# Mathias Göckede

## Personal information

**Contact details:** Rosenweg 13
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**Date of birth:** Aug 06, 1974
**Citizenship:** German

**ORCID-ID:** 0000-0003-2833-8401
**Researcher-ID:** C-1027-2017

## Qualifications

**Doctor of natural sciences (2005)**

University of Bayreuth, Germany
Thesis title: Use of footprint methods for the quality control of eddy-covariance measurements
Supervisor: Prof. Dr. Thomas Foken

**Diploma in Geo-Ecology (2000)**

University of Bayreuth, Germany
Thesis title: The wind profile in the lower 100 m of the atmosphere with special consideration of the stability of stratification
Supervisor: Prof. Dr. Thomas Foken

## Employment

**Jan 2012 – present:** Max-Planck-Institute for Biogeochemistry, Jena, Germany
Leader of the research group 'Integrating Surface-Atmosphere Exchange Processes Across Scales - Modeling and Monitoring' within the Department of Biogeochemical Systems.

**Jun 2005 – Dec 2011:** Oregon State University, USA
Postdoctoral Research Associate, Department of Forest Ecosystems & Society.

**Oct 2000 – Jun 2005:** University of Bayreuth, Germany
Research Assistant at the Department of Micro-meteorology.

## Awards

2012: 2-year Young Researcher Scholarship, granted by the AXA Research Fund (€120,000)

2008: CarboEurope-IP Best Paper Award for the publication 'Goeckede et al.: Quality control of CarboEurope flux data - Part 1: Coupling footprint analyses with flux data quality assessment to evaluate sites in forest ecosystems, Biogeosciences 5, 433-450 (2008)'

## Scientific communication

**Publications in internationally reviewed journals:**

34.) Zona, D, Xu, X, Hufkens, K, Gioli, B, Song, X, Burba, G, Kalhori, AAM, Goodrich, JP, Arndt, KA, Liljedahl, A, Euskirchen, E, Watts, JD, Kimball, JS, Heimann, M, **Göckede, M**, Kittler, F, Lund, M, Dolman, AJ, Belelli Marchesini, L, Commane, R, Wofsy, S, Miller, CE, Lipson, DA, Kutzbach, L, Boike, J, Wille, C, Holl, D, Sachs, T, Humphreys, ER, Lafleur, PM, Koven, CD, and Oechel, W (2018): Decreased carbon uptake in dry tundra ecosystems in a warming climate, Nat Clim Change (in review)

33.) Schaller, J, Faucherre, S, Joss, H, Obst, M, **Göckede, M**, Planer-Friedrich, B, Peiffer, S, Gilfedder, B, and Elberling, B (2018): Silicon increases phosphorus availability of Arctic soils, Nat Comm (in review)

32.) Castro-Morales, K, Kleinen, T, Kaiser, S, Zaehle, S, Kittler, F, Kwon, MJ, Beer, C, and **Göckede, M** (2017): Year-round simulated methane emissions from a permafrost ecosystem in Northeast Siberia, Biogeosciences Discuss, 2017, 1-60

31.) Kittler, F, Heimann, M, Kolle, O, Zimov, N, Zimov, S, and **Göckede, M** (2017): Long-term drainage reduces $CO_2$ uptake and $CH_4$ emissions in a Siberian permafrost ecosystem, Glob Biogeochem Cy, 31, 1704-1717

30.) **Göckede, M**, Kittler, F, Kwon, MJ, Burjack, I, Heimann, M, Kolle, O, Zimov, N, and Zimov, S (2017): Shifted energy fluxes, increased Bowen ratios, and reduced thaw depths linked with drainage-induced changes in permafrost ecosystem structure, The Cryosphere, 11, 2975-2996

29.) Kittler, F, Eugster, W, Foken, T, Heimann, M, Kolle, O, and **Göckede, M** (2017): High-quality eddy-covariance $CO_2$ budgets under cold climate conditions, J Geophys Res-Biogeo, 122, 2064-2084

28.) Kwon, MJ, Beulig, F, Wildner, M, Kuesel, K, Kostka, J, Hilke, I, Zimov, N, Zimov, S, Schuur, EAG, Heimann, M, and **Göckede, M** (2017): Plants, microorganisms, and soil temperatures contribute to a decrease in methane fluxes on a drained Arctic floodplain, Global Change Biol, 23, 2396-2412

