

List of publications in peer-reviewed journals (last edit: 07.01.2019)

- (1) Acton W. J. F., Jud W., Ghirardo A., Wohlfahrt G., Hewitt C. N., Taylor J. E., Hansel A. (2018) The effect of ozone fumigation on the biogenic volatile organic compounds (BVOCs) emitted from *Brassica napus* above- and below-ground. *PLoS ONE* **13**, e0208825, doi: 10.1371/journal.pone.0208825.
- (2) Barba J., Cueva A., Bahn M., Barron-Gafford G. A., Bond-Lamberty B., Hanson P. J., Jaimes A., Kulmala L., Pumpanen J., Scott R. L., Wohlfahrt G., Vargas R. (2018) Comparing ecosystem and soil respiration: Review and key challenges of tower-based and soil measurements. *Agricultural and Forest Meteorology* **249**, 434-443, doi: 10.1016/j.agrformet.2017.10.028.
- (3) Carotenuto F., Gualtieri G., Miglietta F., Riccio A., Toscano P., Wohlfahrt G., Gioli B. (2018) Industrial point source CO₂ emission strength estimation with aircraft measurements and dispersion modelling. *Environmental Monitoring and Assessment* **190**, 165, doi: 10.1007/s10661-018-6531-8.
- (4) Castelli M., Anderson M. C., Yang Y., Wohlfahrt G., Bertoldi G., Niedrist G., Hammerle A., Zhao P., Zebisch M., Notarnicola C. (2018) Two-source energy balance modeling of evapotranspiration in Alpine grasslands. *Remote Sensing of Environment* **209**, 327-342, doi: 10.1016/j.rse.2018.02.062.
- (5) Djukic I., Kepfer-Rojas S., Schmidt I. K., Larsen K. S., Beier C., Berg B., Verheyen K., Caliman A., Paquette A., Gutiérrez-Girón A., Humber A., Valdecantos A., Petraglia A., Alexander H., Augustaitis A., Saillard A., Fernández A. C. R., Sousa A. I., Lillebø A. I., da Rocha Gripp A., Francez A.-J., Fischer A., Bohner A., Malyshev A., Andrić A., Smith A., Stanisci A., Seres A., Schmidt A., Avila A., Probst A., Ouin A., Khuroo A. A., Verstraeten A., Palabral-Aguilera A. N., Stefanski A., Gaxiola A., Muys B., Bosman B., Ahrends B., Parker B., Sattler B., Yang B., Juráni B., Erschbamer B., Ortiz C. E. R., Christiansen C. T., Carol Adair E., Meredieu C., Mony C., Nock C. A., Chen C.-L., Wang C.-P., Baum C., Rixen C., Delire C., Piscart C., Andrews C., Rebmann C., Branquinho C., Polyanskaya D., Delgado D. F., Wundram D., Radeideh D., Ordóñez-Regil E., Crawford E., Preda E., Tropina E., Groner E., Lucot E., Hornung E., Gacia E., Lévesque E., Benedito E., Davydov E. A., Ampoorter E., Bolzan F. P., Varela F., Kristöfel F., Maestre F. T., Maunoury-Danger F., Hofhansl F., Kitz F., Sutter F., Cuesta F., de Almeida Lobo F., de Souza F. L., Berninger F., Zehetner F., Wohlfahrt G., Vourlitis G., Carreño-Rocabado G., Arena G., Pinha G. D., González G., Canut G., Lee H., Verbeeck H., Auge H., Pauli H., Nacro H. B., Bahamonde H. A., Feldhaar H., Jäger H., Serrano H. C., Verheyden H., Bruelheide H., Meesenburg H., Jungkunst H., Jactel H., Shibata H., Kurokawa H., Rosas H. L., Rojas Villalobos H. L., Yesilonis I., Melece I., Van Halder I., Quirós I. G., Makelele I., Senou I., Fekete I., Mihal I., Ostonen I., Borovská J., Roales J., Shoqeir J., Lata J.-C., Theurillat J.-P., Probst J.-L., Zimmerman J., Vijayanathan J., Tang J., Thompson J., Doležal J., Sanchez-Cabeza J.-A., Merlet J., Henschel J., Neiryneck J., Knops J., Loehr J., von Oppen J., Þorlákssdóttir J. S., Löffler J., Cardoso-Mohedano J.-G., Benito-Alonso J.-L., Torezan J. M., Morina J. C., Jiménez J. J., Quinde J. D., Alatalo J., Seeber J., Stadler J., Kriiska K., Coulibaly K., Fukuzawa K., Szlavecz K., Gerhátová K., Lajtha K., Käppeler K., Jennings K. A., Tielbörger K., Hoshizaki K., Green K., Yé L., Pazianoto L. H. R., Dienstbach L., Williams L., Yahdjian L., Brigham L. M., van den Brink L., Rustad L., Zhang L., Morillas L., Xiankai L., Carneiro L. S., Di Martino L., Villar L., Bader M. Y., Morley M., Lebouvier M., Tomaselli M., Sternberg M., Schaub M., Santos-Reis M., Glushkova M., Torres M. G. A., Giroux M.-A., de Graaff M.-A., Pons M.-N., Bauters M., Mazón M., Frenzel M., Didion M., Wagner M., Hamid M., Lopes M. L., Apple M., Schädler M., Weih M., Gualmini M., Vadeboncoeur M. A., Bierbaumer M., Danger M., Liddell M., Mirtl M., Scherer-Lorenzen M., Růžek M., Carbognani M., Di Musciano M., Matsushita M., Zhiyanski M., Puşcaş M., Barna M., Ataka M., Jiangming M., Alsafran M., Carnol M., Barsoum N., Tokuchi N., Eisenhauer N., Lecomte N., Filippova N., Hölzel N., Ferlian O., Romero O., Pinto Jr O. B., Peri P., Weber P., Vittoz P., Turtureanu P. D., Fleischer P., Macreadie P., Haase P., Reich P., Petřík P., Choler P., Marmonier P., Muriel P., Ponette Q., Guariento R. D., Canessa R., Kiese R., Hewitt R., Rønn R., Adrian R., Kanka R., Weigel R., Gatti R. C., Martins R. L., Georges R., Meneses R. I., Gavilán R. G., Dasgupta S., Wittlinger S., Puijalon S., Freda S., Suzuki

- S., Charles S., Gogo S., Drollinger S., Mereu S., Wipf S., Trevathan-Tackett S., Löfgren S., Stoll S., Trogisch S., Hoerber S., Seitz S., Glatzel S., Milton S. J., Dousset S., Mori T., Sato T., Ise T., Hishi T., Kenta T., Nakaji T., Michelan T. S., Camboulive T., Mozdzer T. J., Scholten T., Spiegelberger T., Zechmeister T., Kleinebecker T., Hiura T., Enoki T., Ursu T.-M., di Cella U. M., Hamer U., Klaus V. H., Rêgo V. M., Di Cecco V., Busch V., Fontana V., Piscová V., Carbonell V., Ochoa V., Bretagnolle V., Maire V., Farjalla V., Zhou W., Luo W., McDowell W. H., Hu Y., Utsumi Y., Kominami Y., Zaika Y., Rozhkov Y., Kotroczo Z., Tóth Z. (2018) Early stage litter decomposition across biomes. *Science of The Total Environment* **628–629**, 1369-1394, doi: 10.1016/j.scitotenv.2018.01.012.
- (6) El-Madany T. S., Reichstein M., Perez-Priego O., Carrara A., Moreno G., Pilar Martín M., Pacheco-Labrador J., Wohlfahrt G., Nieto H., Weber U., Kolle O., Luo Y.-P., Carvalhais N., Migliavacca M. (2018) Drivers of spatio-temporal variability of carbon dioxide and energy fluxes in a Mediterranean savanna ecosystem. *Agricultural and Forest Meteorology* **262**, 258-278, doi: 10.1016/j.agrformet.2018.07.010.
