

Professional CV of Markus Fischer, 31 July 2012

Address:

Institute of Plant Sciences, University of Bern,
Altenbergrain 21, 3013 Bern, Switzerland
Phone +41 31 631 4943,
Secretary 4911, Fax 4942
email: markus.fischer@ips.unibe.ch



Date and place of birth:

20 June 1962, Albstadt-Ebingen, Germany

Nationality:

German

Family status:

Unmarried

Research interests

My main research foci are drivers and functional consequences of biodiversity change, the ecology and evolution of rare and invasive plants, and conservation biology.

Education

1982-1989	Studies in Physics, Technical University Munich, Germany
1991-1992	Studies in Biology, University of Basel, Switzerland
1993-1996	PhD, Institute of Botany, University of Basel, Switzerland; thesis title: Experimental population biology of the rare <i>Gentianella germanica</i>
2001	Habilitation in Environmental sciences, especially Population Ecology, University of Zurich; Switzerland; thesis title: Population biology of herbaceous plants: ecology and genetics of life histories.

Academic positions

1990	Research Associate, Department of Mechanical Engineering, University of Maryland, College Park
1993-1996	Research Associate, Botanical Institute, University of Basel
1996-2003	Assistant, Main Assistant, Institute of Environmental Sciences, Univ. of Zurich
2003-2007	Full Professor of Botany and Community Ecology, Institute of Biochemistry and Biology, and Director of the Botanical Garden, University of Potsdam
2007-	Guest Professor at the University of Potsdam, and
2007-	Full Professor of Plant Ecology, Institute of Plant Sciences, University of Bern
2010-	and Director of the Botanical Garden of the University of Bern

Lecturing

1993-	> 170 lectures at conferences and universities
1997-	About 40 supervised diploma/masters (<20) and PhD students (>20)
1999-	Courses taught: plant ecology, population biology, community ecology, conservation biology, experimental design and statistical analysis for ecologists, scientific writing practice, conservation and population genetics, general botany, systematic botany, including practicals, tutorials, and field courses.

Reviewing and editorial activities

1996-	> 200 reviews for many journals (articles)
2002-	Editorial board of Basic and Applied Ecology
2009-	Editorial board of Journal of Plant Ecology
2009-2011	Editor (Plants, Europe and Africa), Biological Conservation
2011-	Editorial board of Biological Conservation
2011-	Editorial board of Alpine Botany

Scientific and academic committees and societies

1996-	Member, several international scientific societies
1998-	Organisation and co-organisation of 40 conferences and conference symposia
1999-	Head (Speaker), Plant Population Biology Section of the Society of Ecology GfÖ
1999-	>55 reviews of grant proposals submitted to NERC, UK, to the Austrian (FWF), Swiss (SNF), German (DFG), Swedish (FORMAS) and US American (NSF) Science Foundations
2001-	Opponent or Rapporteur in six Swedish, Finnish and French PhD exams
2006-	Head (Speaker), DFG Priority Program 1374 (Biodiversity Exploratories)
2007-2009	Member, Steering Committee of the Society of Ecology GfÖ
2007-	Member, professorial selection committees (Leipzig, Salzburg, Bern)
2007-	Member, Foundation Councils (Haller-Stiftung, Bern; Bretscher-Stiftung, Bern; Stiftung Zentrum des Datenverbundnetzes der Schweizer Flora, Geneva)
2008-	Member, Advisory Board of Vision Landwirtschaft, Switzerland
2008-	Member, since 2012 vice-chair, of Senate Committee for Biodiversity Research of the DFG (German Science Foundation)
2008-	Member, Steering committee of DFG Research Unit: The role of biodiversity for element cycling and trophic interactions
2008-	Vice-President (2008, 2012) and President (2009-2011) Swiss Botanical Society

2008-2011	Head, Biology Department, University of Bern
2009-	Member, Fachkommission Naturschutz, Canton of Bern
2009-	Member, Steering committee of DFG Research Unit: Kilimanjaro ecosystems
2010-	Scientific Head, Alpine Botanical Garden Schynige Platte
2010-2011	Member, Council of Parkforschung Schweiz (A+, Swiss Academies)
2010-	Member, Council of DIVERSITAS Germany
2010-	Member, Marie-Heim Vögtlin Committee, Swiss National Science Foundation
2011-2013	President, Forum Biodiversity, Swiss Academy of Sciences (Member since 2009)
2012-2014	Director, Institute of Plant Sciences, University of Bern