27.) Schaller, C, **Göckede, M,** and Foken, T (2017): Flux calculation of short turbulent events – comparison of three methods, Atmos Meas Tech, 10, 869-880

26.) Kaiser, S, **Göckede, M,** Castro-Morales, K, Knoblauch, C, Ekici, A, Kleinen, T, Zubrzycki, S, Sachs, T, Wille, C, and Beer, C, (2017): Process-based modelling of the methane balance in periglacial landscapes (JSBACH-Methane), Geosci Model Dev, 10, 333-358

25.) Schmidt, A, Law, BE, **Göckede, M,** Hanson, C, Yang, Z, and Conley, SA, (2016): Bayesian optimization of the Community Land Model simulated biosphere-atmosphere exchange using $CO_2$ observations from a dense tower network and aircraft campaigns over Oregon, Earth Interactions, 20, 1-35

24.) Kittler, F, Burjack, I, Corradi, CAR, Heimann, M, Kolle, O, Merbold, L, Zimov, N, Zimov, S, and **Göckede, M** (2016): Impacts of a decadal drainage disturbance on surface–atmosphere fluxes of carbon dioxide in a permafrost ecosystem, Biogeosciences, 13, 5315-5332

23.) Kwon, MJ, Heimann, M, Kolle, O, Luus, KA, Schuur, EAG, Zimov, N, Zimov, SA, and **Göckede, M** (2016): Long-term drainage reduces $CO_2$ uptake and increases $CO_2$ emission on a Siberian floodplain due to shifts in vegetation community and soil thermal characteristics, Biogeosciences, 13, 4219-4235

22.) Hurry, J, Risk, D, Lavoie, M, Brooks, BG, Phillips, CL, and **Göckede, M** (2016) Atmospheric monitoring and detection of fugitive emissions for enhanced oil recovery. Int J Greenhouse Gas Control 45, 1-8

21.) Schmidt, A, Rella, CW, **Göckede, M**, Hanson, C, Yang, ZL, and Law, BE (2014) Removing traffic emissions from $CO_2$ time series measured at a tall tower using mobile measurements and transport modeling. Atmos Environ 97, 94-108

20.) O'Halloran, T, Law, BE, Goulden, ML, Wang, Z, Barr, JG, Schaaf, C, Brown, M, Fuentes, JD, **Göckede, M**, Black, A, and Engel, V (2012) Radiative forcing of natural forest disturbance. Global Change Biol 18, 555-565

19.) Campioli, M, Gielen, B, **Göckede, M**, Papale, D, Bouriaud, O, and Granier, A (2011) Temporal variability oft the NPP-GPP ratio at seasonal and interannual time scales in a temperate beech forest. Biogeosciences 8, 2481-2492

18.) Turner, D, **Göckede, M**, Law, BE, Ritts, D, Cohen, W, Yang, Z, Hudiburg, T, Kennedy, R, and Duane, M (2011) Multiple Constraint Analysis of Regional Land Surface Carbon Flux. Tellus B 63, 207-221

17.) **Göckede, M,** Turner, D, Michalak, AM, Vickers, D, and Law, BE (2010) Sensitivity of a subregional scale atmospheric **i**nverse $CO_2$ modeling framework to boundary conditions. J Geophys Res-Atmos 115, D24112

16.) **Göckede, M,** Michalak, AM, Vickers, D, Turner, D, and Law, BE (2010) Atmospheric Inverse Modeling to Constrain Regional Scale $CO_2$ Budgets at High Spatial and Temporal Resolution. J Geophys Res-Atmos 115, D15113

15.) Vickers, D, **Göckede, M**, and Law, BE (2010) Uncertainty estimates for 1-hour averaged turbulence fluxes of carbon dioxide, latent heat and sensible heat. Tellus B 62, 87-99

14.) **Göckede, M,** Foken, T, Aubinet, M, Aurela, M, Banza, J, Bernhofer, C, Bonnefond, JM, Brunet, Y, Carrara, A, Clement, R, Dellwik, E, Elbers, J, Eugster, W, Fuhrer, J, Granier, A, Grünwald, T, Heinesch, B, Janssens, IA, Knohl, A, Koeble, R, Laurila, T, Longdoz, B, Manca, G, Marek, M, Markkanen, T, Mateus, J, Matteucci, G, Mauder, M, Migliavacca, M, Minerbi, S, Moncrieff, J, Montagnani, L, Moors, EJ, Ourcival, JM, Papale, D, Pereira, J, Pilegaard, K, Pita, G, Rambal, S, Rebmann, C, Rodrigues, A, Rotenberg, E, Sanz, MJ, Sedlak, P, Seufert, G, Siebicke, L, Soussana, JF, Valentini, R, Vesala, T, Verbeeck, H and Yakir, D (2008) Quality control of CarboEurope flux data. Part I: Coupling footprint analyses with

flux data quality assessment to evaluate sites in forest ecosystems. Biogeosciences 5, 433-450