- (7) Franz D., Acosta M., Altimir N., Arriga N., Arrouays D., Aubinet M., Aurela M., Ayres E., López-Ballesteros A., Barbaste M., Berveiller D., Biraud S., Boukir H., Brown T., Brümmer C., Buchmann N., Burba G., Carrara A., Cescatti A., Ceschia E., Clement R., Cremonese E., Crill P., Darenova E., Dengel S., D’Odorico P., Filippa G., Fleck S., Fratini G., Fuß R., Gielen B., Gogo S., Grace J., Graf A., Grelle A., Gross P., Grünwald T., Haapanala S., Hehn M., Heinesch B., Heiskanen J., Herbst M., Herschlein C., Hörtnagl L., Hufkens K., Ibrom A., Jolivet C., Joly L., Jones M., Kiese R., Klemedtsson L., Kljun N., Klumpp K., Kolari P., Kolle O., Kowalski A., Kutsch W., Laurila T., de Ligne A., Linder S., Lindroth A., Lohila A., Longdoz B., Mammarella I., Manise T., Jiménez S. M., Matteucci G., Mauder M., Meier P., Merbold L., Mereu S., Metzger S., Migliavacca M., Mölder M., Montagnani L., Moureaux C., Nelson D., Nemitz E., Nicolini G., Nilsson M. B., de Beeck M. O., Osborne B., Löfvenius M. O., Pavelka M., Peichl M., Peltola O., Pihlatie M., Pitacco A., Pokorný R., Pumpanen J., Ratié C., Rebmann C., Roland M., Sabbatini S., Saby N. P. A., Saunders M., Schmid H. P., Schruppf M., Sedlák P., Ortiz P. S., Siebicke L., Šigut L., Silvennoinen H., Simioni G., Skiba U., Sonnentag O., Soudani K., Soulé P., Steinbrecher R., Tallec T., Thimonier A., Tuittila E.-S., Tuovinen J.-P., Vestin P., Vincent G., Vincke C., Vitale D., Waldner P., Weslien P., Wingate L., Wohlfahrt G., Zahniser M., Vesala T. (2018) Towards long-term standardised carbon and greenhouse gas observations for monitoring Europe’s terrestrial ecosystems: a review. *International Agrophysics* **32**, 439-455, doi: 10.1515/intag-2017-0039.
- (8) Gielen B., Acosta M., Altimir N., Buchmann N., Cescatti A., Ceschia E., Fleck S., Hörtnagl L., Klumpp K., Kolari P., Lohila A., Loustau D., Marañon-Jimenez S., Manise T., Matteucci G., Merbold L., Metzger C., Moureaux C., Montagnani L., Nilsson M. B., Osborne B., Papale D., Pavelka M., Saunders M., Simioni G., Soudani K., Sonnentag O., Tallec T., Tuittila E.-S., Peichl M., Pokorny R., Vincke C., Wohlfahrt G. (2018) Ancillary vegetation measurements at ICOS ecosystem stations. *International Agrophysics* **32**, 645-664, doi: 10.1515/intag-2017-0048.
- (9) Karl T., Striednig M., Graus M., Hammerle A., Wohlfahrt G. (2018) Urban flux measurements reveal a large pool of oxygenated volatile organic compound emissions. *Proceedings of the National Academy of Sciences*, doi: 10.1073/pnas.1714715115.
- (10) Pighini S., Ventura M., Miglietta F., Wohlfahrt G. (2018) Dissolved greenhouse gas concentrations in 40 lakes in the Alpine area. *Aquatic Sciences* **80**, doi: 10.1007/s00027-018-0583-2.
- (11) Rebmann C., Aubinet M., Schmid H., Arriga N., Aurela M., Burba G., Clement R., De Ligne A., Fratini G., Gielen B., Grace J., Graf A., Gross P., Haapanala S., Herbst M., Hörtnagl L., Ibrom A., Joly L., Kljun N., Kolle O., Kowalski A., Lindroth A., Loustau D., Mammarella I., Mauder M., Merbold L., Metzger S., Mölder M., Montagnani L., Papale D., Pavelka M., Peichl M., Roland M., Serrano-Ortiz P., Siebicke L., Steinbrecher R., Tuovinen J.-P., Vesala T., Wohlfahrt G., Franz D. (2018) ICOS eddy covariance flux-station site setup: a review. *International Agrophysics* **32**, 471-494, doi: 10.1515/intag-2017-0044.

- (12) Scholz K., Hammerle A., Hiltbrunner E., Wohlfahrt G. (2018) Analyzing the Effects of Growing Season Length on the Net Ecosystem Production of an Alpine Grassland Using Model–Data Fusion. *Ecosystems* **21**, 982-999, doi: 10.1007/s10021-017-0201-5.
- (13) Stoy P. C., Peitzsch E., Wood D., Rottinghaus D., Wohlfahrt G., Goulden M., Ward H. (2018) On the exchange of sensible and latent heat between the atmosphere and melting snow. *Agricultural and Forest Meteorology* **252**, 167-174, doi: 10.1016/j.agrformet.2018.01.028.
- (14) von Buttlar J., Zscheischler J., Rammig A., Sippel S., Reichstein M., Knohl A., Jung M., Menzer O., Arain M. A., Buchmann N., Cescatti A., Gianelle D., Kiely G., Law B. E., Magliulo V., Margolis H., McCaughey H., Merbold L., Migliavacca M., Montagnani L., Oechel W., Pavelka M., Peichl M., Rambal S., Raschi A., Scott R. L., Vaccari F. P., van Gorsel E., Varlagin A., Wohlfahrt G., Mahecha M. D. (2018) Impacts of droughts and extreme-temperature events on gross primary production and ecosystem respiration: a systematic assessment across ecosystems and climate zones. *Biogeosciences* **15**, 1293-1318, doi: 10.5194/bg-15-1293-2018.
- (15) Whelan M. E., Lennartz S. T., Gimeno T. E., Wehr R., Wohlfahrt G., Wang Y., Kooijmans L. M. J., Hilton T. W., Belviso S., Peylin P., Commane R., Sun W., Chen H., Kuai L., Mammarella I., Maseyk K., Berkelhammer M., Li K.-F., Yakir D., Zumkehr A., Katayama Y., Ogée J., Spielmann F. M., Kitz F., Rastogi B., Kesselmeier J., Marshall J., Erkkilä K.-M., Wingate L., Meredith L. K., He W., Bunk R., Launois T., Vesala T., Schmidt J. A., Fichot C. G., Seibt U., Saleska S., Saltzman E. S., Montzka S. A., Berry J. A., Campbell J. E. (2018) Reviews and syntheses: Carbonyl sulfide as a multi-scale tracer for carbon and water cycles. *Biogeosciences* **15**, 3625-3657, doi: 10.5194/bg-15-3625-2018.
- (16) Widmoser P., Wohlfahrt G. (2018) Attributing the energy imbalance by concurrent lysimeter and eddy covariance evapotranspiration measurements. *Agricultural and Forest Meteorology* **263**, 287-291, doi: 10.1016/j.agrformet.2018.09.003.
- (17) Wohlfahrt G., Gerdel K., Migliavacca M., Rotenberg E., Tatarinov F., Müller J., Hammerle A., Julitta T., Spielmann F. M., Yakir D. (2018) Sun-induced fluorescence and gross primary productivity during a heat wave. *Scientific Reports* **8**, doi: 10.1038/s41598-018-32602-z.
- (18) Zhang Y., Xiao X., Wolf S., Wu J., Wu X., Gioli B., Wohlfahrt G., Cescatti A., van der Tol C., Zhou S., Gough C. M., Gentile P., Zhang Y., Steinbrecher R., Ardö J. (2018) Spatio-Temporal Convergence of Maximum Daily Light-Use Efficiency Based on Radiation Absorption by Canopy Chlorophyll. *Geophysical Research Letters* **45**, 3508-3519, doi: 10.1029/2017gl076354.
- (19) Zhang Y., Xiao X., Zhang Y., Wolf S., Zhou S., Joiner J., Guanter L., Verma M., Sun Y., Yang X., Paul-Limoges E., Gough C. M., Wohlfahrt G., Gioli B., van der Tol C., Yann N., Lund M., de Grandcourt A. (2018) On the relationship between sub-daily instantaneous and daily total gross primary production: Implications for interpreting satellite-based SIF retrievals. *Remote Sensing of Environment* **205**, 276-289, doi: 10.1016/j.rse.2017.12.009.
- (20) Zhang Z., Zhang R., Zhou Y., Cescatti A., Wohlfahrt G., Sun M., Zhang H., Qi J., Zhu J., Magliulo V., Tao F., Chen G. (2018) A temperature threshold to identify the driving climate forces of the respiratory process in terrestrial ecosystems. *European Journal of Soil Biology* **89**, 1-8, doi: 10.1016/j.ejsobi.2018.08.001.
- (21) Zhao P., Hammerle A., Zeeman M., Wohlfahrt G. (2018) On the calculation of daytime CO₂ fluxes measured by automated closed transparent chambers. *Agricultural and Forest Meteorology* **263**, 267-275, doi: 10.1016/j.agrformet.2018.08.022.
