/978-3-031-15988-6_12)
7. **Klisz, M.**, Jevšenak, J., Prokopuk, Y., Gil, W., Mohytych, V., Puchałka, R., 2022. Coping with Central European climate – xylem adjustment in seven non-native conifer tree species. *Dendrobiology* 88, 105-123. doi: 10.12657/denbio.088.008.
8. Szubska, Izabela, M., Szubski, Michał, J., **Klisz, M.**, Pilch, K., Wojnar, J., and Zin, E. 2022. Advantages and limitations of an interdisciplinary approach in woodland archaeology : An example of 18th-19th century tar production in European temperate forest. *Quantenry Int.* doi:10.1016/j.quaint.2022.09.010

9. Dimitrova, A., Csilléry, K., **Klisz, M.**, Lévesque, M., Heinrichs, S., Cailleret, M., et al. 2022. Risks , benefits , and knowledge gaps of non-native tree species in Europe. *Front. Ecol. Evol.* 10, 908464. doi:10.3389/fevo.2022.908464
10. Puchałka R., **Klisz M.**, Koniakin S., Czortek P., Dylewski Ł., Paż-Dyderska S., Vítková M., Sádlo J., Râsomavicius V., Carni A., De Sanctis M., Dyderski M 2022. Citizen science helps predictions of climate change impact on flowering phenology: A study on *Anemone nemorosa*. *Agricultural and Forest Meteorology* 325, 109133. DOI: <https://doi.org/10.1016/j.agrformet.2022.109133>
11. Alizoti, P., Bastien, J.-C., Chakraborty, D., **Klisz, M.M.**, Kroon, J., Neophytou, C., Schueler, S., Loo, M.v., Westergren, M., Konnert, M., Andonovski, V., Andreassen, K., Brang, P., Brus, R., Cvjetković, B., Đodan, M., Fernández, M., Frydl, J., Karlsson, B., Keserű, Z., Kormutak, A., Lavnyy, V., Maaten, T., Mason, B., Mihai, G., Monteverdi, C., Perić, S., Petkova, K., Popov, E.B., Rousi, M., Stojnić, S.M., Tsvetkov, I., 2022. Non-Native Forest Tree Species in Europe: The Question of Seed Origin in Afforestation. *Forests* 13, 273. DOI: 10.3390/f13020273
12. Lembrechts, J.J., Van Den Hoogen, J., Aalto, J., Ashcroft, M.B., De Frenne, P., Kempainen, J., Kopecký, M., Luoto, M., Maclean, I.M.D., Crowther, T.W., Bailey, J.J., Haesen, S., Klinges, D.H., Niittynen, P., Scheffers, B.R., Van Meerbeek, K., Aartsma, P., Abdalaze, O., Abedi, M., Aerts, R., Ahmadian, N., Ahrends, A., Alatalo, J.M., Alexander, J.M., Nina Allonsius, C., Altman, J., Ammann, C., Andres, C., Andrews, C., Ardö, J., Arriga, N., Arzac, A., Ascheró, V., Assis, R.L., Johann Assmann, J., Bader, M.Y., Bahalkeh, K., Barančok, P., Barrio, I.C., Barros, A., Barthel, M., Basham, E.W., Bauters, M., Bazzichetto, M., Belelli Marchesini, L., Bell, M.C., Benavides, J.C., Luis Benito Alonso, J., Berauer, B.J., Bjerke, J.W., Björk, R.G., Björkman, M.P., Björnsdóttir, K., Blonder, B., Boeckx, P., Boike, J., Bokhorst, S., Brum, B.N.S., Brúna, J., Buchmann, N., Buysse, P., Luís Camargo, J., Campoe, O.C., Candan, O., Canessa, R., Cannone, N., Carbognani, M., Carnicer, J., Casanova - Katny, A., Cesarz, S., Chojnicki, B., Choler, P., Chown, S.L., Cifuentes, E.F., Čiliak, M., Contador, T., Convey, P., Cooper, E.J., Cremonese, E., Curasi, S.R., Curtis, R., Cutini, M., Johan Dahlberg, C., Daskalova, G.N., Angel De Pablo, M., Della Chiesa, S., Dengler, J., Deronde, B., Descombes, P., Di Cecco, V., Di Musciano, M., Dick, J., Dimarco, R.D., Dolezal, J., Dorrepaal, E., Dušek, J., Eisenhauer, N., Eklundh, L., Erickson, T.E., Erschbamer, B., Eugster, W., Ewers, R.M., Exton, D.A., Fanin, N., Fazlioglu, F., Feigenwinter, I., Fenu, G., Ferlian, O., Rosa Fernández Calzado, M., Fernández - Pascual, E., Finckh, M., Finger Higgins, R., Forte, T.A.G.W., Freeman, E.C., Frei, E.R., Fuentes - Lillo, E., García, R.A., García, M.B., Géron, C., Gharun, M., Ghosn, D., Gigauri, K., Gobin, A., Goded, I., Goeckede, M., Gottschall, F., Goulding, K., Govaert, S., Jessen Graae, B., Greenwood, S., Greiser, C., Grelle, A., Guénard, B., Guglielmin, M., Guillemot, J., Haase, P., Haider, S., Halbritter, A.H., Hamid, M., Hammerle, A., Hampe, A.,