13.) Knohl, A, Soe, ARB, Kutsch, WL, **Göckede, M** and Buchmann, N (2008) Representative estimates of soil and ecosystem respiration in an old beech forest. Plant and Soil 302, 189-202

12.) Thomas, C, Martin, JG, **Göckede, M**, Siqueira, MB, Foken, T, Law, BE, Loescher, HW and Katul, G (2008) Estimating daytime subcanopy respiration from conditional sampling methods applied to multi-scalar high frequency turbulence time series. Agr Forest Meteorol 148, 1210-1229

11.) **Göckede, M**, Thomas, C, Markkanen, T, Mauder, M, Ruppert, J, Foken, T (2007) Sensitivity of Lagrangian Stochastic footprints to turbulence statistics. Tellus B 59, 577-586

10.) Mauder, M, Liebethal, C, **Göckede, M**, Leps, J-P, Beyrich, F, Foken, T (2006) Processing and quality control of flux data during LITFASS-2003. Boundary-Layer Meteorol 121, 67-88

9.) Metzger, S, Ma, Y, Markkanen, T, **Göckede, M**, Li, M, Foken, T (2006) Quality assessment of Tibetan Plateau Eddy Covariance measurements utilizing footprint modeling. Adv Earth Sci 21, 1260-1267

8.) **Göckede, M**, Markkanen, T, Hasager, CB, Foken, T (2006) Update of a footprint-based approach for the characterisation of complex measurement sites. Boundary-Layer Meteorol 118, 635-655

7.) **Göckede, M**, Markkanen, T, Mauder, M, Arnold, K, Leps, J-P, Foken, T (2005) Validation of footprint models using natural tracer measurements from a field experiment. Agric For Meteorol 135, 314-325

6.) Raabe, A, Arnold, K, Ziemann, A, Beyrich, F, Leps, J-P, Bange, J, Zittel, P, Spiess, T, Foken, T, **Göckede, M**, Schroeter, M, Raasch, S (2005) STINHO – Structure of turbulent transport under inhomogeneous surface conditions – Part 1: The micro-alpha scale field experiment. Meteorol Zeitschrift 14, 315-327

5.) Rebmann, C, **Göckede, M**, Foken, T, Aubinet, M, Aurela, M, Berbigier, P, Bernhofer, C, Buchmann, N, Carrara, A, Cescatti, A, Ceulemans, R, Clement, R, Elbers, JA, Granier, A, Grünwald, T, Guyon, D, Havránková, K, Heinesch, B, Knohl, A, Laurila, T, Longdoz, B, Marcolla, B, Markkanen, T, Miglietta, F, Moncrieff, JB, Montagnani, L, Moors, E, Nardino, M, Ourcival, J-M, Rambal, S, Rannik, Ü, Rotenberg, E, Sedlak, P, Unterhuber, G, Vesala, T (2005) Quality analysis applied on eddy covariance measurements at complex forest sites using footprint modelling. Theor Appl Climatol 80, 121-141

4.) Reithmaier, L, **Göckede, M**, Markkanen, T, Knohl, A, Churkina, G, Rebmann, C, Buchmann, N, Foken, T (2005) Use of remotely sensed land use classification for a better evaluation of micrometeorological flux measurement sites. Theor Appl Climatol 84, 219-233

3.) Reth, S, **Göckede, M**, Falge, E (2005) $CO_2$ efflux from agricultural soils in Eastern Germany - comparison of a closed chamber system with eddy covariance measurements. Theor Appl Climatol 80, 105-120

2.) **Göckede, M**, Rebmann, C, Foken, T (2004) A combination of quality assessment tools for eddy covariance measurements with footprint modelling for the characterisation of complex sites. Agric For Meteorol 127: 175-188