- (22) Ahrar M., Doneva D., Tattini M., Brunetti C., Gori A., Rodeghiero M., Wohlfahrt G., Biasioli F., Varotto C., Loreto F., Velikova V. (2017) Phenotypic differences determine drought stress responses in ecotypes of *Arundo donax* adapted to different environments. *Journal of Experimental Botany* **68**, 2439-2451, doi: 10.1093/jxb/erx125.
- (23) Bamberger I., Ruehr N. K., Schmitt M., Gast A., Wohlfahrt G., Arneth A. (2017) Isoprene emission and photosynthesis during heatwaves and drought in black locust. *Biogeosciences* **14**, 3649-3667, doi: 10.5194/bg-14-3649-2017.
- (24) Campbell J., Kesselmeier J., Yakir D., Berry J., Peylin P., Belviso S., Vesala T., Maseyk K., Seibt U., Chen H., Whelan M., Hilton T., Montzka S., Berkelhammer M., Lennartz S., Kuai L., Wohlfahrt

- G., Wang Y., Blake N., Blake D., Stinecipher J., Baker I., Sitch S. (2017) Assessing a New Clue to How Much Carbon Plants Take Up. *EOS*, doi: 10.1029/2017eo075313.
- (25) Carotenuto F., Georgiadis T., Gioli B., Leyronas C., Morris C. E., Nardino M., Wohlfahrt G., Miglietta F. (2017) Measurements and modeling of surface-atmosphere exchange of microorganisms in Mediterranean grassland. *Atmospheric Chemistry and Physics* **17**, 14919-14936, doi: 10.5194/acp-17-14919-2017.
- (26) Fu Z., Stoy P. C., Luo Y., Chen J., Sun J., Montagnani L., Wohlfahrt G., Rahman A. F., Rambal S., Bernhofer C., Wang J., Shirkey G., Niu S. (2017) Climate controls over the net carbon uptake period and amplitude of net ecosystem production in temperate and boreal ecosystems. *Agricultural and Forest Meteorology* **243**, 9-18, doi: 10.1016/j.agrformet.2017.05.009.
- (27) Galvagno M., Wohlfahrt G., Cremonese E., Filippa G., Migliavacca M., Mora di Cella U., van Gorsel E. (2017) Contribution of advection to nighttime ecosystem respiration at a mountain grassland in complex terrain. *Agricultural and Forest Meteorology* **237-238**, 270-281, doi: 10.1016/j.agrformet.2017.02.018.
- (28) Gerdel K., Spielmann F. M., Hammerle A., Wohlfahrt G. (2017) Eddy covariance carbonyl sulfide flux measurements with a quantum cascade laser absorption spectrometer. *Atmospheric Measurement Techniques* **10**, 3525-3537, doi: 10.5194/amt-10-3525-2017.
- (29) Karl T., Graus M., Striednig M., Lamprecht C., Hammerle A., Wohlfahrt G., Held A., von der Heyden L., Deventer M. J., Krismer A., Haun C., Feichter R., Lee J. (2017) Urban eddy covariance measurements reveal significant missing NO_x emissions in Central Europe. *Scientific Reports* **7**, doi: 10.1038/s41598-017-02699-9.
- (30) Kitz F., Gerdel K., Hammerle A., Laterza T., Spielmann F. M., Wohlfahrt G. (2017) In situ soil CO₂ exchange of a temperate mountain grassland under simulated drought. *Oecologia* **183**, 851-860, doi: 10.1007/s00442-016-3805-0.
- (31) Wohlfahrt G. (2017) Bi-directional CO₂ exchange in bryophytes challenges its use as a tracer for gross primary productivity. *New Phytologist* **215**, 923-925, doi: 10.1111/nph.14658.
- (32) Wohlfahrt G., Galvagno M. (2017) Revisiting the choice of the driving temperature for eddy covariance CO₂ flux partitioning. *Agricultural and Forest Meteorology* **237-238**, 135-142, doi: 10.1016/j.agrformet.2017.02.012.
- (33) Yao Y., Liang S., Li X., Zhang Y., Chen J., Jia K., Zhang X., Fisher J. B., Wang X., Zhang L., Xu J., Shao C., Posse G., Li Y., Magliulo V., Varlagin A., Moors E. J., Boike J., Macfarlane C., Kato T., Buchmann N., Billesbach D. P., Beringer J., Wolf S., Papuga S. A., Wohlfahrt G., Montagnani L., Ardö J., Paul-Limoges E., Emmel C., Hörtnagl L., Sachs T., Gruening C., Gioli B., López-Ballesteros A., Steinbrecher R., Gielen B. (2017) Estimation of high-resolution terrestrial evapotranspiration from Landsat data using a simple Taylor skill fusion method. *Journal of Hydrology* **553**, 508-526, doi: 10.1016/j.jhydrol.2017.08.013.
- (34) Zhang Z., Zhang R., Cescatti A., Wohlfahrt G., Buchmann N., Zhu J., Chen G., Moyano F., Pumpanen J., Hirano T., Takagi K., Merbold L. (2017) Effect of climate warming on the annual terrestrial net ecosystem CO₂ exchange globally in the boreal and temperate regions. *Scientific Reports* **7**, 3108, doi: 10.1038/s41598-017-03386-5.
- (35) Desai A. R., Wohlfahrt G., Zeeman M. J., Katata G., Eugster W., Montagnani L., Gianelle D., Mauder M., Schmid H. P. (2016) Montane ecosystem productivity responds more to global circulation patterns than climatic trends. *Environmental Research Letters* **11**, 024013, doi: 10.1088/1748-9326/11/2/024013.
- (36) Jud W., Fischer L., Canaval E., Wohlfahrt G., Tissier A., Hansel A. (2016) Plant surface reactions: an opportunistic ozone defence mechanism impacting atmospheric chemistry. *Atmospheric Chemistry and Physics* **16**, 277-292, doi: 10.5194/acp-16-277-2016.
- (37) Musavi T., Migliavacca M., van de Weg M. J., Kattge J., Wohlfahrt G., van Bodegom P. M., Reichstein M., Bahn M., Carrara A., Domingues T. F., Gavazzi M., Gianelle D., Gimeno C., Granier A., Gruening C., Havránková K., Herbst M., Hrynkiv C., Kalhori A., Kaminski T., Klumpp K., Kolari P., Longdoz B., Minerbi S., Montagnani L., Moors E., Oechel W. C., Reich P. B., Rohatyn S., Rossi A., Rotenberg E., Varlagin A., Wilkinson M., Wirth C., Mahecha M. D. (2016)

- Potential and limitations of inferring ecosystem photosynthetic capacity from leaf functional traits. *Ecology and Evolution* **6**, 7352-7366, doi: 10.1002/ece3.2479.
- (38) Spielmann F. M., Langebner S., Ghirardo A., Hansel A., Schnitzler J.-P., Wohlfahrt G. (2016) Isoprene and α -pinene deposition to grassland mesocosms. *Plant and Soil* **410**, 313-322, doi: 10.1007/s11104-016-3009-8.
- (39) Verma M., Fisher J., Mallick K., Ryu Y., Kobayashi H., Guillaume A., Moore G., Ramakrishnan L., Hendrix V., Wolf S., Sikka M., Kiely G., Wohlfahrt G., Gielen B., Rouspard O., Toscano P., Arain A., Cescatti A. (2016) Global Surface Net-Radiation at 5 km from MODIS Terra. *Remote Sensing* **8**, 739, doi: 10.3390/rs8090739.
- (40) Wohlfahrt G., Hammerle A., Niedrist G., Scholz K., Tomelleri E., Zhao P. (2016) On the energy balance closure and net radiation in complex terrain. *Agricultural and Forest Meteorology* **226-227**, 37-49, doi: 10.1016/j.agrformet.2016.05.012.
- (41) Yao Y., Liang S., Li X., Liu S., Chen J., Zhang X., Jia K., Jiang B., Xie X., Munier S., Liu M., Yu J., Lindroth A., Varlagin A., Raschi A., Noormets A., Pio C., Wohlfahrt G., Sun G., Domec J.-C., Montagnani L., Lund M., Eddy M., Blanken P. D., Grünwald T., Wolf S., Magliulo V. (2016) Assessment and simulation of global terrestrial latent heat flux by synthesis of CMIP5 climate models and surface eddy covariance observations. *Agricultural and Forest Meteorology* **223**, 151-167, doi: 10.1016/j.agrformet.2016.03.016.