Haugum, S.V., Hederová, L., Heinesch, B., Helfter, C., Hepenstrick, D., Herberich, M., Herbst, M., Hermanutz, L., Hik, D.S., Hoffrén, R., Homeier, J., Hörtnagl, L., Høy, T.T., Hrbacek, F., Hylander, K., Iwata, H., Antoni Jackowicz - Korczynski, M., Jactel, H., Järveoja, J., Jastrzębowski, S., Jentsch, A., Jiménez, J.J., Jónsdóttir, I.S., Jucker, T., Jump, A.S., Juszczak, R., Kanka, R., Kašpar, V., Kazakis, G., Kelly, J., Khuroo, A.A., Klemedtsson, L., **Klisz, M.**, Kljun, N., Knohl, A., Kobler, J., Kollár, J., Kotowska, M.M., Kovács, B., Kreyling, J., Lamprecht, A., Lang, S.I., Larson, C., Larson, K., Laska, K., Le Maire, G., Leihy, R.I., Lens, L., Liljebladh, B., Lohila, A., Lorite, J., Loubet, B., Lynn, J., Macek, M., Mackenzie, R., Magliulo, E., Maier, R., Malfasi, F., Máliš, F., Man, M., Manca, G., Manco, A., Manise, T., Manolaki, P., Marciniak, F., Matula, R., Clara Mazzolari, A., Medinets, S., Medinets, V., Meeussen, C., Merinero, S., De Cássia Guimarães Mesquita, R., Meusbürger, K., Meysman, F.J.R., Michaletz, S.T., Milbau, A., Moiseev, D., Moiseev, P., Mondoni, A., Monfries, R., Montagnani, L., Moriana - Armendariz, M., Morra Di Cella, U., Mörsdorf, M., Mosedale, J.R., Muffler, L., Muñoz - Rojas, M., Myers, J.A., Myers - Smith, I.H., Nagy, L., Nardino, M., Naujokaitis - Lewis, I., Newling, E., Nicklas, L., Niedrist, G., Niessner, A., Nilsson, M.B., Normand, S., Noretto, M.D., Nouvellon, Y., Nuñez, M.A., Ogaya, R., Ogée, J., Okello, J., Olejnik, J., Eivind Olesen, J., Opedal, Ø., Orsenigo, S., Palaj, A., Pampuch, T., Panov, A.V., Pärtel, M., Pastor, A., Pauchard, A., Pauli, H., Pavelka, M., Pearse, W.D., Peichl, M., Pellissier, L., Penczykowski, R.M., Penuelas, J., Petit Bon, M., Petraglia, A., Phartyal, S.S., Phoenix, G.K., Pio, C., Pitacco, A., Pitteloud, C., Plichta, R., Porro, F., Portillo - Estrada, M., Poulénard, J., Poyatos, R., Prokushkin, A.S., Puchalka, R., Puşcaş, M., Radujković, D., Randall, K., Ratier Backes, A., Remmele, S., Remmers, W., Renault, D., Risch, A.C., Rixen, C., Robinson, S.A., Robroek, B.J.M., Rocha, A.V., Rossi, C., Rossi, G., Roupsard, O., Rubtsov, A.V., Saccone, P., Sagot, C., Sallo Bravo, J., Santos, C.C., Sarneel, J.M., Scharnweber, T., Schmeddes, J., Schmidt, M., Scholten, T., Schuchardt, M., Schwartz, N., Scott, T., Seeber, J., Cristina Segalin De Andrade, A., Seipel, T., Semenchuk, P., Senior, R.A., Serra - Diaz, J.M., Sewerniak, P., Shekhar, A., Sidenko, N.V., Siebicke, L., Siegwart Collier, L., Simpson, E., Siqueira, D.P., Sitková, Z., Six, J., Smiljanic, M., Smith, S.W., Smith - Tripp, S., Somers, B., Vedel Sørensen, M., João L. L. Souza, J., Israel Souza, B., Souza Dias, A., Spasojevic, M.J., Speed, J.D.M., Spicher, F., Stanisci, A., Steinbauer, K., Steinbrecher, R., Steinwandter, M., Stemkovski, M., Stephan, J.G., Stiegler, C., Stoll, S., Svátek, M., Svoboda, M., Tagesson, T., Tanentzap, A.J., Tanneberger, F., Theurillat, J.P., Thomas, H.J.D., Thomas, A.D., Tielbörger, K., Tomaselli, M., Albert Treier, U., Trouillier, M., Dan Turtureanu, P., Tutton, R., Tyystjärvi, V.A., Ueyama, M., Ujházy, K., Ujházyová, M., Uogintas, D., Urban, A.V., Urban, J., Urbaniak, M., Ursu, T.M., Primo Vaccari, F., Van De Vondel, S., Van Den Brink, L., Van Geel, M., Vandvik, V., Vangansbeke, P., Varlagin, A., Veen, G.F.,