1.) Beyrich, F, Richter, SH, Weisensee, U, Kohsiek, W, Lohse, H, DeBruin, HAR, Foken, T, **Göckede, M**, Berger, FH, Vogt, R, Batchvarova, E (2002) Experimental determination of turbulent fluxes over the heterogeneous LITFASS area: Selected results from the LITFASS-98 experiment. Theor Appl Climatol 73: 19-34

**Book sections or other manuscripts:**

6.) Foken T, **Göckede M**, Lüers J, Siebicke L, Rebmann C, Ruppert J and Thomas CK (2017) Development of flux data quality tools. In: Foken T (ed.), Energy and Matter Fluxes of a Spruce Forest Ecosystem, Ecological Studies Vol. 229. Springer, Berlin, Heidelberg.

5.) Rannik Ü, Sogachev A, Foken T, **Göckede M**, Kljun N, Leclerc MY, and Vesala T (2012) Footprint Analysis. In: Aubinet M, Vesala T and Papale D (Eds.), Eddy Covariance - A Practical Guide to Measurement and Data Analysis. Springer, pp 211-262

4.) Bernhofer, C, Köstner, B, Arnold, K, Atashfaraz, S, Bange, J, Baums, A B, Berger, FH, Beyrich, F, Butterbach-Bahl, K, Brüggemann, E, Brüggemann, N, Dämmgen, U, Falge, E, Feigenwinter, C, Fischer, B, Foken, T, **Göckede, M**, Goldberg, V, Gravenhorst, G, Grüner, A, Grünwald, T, Haggagy, M, Herrmann, H, Herold, M, Imbery, F, Ibrom, A, Kesik, M, Letzel, M O, Li, C, Liebethal, C, Lohse, H, Matschullat, J, Matzarakis, A, Mauder, M, Mayer, H, Miehle, P, Oltchev, A, Pleßow, K, Queck, R, Raabe, A, Raasch, S, Reth, S, Rost, J, Schaaf, S, Schröter, M, Schwiebus, A, Spieß, T, Spindler, G, Stiller, B, Tenhunen, JD, Vogt, R, Wagner, M, Weigel, HJ, Ziemann, A, Zimmermann, F, Zittel, P (2005) Vertical transports of energy and trace gases at anchor stations and their spatial and temporal extrapolation under complex natural conditions. Results of the German Atmospheric Research Programme - AFO 2000, pp 68-90

3.) Foken, T, **Göckede, M**, Mauder, M, Mahrt, L, Amiro, BD, Munger, JW (2004) Post-field data quality control. In: Lee, X, Massman, WJ, Law, BE (Eds), Handbook of Micrometeorology: A guide for Surface Flux Measurements. Kluwer Academic Publishers, Dordrecht, pp 181-208

2.) **Göckede, M** (2004) Adoption of footprint methods for the quality control of eddy-covariance measurements. PhD thesis, Department of Micrometeorology, University of Bayreuth, Germany, 193 pp

1.) Rebmann, C, Anthoni, P, Falge, E, **Göckede, M**, Mangold, A, Subke, J-A, Thomas, C, Wichura, B, Schulze, ED, Tenhunen, JD, Foken, T (2004) Carbon budget of a spruce forest ecosystem. In: Matzner, E (Ed), Biogeochemistry of forested catchments in a changing environment, Ecological Studies, Vol. 172. Springer, Berlin, Heidelberg, New York, pp 143-160

## Presentations

**Presentations at international scientific meetings and conferences (last 5 years):**

August 2017 10th International Conference on Carbon Dioxide (ICDC10), Interlaken,

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| | Switzerland (poster presentation) |
| May 2017 | International symposium on 'The Northern Hemisphere Carbon Sink – Facts and Fiction', Jena, Germany (poster presentations) |
| February 2017 | Arctic Flux and CRUCIAL workshop, Hyytiälä, Finland (oral presentation) |
| December 2016 | 2014 Fall Meeting of the American Geophysical Union (AGU), San Francisco, USA (oral presentation) |
| June 2016 | XI. International Conference on Permafrost (ICOP), Potsdam, Germany (poster presentation) |
| April 2016 | 2016 General Assembly of the European Geosciences Union (EGU), Vienna, Austria (PICO presentation) |
| February 2016 | 3rd CliSAP - Workshop on Arctic and Permafrost, Hamburg, Germany (invited oral presentation) |
| November 2015 | 4$^{th}$ general assembly of the PAGE21 project, Akureiri, Island (poster presentations) |
| February 2015 | International workshop of the CarboPerm project, Hamburg, Germany (oral presentations) |
| December 2014 | 2014 Fall Meeting of the American Geophysical Union (AGU), San Francisco, USA (poster presentation) |
| November 2014 | 3$^{th}$ general assembly of the PAGE21 project, Twente, The Netherlands (oral and poster presentations) |
| March 2014 | Kickoff meeting CarboPerm project, St.Petersburg, Russia (oral presentation) |
| December 2013 | 2013 Fall Meeting of the American Geophysical Union (AGU), San Francisco, USA (poster presentation) |
| September 2013 | 2$^{nd}$ general assembly of the PAGE21 project, Abisko, Sweden (oral and poster presentations) |