- (42) Zhou Y., Wu X., Ju W., Chen J. M., Wang S., Wang H., Yuan W., Andrew Black T., Jassal R., Ibrom A., Han S., Yan J., Margolis H., Rouspard O., Li Y., Zhao F., Kiely G., Starr G., Pavelka M., Montagnani L., Wohlfahrt G., D'Odorico P., Cook D., Arain M. A., Bonal D., Beringer J., Blanken P. D., Loubet B., Leclerc M. Y., Matteucci G., Nagy Z., Olejnik J., Paw U K. T., Varlagin A. (2016) Global parameterization and validation of a two-leaf light use efficiency model for predicting gross primary production across FLUXNET sites. *Journal of Geophysical Research: Biogeosciences* **121**, 1045-1072, doi: 10.1002/2014jg002876.
- (43) Ahrar M., Doneva D., Koleva D., Romano A., Rodeghiero M., Tsonev T., Biasioli F., Stefanova M., Peeva V., Wohlfahrt G., Loreto F., Varotto C., Velikova V. (2015) Isoprene emission in the monocot Arundineae tribe in relation to functional and structural organization of the photosynthetic apparatus. *Environmental and Experimental Botany* **119**, 87-95, doi: 10.1016/j.envexpbot.2015.04.010.
- (44) Algarra Alarcon A., Lazazzara V., Cappellin L., Bianchedi P. L., Schuhmacher R., Wohlfahrt G., Pertot I., Biasioli F., Perazzolli M. (2015) Emission of volatile sesquiterpenes and monoterpenes in grapevine genotypes following *Plasmopara viticola* inoculation in vitro. *Journal of Mass Spectrometry* **50**, 1013-1022, doi: 10.1002/jms.3615.
- (45) Balzarolo M., Vescovo L., Hammerle A., Gianelle D., Papale D., Tomelleri E., Wohlfahrt G. (2015) On the relationship between ecosystem-scale hyperspectral reflectance and CO₂ exchange in European mountain grasslands. *Biogeosciences* **12**, 3089-3108, doi: 10.5194/bg-12-3089-2015.
- (46) Berninger F., Susiluoto S., Gianelle D., Bahn M., Wohlfahrt G., Sutton M., J. G.-P., Gimeno C., Sanz M. J., Dore S., Rogiers N., Furger m., Eugster W., Balzarolo M., Sebastiá M. T., Tenhunen J., Staszewski T., Cernusca A. (2015) Management and site effects on carbon balances of European mountain meadows and rangelands. *Boreal Environment Research* **20**, 748-760, doi: 10.1007/s10236-015-0003-3.
- (47) Jiang B., Zhang Y., Liang S., Wohlfahrt G., Arain A., Cescatti A., Georgiadis T., Jia K., Kiely G., Lund M., Montagnani L., Magliulo V., Ortiz P. S., Oechel W., Vaccari F. P., Yao Y., Zhang X. (2015) Empirical estimation of daytime net radiation from shortwave radiation and ancillary information. *Agricultural and Forest Meteorology* **211-212**, 23-36, doi: 10.1016/j.agrformet.2015.05.003.
- (48) Mallick K., Jarvis A., Wohlfahrt G., Kiely G., Hirano T., Miyata A., Yamamoto S., Hoffmann L. (2015) Components of near-surface energy balance derived from satellite soundings – Part 1: Noontime net available energy. *Biogeosciences* **12**, 433-451, doi: 10.5194/bg-12-433-2015.
- (49) Merbold L., Wohlfahrt G., Butterbach-Bahl K., Pilegaard K., DelSontro T., Stoy P., Zona D. (2015) Preface: Towards a full greenhouse gas balance of the biosphere. *Biogeosciences* **12**, 453-456, doi: 10.5194/bg-12-453-2015.

- (50) Migliavacca M., Reichstein M., Richardson A. D., Mahecha M. D., Cremonese E., Delpierre N., Galvagno M., Law B. E., Wohlfahrt G., Black T. A., Carvalhais N., Ceccherini G., Chen J., Gobron N., Koffi E., Munger J. W., Perez-Priego O., Robustelli M., Tomelleri E., Cescatti A. (2015) Influence of physiological phenology on the seasonal pattern of ecosystem respiration in deciduous forests. *Global Change Biology* **21**, 363-376, doi: 10.1111/gcb.12671.
- (51) Papale D., Black T. A., Carvalhais N., Cescatti A., Chen J., Jung M., Kiely G., Lasslop G., Mahecha M. D., Margolis H., Merbold L., Montagnani L., Moors E., Olesen J. E., Reichstein M., Tramontana G., van Gorsel E., Wohlfahrt G., Ráduly B. (2015) Effect of spatial sampling from European flux towers for estimating carbon and water fluxes with artificial neural networks. *Journal of Geophysical Research: Biogeosciences* **120**, 1941-1957, doi: 10.1002/2015JG002997.
- (52) Pasolli L., Asam S., Castelli M., Bruzzone L., Wohlfahrt G., Zebisch M., Notarnicola C. (2015) Retrieval of Leaf Area Index in mountain grasslands in the Alps from MODIS satellite imagery. *Remote Sensing of Environment* **165**, 159-174, doi: 10.1016/j.rse.2015.04.027.
- (53) Pierce A. M., Moore C. W., Wohlfahrt G., Hörtnagl L., Kljun N., Obrist D. (2015) Eddy Covariance Flux Measurements of Gaseous Elemental Mercury Using Cavity Ring-Down Spectroscopy. *Environmental Science & Technology* **49**, 1559-1568, doi: 10.1021/es505080z.
- (54) van Dijk A. I. J. M., Gash J. H., van Gorsel E., Blanken P. D., Cescatti A., Emmel C., Gielen B., Harman I. N., Kiely G., Merbold L., Montagnani L., Moors E., Sottocornola M., Varlagin A., Williams C. A., Wohlfahrt G. (2015) Rainfall interception and the coupled surface water and energy balance. *Agricultural and Forest Meteorology* **214–215**, 402-415, doi: 10.1016/j.agrformet.2015.09.001.
- (55) Verma M., Friedl M. A., Law B. E., Bonal D., Kiely G., Black T. A., Wohlfahrt G., Moors E. J., Montagnani L., Marcolla B., Toscano P., Varlagin A., Roupsard O., Cescatti A., Arain M. A., D'Odorico P. (2015) Improving the performance of remote sensing models for capturing intra- and inter-annual variations in daily GPP: An analysis using global FLUXNET tower data. *Agricultural and Forest Meteorology* **214–215**, 416-429, doi: 10.1016/j.agrformet.2015.09.005.
- (56) Wingate L., Ogée J., Cremonese E., Filippa G., Mizunuma T., Migliavacca M., Moisy C., Wilkinson M., Moureaux C., Wohlfahrt G., Hammerle A., Hörtnagl L., Gimeno C., Porcar-Castell A., Galvagno M., Nakaji T., Morison J., Kolle O., Knohl A., Kutsch W., Kolari P., Nikinmaa E., Ibrom A., Gielen B., Eugster W., Balzarolo M., Papale D., Klumpp K., Köstner B., Grünwald T., Joffre R., Ourcival J. M., Hellstrom M., Lindroth A., George C., Longdoz B., Genty B., Levula J., Heinesch B., Sprintsin M., Yakir D., Manise T., Guyon D., Ahrends H., Plaza-Aguilar A., Guan J. H., Grace J. (2015) Interpreting canopy development and physiology using a European phenology camera network at flux sites. *Biogeosciences* **12**, 5995-6015, doi: 10.5194/bg-12-5995-2015.
- (57) Wohlfahrt G., Amelynck C., Ammann C., Arneth A., Bamberger I., Goldstein A. H., Gu L., Guenther A., Hansel A., Heinesch B., Holst T., Hörtnagl L., Karl T., Laffineur Q., Neftel A., McKinney K., Munger J. W., Pallardy S. G., Schade G. W., Seco R., Schoon N. (2015) An ecosystem-scale perspective of the net land methanol flux: synthesis of micrometeorological flux measurements. *Atmospheric Chemistry and Physics* **15**, 7413-7427, doi: 10.5194/acp-15-7413-2015.
- (58) Wohlfahrt G., Gu L. (2015) The many meanings of gross photosynthesis and their implication for photosynthesis research from leaf to globe. *Plant, Cell & Environment* **38**, 2500-2507, doi: 10.1111/pce.12569.
- (59) Wohlfahrt G., Tasser E. (2015) A mobile system for quantifying the spatial variability of the surface energy balance: design and application. *International Journal of Biometeorology* **59**, 617-627, doi: 10.1007/s00484-014-0875-8.