Awards

1998	John L. Harper Young Investigator's Prize, British Ecological Society
2002	Offer of an Associate (C3) Professorship in Population Biology, University of Regensburg
2010	Offer of a Full (W3) Professorship in Organismic Botany, University of Tübingen

Larger ongoing projects (total grant sum raised to date ~8 Mio € (= ~10 Mio CHF)

2006-	Large-scale and long-term exploratories for functional biodiversity research (German Science Foundation DFG, project coordination and several subprojects, www.biodiversity-exploratories.de)
2007-2012	Experimental plant introduction: disentangling the roles of propagule pressure, soil disturbance and life-history for plant invasiveness using congeneric pairs of invasive and non-invasive naturalized plant species in their native range (Swiss National Science Foundation; now University of Bern; with Mark van Kleunen)
2008-2012	An experimental approach to identifying determinants of plant invasiveness using congeneric pairs of invasive and non-invasive naturalized plant species in their native range (Swiss National Science Foundation; National Competence Center in research "Plant Survival"; now University of Bern; with Mark van Kleunen)
2008-2014	DFG Research Unit: The role of tree and shrub diversity for production, erosion control, element cycling, and species conservation in Chinese subtropical forest ecosystems (Subproject on genetic diversity)
2008-2014	DFG Research Unit: The role of biodiversity for element cycling and trophic interactions: an experimental approach in a grassland community (Subproject on plant diversity; with B. Schmid and A. Weigelt)
2009-2012	DFG Research Unit: Kilimanjaro ecosystems under global change: Linking biodiversity, biotic interactions and biogeochemical ecosystem processes (Subprojects on plant diversity and on coordination)
2010-2014	Experimentation in Ecosystem Research (ExpeER); EU FP7 project (Subproject).
2010-2014	Functional significance of biodiversity in European forests (FunDivEUROPE); EU FP7 project (Subproject).
2010-2014	Status and Trends of European Pollinators (STEP); EU FP7 project (Subprojct)
2010-2013	Ecological and evolutionary plant epigenetics (European Science Foundation, subproject with Oliver Bossdorf)
2011-2013	Begleitforschung zur Revision der Roten Liste der Farn- und Blütenpflanzen (Bundesamt für Umwelt)
2012	Flächenbedarf für die Erhaltung der Biodiversität und der Ökosystemleistungen in der Schweiz (Bundesamt für Umwelt, with Daniela Pauli)
2012-2014	Ex-situ Erhaltung und Wiederansiedlung von gefährdeten Blütenpflanzen (Bundesamt für Umwelt)

List of publications by Markus Fischer, 15 July 2012

By 31 July 2012 the 104 of these publications listed in the ISI Web of Science were correctly cited 2797 times (average 26.9) and the h-index is 30 (See <http://www.researcherid.com/rid/C-6411-2008>)