- Veenendaal, E., Venn, S.E., Verbeeck, H., Verbruggen, E., Verheijen, F.G.A., Villar, L., Vitale, L., Vittoz, P., Vives - Inгла, M., Von Oppen, J., Walz, J., Wang, R., Wang, Y., Way, R.G., Wedegärtner, R.E.M., Weigel, R., Wild, J., Wilkinson, M., Wilmking, M., Wingate, L., Winkler, M., Wipf, S., Wohlfahrt, G., Xenakis, G., Yang, Y., Yu, Z., Yu, K., Zellweger, F., Zhang, J., Zhang, Z., Zhao, P., Ziemblińska, K., Zimmermann, R., Zong, S., Zyryanov, V.I., Nijs, I., Lenoir, J., 2021. Global maps of soil temperature. *Global Change Biology*. doi:10.1111/gcb.
13. Boruszewski P., Laskowska A., Jankowska A., Klisz M., Mionskowski M., 2021. Potential Areas in Poland for Forestry Plantation. *Forests* 12. doi:<https://doi.org/10.3390/f12101360>
  14. Bouteiller X.P., Moret F., Segura R., **Klisz M.**, Martinik A., Monty A., Pino J., van Loo M., Wojda T., Porte A.J., Mariette S., 2021. The seeds of invasion : enhanced germination in invasive European populations of black locust (*Robinia pseudoacacia* L.) compared to native American populations. *Plant Biol.* 1–12. doi:10.1111/plb.13332
  15. Muffler L., Schmeddes J., Weigel R., Barbeta A., Beil I., Bolte A., Buhk C., Holm S., Klein G., **Klisz M.**, Löf M., Peñuelas J., Schneider L., Vitasse Y., Kreyling J., Lancaster L., 2021. High plasticity in germination and establishment success in the dominant forest tree *Fagus sylvatica* across Europe. *Global Ecology and Biogeography*. DOI: 10.1111/geb.13320
  16. **Klisz M.**, Puchałka R., Netsvetov, M., Prokopuk Y., Vítková M., Sádlo J., Matisons R., Mionskowski M., Chakraborty D., Olszewski P., Wojda T., Koprowski M. 2021. Variability in climate-growth reaction of *Robinia pseudoacacia* in Eastern Europe indicates potential for acclimatisation to future climate. *Forest Ecology and Management* 492, 119194. <https://doi.org/10.1016/j.foreco.2021.119194>
  17. Solla A., Moreno G., Malewski T., Jung T., **Klisz M.**, Siebyla M., Andrea P., Cubera E., Hrynyk H., Szulc W., Rutkowska B., Antonio J., Belbahri L., Oszako T., 2021. Forest Ecology and Management Phosphite spray for the control of oak decline induced by *Phytophthora* in Europe. *For. Ecol. Manage.* 485, 118938. <https://doi.org/10.1016/j.foreco.2021.118938>
  18. Weigel R., Henry H.A.L., Beil I., Gebauer G., Jurasinski G., **Klisz M.**, Maaten E. Van Der, Muffler L., Kreyling J., 2021. Ecosystem Processes Show Uniform Sensitivity to Winter Soil Temperature Change Across a Gradient from Central to Cold Marginal Stands of a Major Temperate Forest Tree. *Ecosystems* 24. doi:10.1007/s10021-021-00600-4
  19. Guo X., **Klisz M.**, Puchałka R., Silvestro R., Faubert P., Belien E., Huang J., Rossi S., 2021 Common-garden experiment reveals clinal trends of bud phenology in black spruce populations from a latitudinal gradient in the boreal forest. *Journal of Ecology* <https://doi.org/10.1111/1365-2745.13582>