- (60) Xia J., Niu S., Ciais P., Janssens I. A., Chen J., Ammann C., Arain A., Blanken P. D., Cescatti A., Bonal D., Buchmann N., Curtis P. S., Chen S., Dong J., Flanagan L. B., Frankenberg C., Georgiadis T., Gough C. M., Hui D., Kiely G., Li J., Lund M., Magliulo V., Marcolla B., Merbold L., Montagnani L., Moors E. J., Olesen J. E., Piao S., Raschi A., Roupsard O., Suyker A. E., Urbaniak M., Vaccari F. P., Varlagin A., Vesala T., Wilkinson M., Weng E., Wohlfahrt G., Yan L., Luo Y. (2015) Joint control of terrestrial gross primary productivity by plant phenology and

- physiology. *Proceedings of the National Academy of Sciences* **112**, 2788-2793, doi: 10.1073/pnas.1413090112.
- (61) Bamberger I., Hoertnagl L., Walser M., Hansel A., Wohlfahrt G. (2014) Gap-filling strategies for annual VOC flux data sets. *Biogeosciences* **11**, 2429-2442, doi: 10.5194/bg-11-2429-2014.
 - (62) Della Chiesa S., Bertoldi G., Niedrist G., Obojes N., Endrizzi S., Albertson J. D., Wohlfahrt G., Hörtnagl L., Tappeiner U. (2014) Modelling changes in grassland hydrological cycling along an elevational gradient in the Alps. *Ecohydrology* **7**, 1453-1473, doi: 10.1002/eco.1471.
 - (63) Hörtnagl L., Bamberger I., Graus M., Ruuskanen T. M., Schnitzhofer R., Walser M., Unterberger A., Hansel A., Wohlfahrt G. (2014) Acetaldehyde exchange above a managed temperate mountain grassland. *Atmospheric Chemistry and Physics* **14**, 5369-5391, doi: 10.5194/acp-14-5369-2014.
 - (64) Hörtnagl L., Wohlfahrt G. (2014) Methane and nitrous oxide exchange over a managed hay meadow. *Biogeosciences* **11**, 7219-7236, doi: 10.5194/bg-11-7219-2014.
 - (65) Mallick K., Jarvis A., Wohlfahrt G., Kiely G., Hirano T., Miyata A., Yamamoto S., Hoffmann L. (2014) Components of near-surface energy balance derived from satellite soundings - Part 2: Noontime latent heat flux. *Biogeosciences* **11**, 7369-7382, doi: 10.5194/bg-11-7369-2014.
 - (66) Parazoo N. C., Bowman K., Fisher J. B., Frankenberg C., Jones D. B. A., Cescatti A., Perez-Priego O., Wohlfahrt G., Montagnani L. (2014) Terrestrial gross primary production inferred from satellite fluorescence and vegetation models. *Global Change Biology* **20**, 3103-3121, doi: 10.1111/gcb.12652.
 - (67) Rotach M. W., Wohlfahrt G., Hansel A., Reif M., Wagner J., Gohm A. (2014) The World is Not Flat: Implications for the Global Carbon Balance. *Bulletin of the American Meteorological Society* **95**, 1021-1028, doi: 10.1175/bams-d-13-00109.1.
 - (68) Song B., Niu S., Luo R., Luo Y., Chen J., Yu G., Olejnik J., Wohlfahrt G., Kiely G., Noormets A., Montagnani L., Cescatti A., Magliulo V., Law B. E., Lund M., Varlagin A., Raschi A., Peichl M., Nilsson M. B., Merbold L. (2014) Divergent apparent temperature sensitivity of terrestrial ecosystem respiration. *Journal of Plant Ecology* **7**, 419-428, doi: 10.1093/jpe/rtu014.
 - (69) Verma M., Friedl M. A., Richardson A. D., Kiely G., Cescatti A., Law B. E., Wohlfahrt G., Gielen B., Roupsard O., Moors E. J., Toscano P., Vaccari P., Gianelle D., Bohrer G., Varlagin A., Buchmann N., van Gorsel E., Montagnani L., Propastin P. (2014) Remote sensing of annual terrestrial gross primary productivity from MODIS: an assessment using the FLUXNET La Thuile data set. *Biogeosciences* **11**, 2185-2200, doi: 10.5194/bg-11-2185-2014.
 - (70) Walker A. P., Beckerman A. P., Gu L., Kattge J., Cernusak L. A., Domingues T. F., Scales J. C., Wohlfahrt G., Wullschlegel S. D., Woodward F. I. (2014) The relationship of leaf photosynthetic traits - V_{cmax} and J_{max} - to leaf nitrogen, leaf phosphorus, and specific leaf area: a meta-analysis and modeling study. *Ecology and Evolution* **4**, 3218-3235, doi: 10.1002/ece3.1173.
 - (71) Yuan W., Cai W., Liu S., Dong W., Chen J., Arain M. A., Blanken P. D., Cescatti A., Wohlfahrt G., Georgiadis T., Genesio L., Gianelle D., Grelle A., Kiely G., Knohl A., Liu D., Marek M. V., Merbold L., Montagnani L., Panferov O., Peltoniemi M., Rambal S., Raschi A., Varlagin A., Xia J. (2014) Vegetation-specific model parameters are not required for estimating gross primary production. *Ecological Modelling* **292**, 1-10, doi: 10.1016/j.ecolmodel.2014.08.017.
 - (72) Yuan W., Cai W., Xia J., Chen J., Liu S., Dong W., Merbold L., Law B., Arain A., Beringer J., Bernhofer C., Black A., Blanken P. D., Cescatti A., Chen Y., Francois L., Gianelle D., Janssens I. A., Jung M., Kato T., Kiely G., Liu D., Marcolla B., Montagnani L., Raschi A., Roupsard O., Varlagin A., Wohlfahrt G. (2014) Global comparison of light use efficiency models for simulating terrestrial vegetation gross primary production based on the La Thuile database. *Agricultural and Forest Meteorology* **192**, 108-120, doi: 10.1016/j.agrformet.2014.03.007.
 - (73) Chen J., Chen B., Black T. A., Innes J. L., Wang G., Kiely G., Hirano T., Wohlfahrt G. (2013) Comparison of terrestrial evapotranspiration estimates using the mass transfer and Penman-Monteith equations in land surface models. *Journal of Geophysical Research-Biogeosciences* **118**, 1715-1731, doi: 10.1002/2013JG002446.
 - (74) Galvagno M., Wohlfahrt G., Cremonese E., Rossini M., Colombo R., Filippa G., Julitta T., Manca G., Siniscalco C., di Cella U. M., Migliavacca M. (2013) Phenology and carbon dioxide

- source/sink strength of a subalpine grassland in response to an exceptionally short snow season. *Environmental Research Letters* **8**, doi: 10.1088/1748-9326/8/2/025008.
- (75) Peichl M., Sonnentag O., Wohlfahrt G., Flanagan L. B., Baldocchi D. D., Kiely G., Galvagno M., Gianelle D., Marcolla B., Pio C., Migliavacca M., Jones M. B., Saunders M. (2013) Convergence of potential net ecosystem production among contrasting C₃ grasslands. *Ecology Letters* **16**, 502-512, doi: 10.1111/ele.12075.
- (76) Reyer C. P., Leuzinger S., Rammig A., Wolf A., Bartholomeus R. P., Bonfante A., de Lorenzi F., Dury M., Gloning P., Abou Jaoude R., Klein T., Kuster T. M., Martins M., Niedrist G., Riccardi M., Wohlfahrt G., de Angelis P., de Dato G., Francois L., Menzel A., Pereira M. (2013) A plant's perspective of extremes: terrestrial plant responses to changing climatic variability. *Global Change Biology* **19**, 75-89, doi: 10.1111/gcb.12023.
- (77) Wohlfahrt G., Cremonese E., Hammerle A., Hoertnagl L., Galvagno M., Gianelle D., Marcolla B., di Cella U. M. (2013) Trade-offs between global warming and day length on the start of the carbon uptake period in seasonally cold ecosystems. *Geophysical Research Letters* **40**, 6136-6142, doi: 10.1002/2013GL058182.
- (78) Wohlfahrt G., Widmoser P. (2013) Can an energy balance model provide additional constraints on how to close the energy imbalance? *Agricultural and Forest Meteorology* **169**, 85-91, doi: 10.1016/j.agrformet.2012.10.006.
- (79) Brilli F., Hoertnagl L., Bamberger I., Schnitzhofer R., Ruuskanen T. M., Hansel A., Loreto F., Wohlfahrt G. (2012) Qualitative and Quantitative Characterization of Volatile Organic Compound Emissions from Cut Grass. *Environmental Science & Technology* **46**, 3859-3865, doi: 10.1021/es204025y.