Peer-reviewed original articles

- Dawson W., van Kleunen M., **Fischer M.** In press. Common and rare plant species respond differently to fertilization and competition, whether they are alien or native. *Ecology Letters*
- Dawson W., Rohr R.P., van Kleunen M., **Fischer M.** In press. Alien plant species with a wider global distribution are better able to capitalize on increased resource availability. *New Phytologist*.
- Dostál P., Dawson W., van Kleunen M., Keser L.H., **Fischer M.** in press. Central European plant species from more productive habitats are more invasive at a global scale. *Global Ecology and Biogeography*.
- Leimu R., Kloss L., **Fischer M.** In press. Inbreeding alters activities of the stress-related enzymes chitinases and β -1,3-glucanases. *PLoS One*.
- Weißhuhn K., Prati D., **Fischer M.**, Auge H. In press. Regional adaptation improves the performance of grassland plant communities. *Basic and Applied Ecology*.
- Dostál P., Dawson W., van Kleunen M., Keser L.H., **Fischer M.** in press. Central European plant species from more productive habitats are more invasive at a global scale *Global Ecology and Biogeography*.
- Latzel V., Zhang Y., Moritz K.K., **Fischer M.**, Bossdorf O. 2012. Epigenetic variation in plant responses to defence hormones. *Annals of Botany* 2012; doi: 10.1093/aob/mcs088
- Schuldt A., Bruelheide H., Durka W., Eichenberg D., **Fischer M.**, Kröber W., Härdtle W., Ma K., Michalski S., Palm W.-U., Schmid B., Welk E., Zhou H., Assmann T.. 2012. Plant traits affecting herbivory on tree recruits in highly diverse subtropical forests, *Ecology Letters* 15: 732-739
- Türke M., Andreas K., Gossner M.M., Kowalski E., Lange M., Boch S., Socher S.A., Müller J., Prati D., **Fischer M.**, Meyhöfer M., Weisser W.W. 2012. Are Gastropods, Rather than Ants, Important Dispersers of Seeds of Myrmecochorous Forest Herbs? *American Naturalist* 179: 124-131.
- Klaus V.H., Kleinebecker T., Boch S., Müller J., Socher S.A., Prati D., **Fischer M.**, Hözel N. 2012. NIRS meets Ellenberg's indicator values: Prediction of moisture and nitrogen values of agricultural grassland vegetation by means of near-infrared spectral characteristics. *Ecological Indicators* 14: 82-86
- Allan E., Weisser W.W., Weigelt A., Roscher C., **Fischer M.**, Hillebrand H. 2011. More diverse plant communities have higher functioning over time due to turnover in complementary dominant species. *Proceedings of the National Academy of Sciences of the United States of America* 108: 17034-17039.
- Bruelheide H., Böhnke M., Both S., Fang T., Assmann T., Baruffol M., Bauhus J., Buscot F., Chen X.-Y., Ding B.-Y., Durka W., Erfmeier A., **Fischer M.**, Geißler C., Guo D., Guo L.-D., Härdtle W., He J.-S., Hector A., Kröber W., Kühn P., Lang A., Nadrowski K., Pei K., Scherer-Lorenzen M., Shi X., Scholten T., Schuldt A., Trogisch S., von Oheimb G., Welk E., Wirth C., Wu Y.-T., Yang X., Zeng X., Zhang S., Zhou H., Ma K., Schmid B. 2011. Community assembly during secondary forest succession in a Chinese subtropical forest. *Ecological Monographs* 81: 25-41.
- Fischer M.**, Weyand A., Rudmann-Maurer K., Stöcklin J. 2011. Adaptation of *Poa alpina* to altitude and land use in the Swiss Alps. *Alpine Botany* 121: 91-105.
- Potts S.G., Biesmeijer J.C., Bommarco R., Felicioli A., **Fischer M.**, Jokinen P., Kleijn D., Klein A.-M., Kunin W.E., Neumann P., Penev L.D., Petanidou T., Rasmont P., Roberts S.P.M., Smith H.G., Sorensen P.B., Steffan-Dewenter I., Vaissière B.E., Vilà M., Vujic A., Woyciechowski M., Zobel M., Settele J., Schweiger O. 2011. Developing European conservation and mitigation tools for pollination services: approaches of the STEP (Status and Trends of European Pollinators) project. *Journal of Apicultural Research* 50: 152-164.
- Klaus V.H., Kleinebecker T., Hözel N., Blüthgen N., Boch S., Müller J., Socher S.A., Prati D., **Fischer M.** 2011. Nutrient concentrations and fibre contents of plant community biomass reflect species richness patterns along a broad range of land-use intensities among agricultural grasslands. *Perspectives in Plant Ecology, Evolution and Systematics* 13: 287-295
- Schleuning M., Templin M., Huamán V., Becker T., Durka W., **Fischer M.**, Matthies D. Effects of inbreeding, outbreeding, and supplemental pollen on the reproduction of a hummingbird-pollinated clonal Amazonian herb. *Biotropica* 43: 183-191.
- Noël F., Prati D., van Kleunen M., Gygax A., Moser D., **Fischer M.** 2011. Establishment success of 25 rare wetland species introduced into restored habitats is best predicted by ecological distance to source habitats. *Biological Conservation* 144: 602-609.
- Heinze E., Boch S., **Fischer M.**, Hessenmöller D., Klenk B., Müller J., Prati D., Schulze E.-D., Seele C., Socher S., Halle S. 2011. Habitat use of large ungulates in northeastern Germany in relation to forest management. *Forest Ecology and Management* 261: 288-296.
- Chrobock T., Kempel A., **Fischer M.**, van Kleunen M. 2011. Introduction bias: Cultivated alien plant species germinate faster and more abundantly than native species in Switzerland. *Basic and Applied Ecology* 12: 244-250.
- Kloss L., **Fischer M.**, Durka W. 2011. Land-use effects on genetic structure of a common grassland herb: A matter of scale. *Basic and Applied Ecology* 12: 440-448
- Boch S., Prati D., Werth S., Rüetschi J., **Fischer M.** 2011. Lichen Endozoochory by Snails. *Plos One* 6:4