**Invited seminar presentations (last 5 years):**

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| April 2017 | "Interdisciplinary approaches to gain new insights into Arctic carbon cycle processes", Bolin Centre Seminar Series 2017, Stockholm University, Sweden |
| June 2015 | "Das „nicht-so-ewige" Eis - Klimawandel in der Arktis und seine globalen Auswirkungen", corporate responsibility week of the AXA group, Cologne, Germany |
| June 2014 | "Bridging the scales – linking disciplines to analyze the carbon cycle", workshop 'Perspektiven in der Mikrometeorologie, Thurnau, Germany |

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| April 2012 | "Geostatistical Inverse Modeling – Concepts and Links to Micrometeorology', Micrometeorological Seminar at the University of Bayreuth, Germany |

## Teaching activities

**Lectures**

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| March 2018 | Co-instructor of core course 'Atmosphere, Ocean & Land' within the International Max Planck Research School for global biogeochemical cycles (IMPRS-gBGC) |
| March 2018 | Leading instructor of block course 'Models in Micrometeorology: Carbon and water budgets from ecosystem to landscape' (lecture/exercises) at the University of Bayreuth |
| March 2017 | Leading instructor of block course 'Models in Micrometeorology: Carbon and water budgets from ecosystem to landscape' (lecture/exercises) at the University of Bayreuth |
| Fall term 2015/16 | Leading instructor, 'Models in Micrometeorology: Carbon and water budgets from ecosystem to landscape scale', seminar/exercise course at the University of Bayreuth |
| May 2015: | Lead organizer and instructor of the international workshop 'Eddy covariance: Hands-on introduction to instrumentation and data processing' held at the MPI-BGC in Jena. |
| Fall term 2010 | Guest instructor, 'Man's impact on climate', Oregon State University |
| Winter term 2010: | Leading instructor, 'Modeling approaches to constrain terrestrial carbon budgets' Reading & Discussion, Oregon State University |
| Fall term 2009: | Guest instructor, 'Interactions of the Atmosphere and Vegetation', Oregon State University |
| Winter term 2009: | Co-instructor, 'Global Change Ecology' Reading & Discussion, Oregon State University |

**Supervision of PhD theses**

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| Martijn Pallandt | Principal supervisor of PhD thesis, starting March 2017<br>Topic of PhD project: "Atmospheric monitoring and modelling to constrain Arctic greenhouse gas budgets"<br>Anticipated submission of thesis: August 2020 |
| Sandra Bölck | Principal supervisor of PhD thesis, starting February 2016<br>Topic of PhD project: "Links between hydrology and carbon cycle processes within permafrost ecosystems in Northeast Siberia"<br>Anticipated submission of thesis: August 2019 |
| Friedemann Reum | Principal supervisor of PhD thesis, starting February 2014<br>Topic of PhD project: "Regional scale greenhouse gas budgets of high-latitude terrestrial ecosystems and adjacent coastal shelf areas using |

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| | inverse modeling of atmospheric transport"<br>Anticipated submission of thesis: June 2018 |
| Norman Rössger | Co-supervisor of PhD thesis (Univ. Hamburg), starting April 2014<br>Topic of PhD project: "Spatio-temporal variability of carbon fluxes and their environmental controls in the Lena River Delta, Siberia"<br>Submission of thesis: January 2018 |
| Sonja Kaiser | Co-supervisor of PhD thesis since December 2012<br>Topic of PhD project: "Process-based modeling of the methane balance in periglacial landscapes"<br>Graduation date: Dec 06, 2017 |
| Fanny Kittler | Principal supervisor of PhD thesis, starting November 2012<br>Topic of PhD project: "Long term drainage effects on carbon fluxes of an Arctic permafrost ecosystem"<br>Graduation date: August 07, 2017 |
| Min Jung Kwon | Principal supervisor of PhD thesis, starting September 2012<br>Topic of PhD project: "The effects of long-term drainage on processes governing $CO_2$ and $CH_4$ fluxes on an Arctic floodplain in Siberia"<br>Graduation date: November 23, 2016 |