- (80) Lasslop G., Migliavacca M., Bohrer G., Reichstein M., Bahn M., Ibrom A., Jacobs C., Kolari P., Papale D., Vesala T., Wohlfahrt G., Cescatti A. (2012) On the choice of the driving temperature for eddy-covariance carbon dioxide flux partitioning. *Biogeosciences* **9**, 5243-5259, doi: 10.5194/bg-9-5243-2012.
- (81) Niu S., Luo Y., Fei S., Yuan W., Schimel D., Law B. E., Ammann C., Arain M. A., Arneth A., Aubinet M., Barr A., Beringer J., Bernhofer C., Black T. A., Buchmann N., Cescatti A., Chen J., Davis K. J., Dellwik E., Desai A. R., Etzold S., Francois L., Gianelle D., Gielen B., Goldstein A., Groenendijk M., Gu L., Hanan N., Helfter C., Hirano T., Hollinger D. Y., Jones M. B., Kiely G., Kolb T. E., Kutsch W. L., Lafleur P., Lawrence D. M., Li L., Lindroth A., Litvak M., Loustau D., Lund M., Marek M., Martin T. A., Matteucci G., Migliavacca M., Montagnani L., Moors E., Munger J. W., Noormets A., Oechel W., Olejnik J., U K. T. P., Pilegaard K., Rambal S., Raschi A., Scott R. L., Seufert G., Spano D., Stoy P., Sutton M. A., Varlagin A., Vesala T., Weng E., Wohlfahrt G., Yang B., Zhang Z., Zhou X. (2012) Thermal optimality of net ecosystem exchange of carbon dioxide and underlying mechanisms. *New Phytologist* **194**, 775-783, doi: 10.1111/j.1469-8137.2012.04095.x.
- (82) Vescovo L., Wohlfahrt G., Balzarolo M., Piloni S., Sottocornola M., Rodeghiero M., Gianelle D. (2012) New spectral vegetation indices based on the near-infrared shoulder wavelengths for remote detection of grassland phytomass. *International Journal of Remote Sensing* **33**, 2178-2195, doi: 10.1080/01431161.2011.607195.
- (83) Williams C. A., Reichstein M., Buchmann N., Baldocchi D., Beer C., Schwalm C., Wohlfahrt G., Hasler N., Bernhofer C., Foken T., Papale D., Schymanski S., Schaefer K. (2012) Climate and vegetation controls on the surface water balance: Synthesis of evapotranspiration measured across a global network of flux towers. *Water Resources Research* **48**, doi: 10.1029/2011WR011586.
- (84) Wohlfahrt G., Brilli F., Hoertnagl L., Xu X., Bingemer H., Hansel A., Loreto F. (2012) Carbonyl sulfide (COS) as a tracer for canopy photosynthesis, transpiration and stomatal conductance: potential and limitations. *Plant Cell and Environment* **35**, 657-667, doi: 10.1111/j.1365-3040.2011.02451.x.
- (85) Balzarolo M., Anderson K., Nichol C., Rossini M., Vescovo L., Arriga N., Wohlfahrt G., Calvet J.-C., Carrara A., Cerasoli S., Cogliati S., Daumard F., Eklundh L., Elbers J. A., Evrendilek F., Handcock R. N., Kaduk J., Klumpp K., Longdoz B., Matteucci G., Meroni M., Montagnani L.,

- Ourcival J.-M., Sanchez-Canete E. P., Pontailler J.-Y., Juszcak R., Scholes B., Pilar Martin M. (2011) Ground-Based Optical Measurements at European Flux Sites: A Review of Methods, Instruments and Current Controversies. *Sensors* **11**, 7954-7981, doi: 10.3390/s110807954.
- (86) Bamberger I., Hoernagl L., Ruuskanen T. M., Schnitzhofer R., Mueller M., Graus M., Karl T., Wohlfahrt G., Hansel A. (2011) Deposition fluxes of terpenes over grassland. *Journal of Geophysical Research-Atmospheres* **116**, doi: 10.1029/2010JD015457.
- (87) Brilli F., Hoernagl L., Hammerle A., Haslwanter A., Hansel A., Loreto F., Wohlfahrt G. (2011) Leaf and ecosystem response to soil water availability in mountain grasslands. *Agricultural and Forest Meteorology* **151**, 1731-1740, doi: 10.1016/j.agrformet.2011.07.007.
- (88) Brilli F., Ruuskanen T. M., Schnitzhofer R., Mueller M., Breitenlechner M., Bittner V., Wohlfahrt G., Loreto F., Hansel A. (2011) Detection of Plant Volatiles after Leaf Wounding and Darkening by Proton Transfer Reaction "Time-of-Flight" Mass Spectrometry (PTR-TOF). *PLoS ONE* **6**, doi: 10.1371/journal.pone.0020419.
- (89) Groenendijk M., Dolman A. J., Ammann C., Arneth A., Cescatti A., Dragoni D., Gash J. H. C., Gianelle D., Gioli B., Kiely G., Knohl A., Law B. E., Lund M., Marcolla B., van der Molen M. K., Montagnani L., Moors E., Richardson A. D., Rouspard O., Verbeeck H., Wohlfahrt G. (2011) Seasonal variation of photosynthetic model parameters and leaf area index from global Fluxnet eddy covariance data. *Journal of Geophysical Research-Biogeosciences* **116**, doi: 10.1029/2011JG001742.
- (90) Groenendijk M., Dolman A. J., van der Molen M. K., Leuning R., Arneth A., Delpierre N., Gash J. H. C., Lindroth A., Richardson A. D., Verbeeck H., Wohlfahrt G. (2011) Assessing parameter variability in a photosynthesis model within and between plant functional types using global Fluxnet eddy covariance data. *Agricultural and Forest Meteorology* **151**, 22-38, doi: 10.1016/j.agrformet.2010.08.013.
- (91) Hoernagl L., Bamberger I., Graus M., Ruuskanen T. M., Schnitzhofer R., Mueller M., Hansel A., Wohlfahrt G. (2011) Biotic, abiotic, and management controls on methanol exchange above a temperate mountain grassland. *Journal of Geophysical Research-Biogeosciences* **116**, doi: 10.1029/2011JG001641.
- (92) Migliavacca M., Reichstein M., Richardson A. D., Colombo R., Sutton M. A., Lasslop G., Tomelleri E., Wohlfahrt G., Carvalhais N., Cescatti A., Mahecha M. D., Montagnani L., Papale D., Zaehle S., Arain A., Arneth A., Black T. A., Carrara A., Dore S., Gianelle D., Helfter C., Hollinger D., Kutsch W. L., Lafleur P. M., Nouvellon Y., Rebmann C., da Rocha H. R., Rodeghiero M., Rouspard O., Sebastia M.-T., Seufert G., Soussana J.-F., van der Molen M. K. (2011) Semiempirical modeling of abiotic and biotic factors controlling ecosystem respiration across eddy covariance sites. *Global Change Biology* **17**, 390-409, doi: 10.1111/j.1365-2486.2010.02243.x.
- (93) Noe S. M., Kimmel V., Hueve K., Copolovici L., Portillo-Estrada M., Puettssepp U., Jogiste K., Niinemets U., Hoernagl L., Wohlfahrt G. (2011) Ecosystem-scale biosphere-atmosphere interactions of a hemiboreal mixed forest stand at Jarvelja, Estonia. *Forest Ecology and Management* **262**, 71-81, doi: 10.1016/j.foreco.2010.09.013.
- (94) Ruuskanen T. M., Mueller M., Schnitzhofer R., Karl T., Graus M., Bamberger I., Hoernagl L., Brilli F., Wohlfahrt G., Hansel A. (2011) Eddy covariance VOC emission and deposition fluxes above grassland using PTR-TOF. *Atmospheric Chemistry and Physics* **11**, 611-625, doi: 10.5194/acp-11-611-2011.
- (95) Wang T., Ciais P., Piao S. L., Otlé C., Brender P., Maignan F., Arain A., Cescatti A., Gianelle D., Gough C., Gu L., Lafleur P., Laurila T., Marcolla B., Margolis H., Montagnani L., Moors E., Saigusa N., Vesala T., Wohlfahrt G., Koven C., Black A., Dellwik E., Don A., Hollinger D., Knohl A., Monson R., Munger J., Suyker A., Varlagin A., Verma S. (2011) Controls on winter ecosystem respiration in temperate and boreal ecosystems. *Biogeosciences* **8**, 2009-2025, doi: 10.5194/bg-8-2009-2011.
- (96) Bamberger I., Hörtnagl L., Schnitzhofer R., Graus M., Ruuskanen T. M., Müller M., Dunkl J., Wohlfahrt G., Hansel A. (2010) BVOC fluxes above mountain grassland. *Biogeosciences* **7**, 1413-1424, doi: 10.5194/bg-7-1413-2010.