  20. Puchałka R., Dyderski M.K., Vítková M., Sádlo J., **Klisz M.**, Netsvetov M., Prokopuk Y., Matisons R., Mionskowski M., Wojda T., Koprowski M., Jagodziński A.M., 2020 Black locust

- (*Robinia pseudoacacia* L.) range contraction and expansion in Europe under changing climate. *Glob. Chang. Biol.* 26, 15486. doi:10.1111/gcb.15486
21. Loulier J., Lefort F., Stocki M., Asztemborska M., Szmigielski R., Siwek K., Grzywacz T., Hsiang T., Slusarski S., Oszako T., **Klisz M.**, Tarakowski R., Nowakowska J. A. 2020 Detection of Fungi and Oomycetes by Volatiles Using E-Nose and SPME-GC/MS Platforms. *Molecules* 2020, 25, 5749; doi:10.3390/molecules25235749
  22. Silvestro, R., Brasseur, S., **Klisz, M.**, Mencuccini, M., Rossi, S. 2020 Forest Ecology and Management Bioclimatic distance and performance of apical shoot extension : Disentangling the role of growth rate and duration in ecotypic differentiation. *Forest Ecology and Management* 477, 118483. doi:10.1016/j.foreco.2020.118483
  23. Henry, H. A. L., Kreyling, J., Gebauer, G., **Klisz, M.**, Weigel, R. 2020 <sup>15</sup>N tracer enrichment in response to winter soil temperature manipulation differs between canopy trees and juveniles. *Trees*, (0123456789). <https://doi.org/10.1007/s00468-020-02003-9>
  24. Muffler L., Weigel R., Hackett-pain A. J., **Klisz M.**, Maaten E. Van Der, Wilmking M., Kreyling J., Maaten-theunissen M. Van Der. 2020 Lowest drought sensitivity and decreasing growth synchrony towards the dry distribution margin of European beech. *Journal of Biogeography*, 47, 13884. <https://doi.org/10.1111/jbi.13884>
  25. Nicolescu V-N., Rédei K., Mason W. L., Vor T., Pöetzelsberger E., Bastien J-C., Brus R., Benčať T., Đodan M., Cvjetkovic B., Andrašev S., La Porta N., Lavnyy V., Mandžukovski D., Petkova K., Roženberger D., Wąsik R. , Mohren G. M. J., Monteverdi M. C., Musch B., **Klisz M.**, Perić S., Keça L., Bartlett D., Hernea C., Pástor M. 2020 Ecology, growth and management of black locust (*Robinia pseudoacacia* L.), a non-native species integrated into European forests. *Journal of Forest Research* <https://doi.org/10.1007/s11676-020-01116-8>
  26. Harvey J. E., Smiljanić M., Scharnweber T., Buras A., Cedro A., Cruz-Garcia R., Drobyshv I., Janecka K., Jansons Ā., Kaczka R., **Klisz M.**, Läänelaid A., Matisons R., Muffler L., Sohar K., Spyt B., Stolz J., van der Maaten E., van der Maaten-Theunissen M., Vitas A., Weigel R., Kreyling J., Wilmking M. 2019 Tree growth influenced by warming winter climate and summer moisture availability in northern temperate forests. *Global Change Biology* <https://doi-org.prxy4.ursus.maine.edu/10.1111/gcb.14966>
  27. Netsvetov, M., Prokopuk, Y., Puchałka, R., Koprowski, **M.**, **Klisz, M.**, Romenskyy, M. 2019 River regulation causes rapid changes in relationships between floodplain oak growth and environmental variables. *Frontiers in Plant Science* 10:96 doi: 10.3389/fpls.2019.00096
  28. **Klisz, M.**, Puchałka, R., Wilczyński, S., Kantorowicz, W., Jabłoński, T., Kowalczyk, J. 2019 The Effect of Insect Defoliations and Seed Production on the Dynamics of Radial Growth



Synchrony among Scots Pine *Pinus sylvestris* L. Provenances. *Forests* 10(934) doi: 10.3390/f10100934

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