**Supervision of MSc theses**

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| Anna Berninger | FSU Jena (principal supervisor)<br>"Spectral unmixing von LandSat 8 OLI Daten anhand von Spektrometermessungen in der sibirischen Tundra"<br>Submission of thesis: March 2016 |
| Carsten Schaller | Univ. Bayreuth (principal supervisor)<br>"Analysis of methane emissions in a subarctic permafrost region using wavelet transformation and conditional sampling"<br>Submission of thesis: July 2015 |
| Marcus Wildner | Univ. Bayreuth (principal supervisor)<br>"Characteristics of Arctic methane emission via chamber measurements"<br>Submission of thesis: February 2015 |

**Supervision of BSc theses**

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| Linus Schauer | FSU Jena (principal supervisor)<br>"Untersuchung von gelösten $CO_2$- und $CH_4$-Konzentrationen in Grund- und Oberflächenwasser in einem Permafrostgebiet Nordostsibiriens"<br>Submission of thesis: August 2017 |

## Competitive grants

**Successful grant proposals**

Project title: "Nunataryuk – Permafrost thaw and the changing Arctic coast, science for socio-economic adaptation"
Coordination: Alfred Wegener Institute, Potsdam, Germany
Own role: Funded collaborator (PI MPI-BGC project part)
Funded by: European Commission, Horizon 2020 RIA
Period: 11/2017 – 10/2022
Volume: MPI-BGC: €100,375 (total project: €11,467,318)

Project title: "Kohlenstoff im Permafrost (KoPF)"
Coordination: Soil Science Institute, Hamburg University
Own role: Funded collaborator (PI MPI-BGC project part)
Funded by: German Ministry for Education and Research (BMBF)
Period: 6/2017 – 5/2020
Volume: MPI-BGC: €85,311 (total project: €1,460,026)

Project title: "INTAROS – Integrated Arctic observation system"
Coordination: Stiftelsen Nansen Senter for Miljoog Fjernmaling, Norway
Own role: Funded collaborator (PI MPI-BGC project part)
Funded by: European Commission, Horizon 2020 RIA
Period: 12/2016 – 11/2021
Volume: MPI-BGC: €669,875 (total project: €15,490,141)

Project title: "Permafrost Carbon Cycle Observations and Modeling across multiple spatiotemporal scales (PerCCOM)"
Applicant: M. Göckede (Max-Planck-Institute for Biogeochemistry)
Own role: PI
Funded by: Marie Curie Career Integration Grants (CIG)
Period: 03/2013 – 02/2017
Volume: €100,000

Project title: "A $CO_2$ Observation Network in the Pacific Northwest U.S. for Modeling Regional $CO_2$ Flux Variability"
Applicants: B.E. Law, M. Göckede (both Oregon State University)
Own role: Co-PI
Funded by: National Oceanic and Atmospheric Administration (NOAA)
Period: 09/2011 – 08/2014
Volume: $600,531

Project title: "Repair atmospheric $CO_2$ system at Mary's Peak"
Applicants: M. Göckede, C. Thomas, B.E. Law (all at Oregon State University)
Own role: PI
Funded by: Oregon State University Research Equipment Reserve Fund (RERF)
Period: 05/2008 – 04/2009
Volume: $11,566

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| Project title: | "Integrating remote sensing, field observations and models to understand disturbance and climate effects on the carbon balance of the West Coast U.S." |
| Applicants: | B. Law, D. Turner, W. Cohen, J. Styles, M. Göckede (all at Oregon State University) |
| Own role: | Co-PI |
| Funded by: | US Department of Energy (DoE) |
| Period: | 09/2007 – 08/2010 |
| Volume: | $1,349,478 |

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| Project title: | "Footprint model development and validation for homogeneous and inhomogeneous terrain using high resolution large eddy simulation" |
| Applicants: | S. Raasch (Univ. Hannover), T. Foken (Univ. Bayreuth) |
| Own role: | Leading role in writing proposal |
| Funded by: | German Research Foundation (DFG) |
| Period: | 09/2005 – 08/2008 |
| Volume: | €140,000 |