- (97) Hoertnagl L., Clement R., Graus M., Hammerle A., Hansel A., Wohlfahrt G. (2010) Dealing with disjunct concentration measurements in eddy covariance applications: A comparison of available approaches. *Atmospheric Environment* **44**, 2024-2032, doi: 10.1016/j.atmosenv.2010.02.042.
- (98) Lasslop G., Reichstein M., Papale D., Richardson A. D., Arneth A., Barr A., Stoy P., Wohlfahrt G. (2010) Separation of net ecosystem exchange into assimilation and respiration using a light response curve approach: critical issues and global evaluation. *Global Change Biology* **16**, 187-208, doi: 10.1111/j.1365-2486.2009.02041.x.
- (99) Müller M., Graus M., Ruuskanen T. M., Schnitzhofer R., Bamberger I., Kaser L., Titzmann T., Hörtnagl L., Wohlfahrt G., Karl T., Hansel A. (2010) First eddy covariance flux measurements by PTR-TOF. *Atmospheric Measurement Techniques* **3**, 387-395, doi: 10.5194/amt-3-387-2010.
- (100) Schmitt M., Bahn M., Wohlfahrt G., Tappeiner U., Cernusca A. (2010) Land use affects the net ecosystem CO₂ exchange and its components in mountain grasslands. *Biogeosciences* **7**, 2297-2309, doi: 10.5194/bg-7-2297-2010.
- (101) Teuling A. J., Seneviratne S. I., Stoeckli R., Reichstein M., Moors E., Ciais P., Luyssaert S., van den Hurk B., Ammann C., Bernhofer C., Dellwik E., Gianelle D., Gielen B., Gruenwald T., Klumpp K., Montagnani L., Moureaux C., Sottocornola M., Wohlfahrt G. (2010) Contrasting response of European forest and grassland energy exchange to heatwaves. *Nature Geoscience* **3**, 722-727, doi: 10.1038/NNGEO950.
- (102) Wohlfahrt G., Irschick C., Thalinger B., Hoertnagl L., Obojes N., Hammerle A. (2010) Insights from Independent Evapotranspiration Estimates for Closing the Energy Balance: A Grassland Case Study. *Vadose Zone Journal* **9**, 1025-1033, doi: 10.2136/vzj2009.0158.
- (103) Wohlfahrt G., Pilloni S., Hoertnagl L., Hammerle A. (2010) Estimating carbon dioxide fluxes from temperate mountain grasslands using broad-band vegetation indices. *Biogeosciences* **7**, 683-694, doi:
- (104) Yi C., Ricciuto D., Li R., Wolbeck J., Xu X., Nilsson M., Aires L., Albertson J. D., Ammann C., Arain M. A., de Araujo A. C., Aubinet M., Aurela M., Barcza Z., Barr A., Berbigier P., Beringer J., Bernhofer C., Black A. T., Bolstad P. V., Bosveld F. C., Broadmeadow M. S. J., Buchmann N., Burns S. P., Cellier P., Chen J., Chen J., Ciais P., Clement R., Cook B. D., Curtis P. S., Dail D. B., Dellwik E., Delpierre N., Desai A. R., Dore S., Dragoni D., Drake B. G., Dufrene E., Dunn A., Elbers J., Eugster W., Falk M., Feigenwinter C., Flanagan L. B., Foken T., Frank J., Fuhrer J., Gianelle D., Goldstein A., Goulden M., Granier A., Gruenwald T., Gu L., Guo H., Hammerle A., Han S., Hanan N. P., Haszpra L., Heinesch B., Helfter C., Hendriks D., Hutley L. B., Ibrom A., Jacobs C., Johansson T., Jongen M., Katul G., Kiely G., Klumpp K., Knohl A., Kolb T., Kutsch W. L., Lafleur P., Laurila T., Leuning R., Lindroth A., Liu H., Loubet B., Manca G., Marek M., Margolis H. A., Martin T. A., Massman W. J., Matamala R., Matteucci G., McCaughey H., Merbold L., Meyers T., Migliavacca M., Miglietta F., Misson L., Moelder M., Moncrieff J., Monson R. K., Montagnani L., Montes-Helu M., Moors E., Moureaux C., Mukelabai M. M., Munger J. W., Myklebust M., Nagy Z., Noormets A., Oechel W., Oren R., Pallardy S. G., Kyaw T. P. U., Pereira J. S., Pilegaard K., Pinter K., Pio C., Pita G., Powell T. L., Rambal S., Randerson J. T., von Randow C., Rebmann C., Rinne J., Rossi F., Roulet N., Ryel R. J., Sagerfors J., Saigusa N., Sanz M. J., Mugnozza G.-S., Schmid H. P., Seufert G., Siqueira M., Soussana J.-F., Starr G., Sutton M. A., Tenhunen J., Tuba Z., Tuovinen J.-P., Valentini R., Vogel C. S., Wang J., Wang S., Wang W., Welp L. R., Wen X., Wharton S., Wilkinson M., Williams C. A., Wohlfahrt G., Yamamoto S., Yu G., Zampedri R., Zhao B., Zhao X. (2010) Climate control of terrestrial carbon exchange across biomes and continents. *Environmental Research Letters* **5**, doi: 10.1088/1748-9326/5/3/034007.
- (105) Beer C., Ciais P., Reichstein M., Baldocchi D., Law B. E., Papale D., Soussana J.-F., Ammann C., Buchmann N., Frank D., Gianelle D., Janssens I. A., Knohl A., Koestner B., Moors E., Rouspard O., Verbeeck H., Vesala T., Williams C. A., Wohlfahrt G. (2009) Temporal and among-site variability of inherent water use efficiency at the ecosystem level. *Global Biogeochemical Cycles* **23**, doi: 10.1029/2008GB003233.

- (106) Haslwanter A., Hammerle A., Wohlfahrt G. (2009) Open-path vs. closed-path eddy covariance measurements of the net ecosystem carbon dioxide and water vapour exchange: A long-term perspective. *Agricultural and Forest Meteorology* **149**, 291-302, doi: 10.1016/j.agrformet.2008.08.011.
- (107) Stoy P. C., Richardson A. D., Baldocchi D. D., Katul G. G., Stanovick J., Mahecha M. D., Reichstein M., Detto M., Law B. E., Wohlfahrt G., Arriga N., Campos J., McCaughey J. H., Montagnani L., U K. T. P., Sevanto S., Williams M. (2009) Biosphere-atmosphere exchange of CO₂ in relation to climate: a cross-biome analysis across multiple time scales. *Biogeosciences* **6**, 2297-2312, doi:
- (108) Tenhunen J., Geyer R., Adiku S., Reichstein M., Tappeiner U., Bahn M., Cernusca A., Dinh N. Q., Kolcun O., Lohila A., Otieno D., Schmidt M., Schmitt M., Wang Q., Waringer M., Wohlfahrt G. (2009) Influences of changing land use and CO₂ concentration on ecosystem and landscape level carbon and water balances in mountainous terrain of the Stubai Valley, Austria. *Global and Planetary Change* **67**, 29-43, doi: 10.1016/j.gloplacha.2008.12.010.
- (109) Teuling A. J., Hirschi M., Ohmura A., Wild M., Reichstein M., Ciais P., Buchmann N., Ammann C., Montagnani L., Richardson A. D., Wohlfahrt G., Seneviratne S. I. (2009) A regional perspective on trends in continental evaporation. *Geophysical Research Letters* **36**, doi: 10.1029/2008GL036584.
- (110) Wohlfahrt G., Haslwanter A., Hoertnagl L., Jasoni R. L., Fenstermaker L. F., Arnone J. A., III, Hammerle A. (2009) On the consequences of the energy imbalance for calculating surface conductance to water vapour. *Agricultural and Forest Meteorology* **149**, 1556-1559, doi: 10.1016/j.agrformet.2009.03.015.
- (111) Wohlfahrt G., Hoertnagl L., Hammerle A., Graus M., Hansel A. (2009) Measuring eddy covariance fluxes of ozone with a slow-response analyser. *Atmospheric Environment* **43**, 4570-4576, doi: 10.1016/j.atmosenv.2009.06.031.
- (112) Bahn M., Rodeghiero M., Anderson-Dunn M., Dore S., Gimeno C., Droesler M., Williams M., Ammann C., Berninger F., Flechard C., Jones S., Balzarolo M., Kumar S., Newesely C., Priwitzer T., Raschi A., Siegwolf R., Susiluoto S., Tenhunen J., Wohlfahrt G., Cernusca A. (2008) Soil Respiration in European Grasslands in Relation to Climate and Assimilate Supply. *Ecosystems* **11**, 1352-1367, doi: 10.1007/s10021-008-9198-0.
- (113) Cernusca A., Bahn M., Berninger F., Tappeiner U., Wohlfahrt G. (2008) Effects of Land-Use Changes on Sources, Sinks and Fluxes of Carbon in European Mountain Grasslands PREFACE. *Ecosystems* **11**, 1335-1337, doi: 10.1007/s10021-008-9202-8.
- (114) Fritsche J., Wohlfahrt G., Ammann C., Zeeman M., Hammerle A., Obrist D., Alewell C. (2008) Summertime elemental mercury exchange of temperate grasslands on an ecosystem-scale. *Atmospheric Chemistry and Physics* **8**, 7709-7722, doi:
- (115) Hammerle A., Haslwanter A., Tappeiner U., Cernusca A., Wohlfahrt G. (2008) Leaf area controls on energy partitioning of a temperate mountain grassland. *Biogeosciences* **5**, 421-431, doi: 10.5194/bg-5-421-2008.
- (116) Wieser G., Hammerle A., Wohlfahrt G. (2008) The water balance of grassland ecosystems in the Austrian Alps. *ARCTIC ANTARCTIC AND ALPINE RESEARCH* **40**, 439-445, doi: 10.1657/1523-0430(07-039)[WIESER]2.0.CO;2.
- (117) Wohlfahrt G., Anderson-Dunn M., Bahn M., Balzarolo M., Berninger F., Campbell C., Carrara A., Cescatti A., Christensen T., Dore S., Eugster W., Friborg T., Furger M., Gianelle D., Gimeno C., Hargreaves K., Hari P., Haslwanter A., Johansson T., Marcolla B., Milford C., Nagy Z., Nemitz E., Rogiers N., Sanz M. J., Siegwolf R. T. W., Susiluoto S., Sutton M., Tuba Z., Ugolini F., Valentini R., Zorer R., Cernusca A. (2008) Biotic, Abiotic, and Management Controls on the Net Ecosystem CO₂ Exchange of European Mountain Grassland Ecosystems. *Ecosystems* **11**, 1338-1351, doi: 10.1007/s10021-008-9196-2.
- (118) Wohlfahrt G., Fenstermaker L. F., Arnone J. A., III. (2008) Large annual net ecosystem CO₂ uptake of a Mojave Desert ecosystem. *Global Change Biology* **14**, 1475-1487, doi: 10.1111/j.1365-2486.2008.01593.x.

- (119) Wohlfahrt G., Hammerle A., Haslwanter A., Bahn M., Tappeiner U., Cernusca A. (2008) Disentangling leaf area and environmental effects on the response of the net ecosystem CO₂ exchange to diffuse radiation. *Geophysical Research Letters* **35**, doi: 10.1029/2008GL035090.
- (120) Wohlfahrt G., Hammerle A., Haslwanter A., Bahn M., Tappeiner U., Cernusca A. (2008) Seasonal and inter-annual variability of the net ecosystem CO₂ exchange of a temperate mountain grassland: Effects of weather and management. *Journal of Geophysical Research-Atmospheres* **113**, doi: 10.1029/2007JD009286.
- (121) Gilmanov T. G., Soussana J. E., Aires L., Allard V., Ammann C., Balzarolo M., Barcza Z., Bernhofer C., Campbell C. L., Cernusca A., Cescatti A., Clifton-Brown J., Dirks B. O. M., Dore S., Eugster W., Fuhrer J., Gimeno C., Gruenwald T., Haszpra L., Hensen A., Ibrom A., Jacobs A. F. G., Jones M. B., Lanigan G., Laurila T., Lohila A., Manca G., Marcolla B., Nagy Z., Pilegaard K., Pinter K., Pio C., Raschi A., Rogiers N., Sanz M. J., Stefani P., Sutton M., Tuba Z., Valentini R., Williams M. L., Wohlfahrt G. (2007) Partitioning European grassland net ecosystem CO₂ exchange into gross primary productivity and ecosystem respiration using light response function analysis. *Agriculture Ecosystems & Environment* **121**, 93-120, doi: 10.1016/j.agee.2006.12.008.
- (122) Hammerle A., Haslwanter A., Schmitt M., Bahn M., Tappeiner U., Cernusca A., Wohlfahrt G. (2007) Eddy covariance measurements of carbon dioxide, latent and sensible energy fluxes above a meadow on a mountain slope. *Boundary-Layer Meteorology* **122**, 397-416, doi: 10.1007/s10546-006-9109-x.
- (123) Wohlfahrt G., Bianchi K., Cernusca A. (2006) Leaf and stem maximum water storage capacity of herbaceous plants in a mountain meadow. *Journal of Hydrology* **319**, 383-390, doi: 10.1016/j.jhydrol.2005.06.036.
- (124) Wohlfahrt G., Anfang C., Bahn M., Haslwanter A., Newesely C., Schmitt M., Drosler M., Pfadenhauer J., Cernusca A. (2005) Quantifying nighttime ecosystem respiration of a meadow using eddy covariance, chambers and modelling. *Agricultural and Forest Meteorology* **128**, 141-162, doi: 10.1016/j.agrformet.2004.11.003.
- (125) Wohlfahrt G., Bahn M., Haslwanter A., Newesely C., Cernusca A. (2005) Estimation of daytime ecosystem respiration to determine gross primary production of a mountain meadow. *Agricultural and Forest Meteorology* **130**, 13-25, doi: 10.1016/j.agrformet.2005.02.001.
- (126) Wohlfahrt G. (2004) Modelling fluxes and concentrations of CO₂, H₂O and sensible heat within and above a mountain meadow canopy: A comparison of three Lagrangian models and three parameterisation options for the Lagrangian time scale. *Boundary-Layer Meteorology* **113**, 43-80, doi: 10.1023/B:BOUN.0000037326.40490.1f.
- (127) Wohlfahrt G., Bahn M., Newesely C., Sapinsky S., Tappeiner U., Cernusca A. (2003) Canopy structure versus physiology effects on net photosynthesis of mountain grasslands differing in land use. *Ecological Modelling* **170**, 407-426, doi: 10.1016/S0304-3800(03)00242-4.
- (128) Wohlfahrt G., Cernusca A. (2002) Momentum transfer by a mountain meadow canopy: A simulation analysis based on Massman's (1997) model. *Boundary-Layer Meteorology* **103**, 391-407, doi: 10.1023/A:1014960912763.
- (129) Wohlfahrt G., Bahn M., Tappeiner U., Cernusca A. (2001) A multi-component, multi-species model of vegetation-atmosphere CO₂ and energy exchange for mountain grasslands. *Agricultural and Forest Meteorology* **106**, 261-287, doi: 10.1016/S0168-1923(00)00224-0.
- (130) Wohlfahrt G., Sapinsky S., Tappeiner U., Cernusca A. (2001) Estimation of plant area index of grasslands from measurements of canopy radiation profiles. *Agricultural and Forest Meteorology* **109**, 1-12, doi: 10.1016/S0168-1923(01)00259-3.
- (131) Wohlfahrt G., Bahn M., Tappeiner U., Cernusca A. (2000) A model of whole plant gas exchange for herbaceous species from mountain grassland sites differing in land use. *Ecological Modelling* **125**, 173-201, doi: 10.1016/S0304-3800(99)00180-5.
- (132) Wohlfahrt G., Bahn M., Cernusca A. (1999) The use of the ratio between the photosynthesis parameters P_{ml} and V_{cmax} for scaling up photosynthesis of C-3 plants from leaves to canopies: A critical examination of different modelling approaches. *Journal of Theoretical Biology* **200**, 163-181, doi: 10.1006/jtbi.1999.0985.

- (133) Wohlfahrt G., Bahn M., Haubner E., Horak I., Michaeler W., Rottmar K., Tappeiner U., Cernusca A. (1999) Inter-specific variation of the biochemical limitation to photosynthesis and related leaf traits of 30 species from mountain grassland ecosystems under different land use. *Plant Cell and Environment* **22**, 1281-1296, doi: 10.1046/j.1365-3040.1999.00479.x.
- (134) Wohlfahrt G., Bahn M., Horak I., Tappeiner U., Cernusca A. (1998) A nitrogen sensitive model of leaf carbon dioxide and water vapour gas exchange: application to 13 key species from differently managed mountain grassland ecosystems. *Ecological Modelling* **113**, 179-199, doi: 10.1016/S0304-3800(98)00143-4.