## Other communication and outreach activities

**Session convener:**

AGU fall meeting 2017, Session 'Constraining Biosphere-Atmosphere Exchange Processes using Remote-sensing and In Situ Networks' (conveners A. Chatterjee, A. Schuh, T. Lauvaux, M. Göckede)

AGU fall meeting 2016, Session 'Constraining Biosphere-Atmosphere Exchange Processes using Remote-sensing and In Situ Networks' (conveners A. Chatterjee, A. Schuh, M. Göckede)

XI. International Conference on Permafrost (ICOP) 2016, Session 'Towards Regional Assessments of Permafrost-Atmosphere Carbon Fluxes' (conveners T.Sachs, M. Göckede, J. Watts)

EGU general assembly 2016, Session 'Linking terrestrial, aquatic and oceanic carbon cycle processes in a changing Arctic climate' (conveners M. Göckede, O. Gustafsson, J. Vonk)

AGU fall meeting 2015, Session 'Constraining Biosphere-Atmosphere Exchange Processes using Remote-sensing and In Situ Networks' (conveners A. Chatterjee, A. Schuh, M. Göckede)

AGU fall meeting 2014, Session 'Using Atmospheric Measurements and Remote Sensing Data to Constrain Biosphere-Atmosphere Exchange Processes' (conveners A. Schuh, A. Chatterjee, M. Göckede)

AGU fall meeting 2013, Session 'Advances in Atmospheric Inverse Modeling of Land-Atmosphere Exchange Processes" (conveners A. Chatterjee, M. Göckede, A. Schuh)

AGU fall meeting 2012, Session 'Advances in Atmospheric Inverse Modeling of Land Atmosphere Exchange Processes" (conveners M. Göckede, A. Chatterjee, A. Schuh)

AGU fall meeting 2011, Session 'Advances in Atmospheric Inverse Modeling of Land Atmosphere Exchange Processes" (conveners M. Göckede, A. Chatterjee, S. Gourdji, K. Mueller)

FLUXNET/SpecNet workshop on the topic 'Towards Upscaling Flux Information from Towers to the Globe) (June 2011). Co-Chair of Session 'Fluxes, hyperspectral remote sensing, models and upscaling: What are we producing? How good is it? How good is good enough?' (conveners N. Kljun, M. Göckede, L. Chasmer)

AGU fall meeting 2010, Session 'Data assimilation of biogeochemical cycles to improve ecosystem models across multiple scales' (conveners D. Baldocchi, R. Vargas, M. Göckede, Y. Luo, S. Niu, K. Ogle, P. Stoy)

AGU fall meeting 2009, Session 'Ecosystem models, data assimilation and Flux Networks: synthesis efforts from regional to global scales' (conveners D. Baldocchi, R. Vargas, M. Göckede)

**Journal reviews:**
Agricultural and Forest Meteorology (2015 IF: 4.461)
Atmospheric Chemistry and Physics (2015 IF: 5.114)
Biogeosciences (2015 IF: 3.700)
Boundary-Layer Meteorology (2015 IF: 2.455)
Climate Research (2015 IF: 1.690)
Ecological Applications (2015 IF: 4.252)
Environmental Pollution (2015 IF: 4.839)
Forest Ecology and Management (2015 IF: 2.826)
Global Biogeochemical Cycles (2015 IF: 4.495)
Global Change Biology (2015 IF: 8.444)
Geophysical Research Letters (2015 IF: 4.212)
Hydrology Research (2015 IF: 1.779)
IEEE Transactions on Geoscience and Remote Sensing (2015 IF: 3.360)
Journal of Applied Meteorology (2015 IF: 1.702)
Journal of Geophysical Research – Atmospheres (2015 IF: 3.318)
Journal of Geophysical Research – Biogeosciences (2015 IF: 3.318)
Journal of Hydrology (2015 IF: 3.043)
Proceedings of the Natl. Academy of Sciences U.S. (2015 IF: 9.423)
Theoretical and Applied Climatology (2015 IF: 2.433)
Water Resources Research (2015 IF: 3.792)

**Proposal reviews:** National Science Foundation (NSF) of the United States

**Search committees:** MPI-BGC (2012+): member of 8 search committees
Oregon State University (2005-2011): member of 6 search committees