- Wells K., Böhm S.M., Boch S., **Fischer M.**, Kalko E.K.V. 2011. Local and landscape-scale forest attributes differ in their impact on bird assemblages across years in forest production landscapes. *Basic and Applied Ecology* 12: 97-106
- Nestmann S., Rajicic T.S., Dehmer K.J., **Fischer M.**, Schumacher J., Roscher C. 2011. Plant species diversity and composition of experimental grasslands affect genetic differentiation of *Lolium perenne* populations. *Molecular Ecology* 20: 2188-2203.
- van Kleunen M., Schläpfer D.R., Glaetli M., **Fischer M.** 2011. Preadapted for invasiveness: do species traits or their plastic response to shading differ between invasive and non-invasive plant species in their native range? *Journal of Biogeography* 38: 1294-1304.
- Birkhofer K., Diekötter T., Boch S., **Fischer M.**, Müller J., Socher S., Wolters V. 2011. Soil fauna feeding activity in temperate grassland soils increases with legume and grass species richness. *Soil Biology and Biochemistry* 43: 2200-2207
- Raabova J., Munzbergová Z., **Fischer, M.** 2011. The role of spatial scale and soil for local adaptation in *Inula hirta*. *Basic and Applied Ecology* 12: 152-160
- Kempel A., Schädler M., Chrobock T., **Fischer M.**, van Kleunen M. 2011. Tradeoffs associated with constitutive and induced plant resistance against herbivory. *Proceedings of the National Academy of Sciences of the United States of America* 108: 5685-5689.
- Seifert B., **Fischer M.** 2010. Experimental establishment of a declining dry-grassland flagship species in relation to seed origin and target environment. *Biological Conservation* 143:1202-1211
- Bottom-up effects of plant diversity on biotic interactions in a biodiversity experiment. Scherber C., Eisenhauer N., Weisser W.W., Schmid, Voigt W., **Fischer M.**, Schulze E.-D., Roscher C., Weigelt A., Allan A., Beßler H., Bonkowski M., Buchmann N., Buscot F., Clement L.W., Ebeling A., Engels C., Halle S., Kertscher I., Klein A.-M., Koller R., König S., Kowalski E., Kummer V., Kuu A., Lange M., Lauterbach D., Middelhoff C., Migunova V.D., Milcu A., Müller R., Partsch S., Petermann J.S., Renker C., Rottstock T., Sabais A., Scheu S., Schumacher J., Temperton V.M., Tscharntke T., 2010. *Nature*, 468: 553-556
- Dawson W., **Fischer M.**, van Kleunen M. 2010. Maximum relative growth rate of common UK plant species is positively associated with their global invasiveness. *Global Ecology and Biogeography* 20: 299-306.
- Schmidtke A., Rottstock T., Gaedke U., **Fischer M.** 2010. Plant community diversity and composition affect individual plant performance. *Oecologia*, 164: 665-677.
- Proulx R., Wirth C., Voigt W., Weigelt A., Roscher C., Attinger S., Baade J., Barnard R., Buchmann N., Buscot F., Eisenhauer N., Engels C., **Fischer M.**, Gleixner G., Halle S., Hildebrandt A., Kowalski E., Kuu A., Lange M., Marquard E., Milcu A., Niklaus P., Oelmann Y., Rosenkranz S., Sabais A., Scherber C., Scherer-Lorenzen M., Scheu S., Schulze E.-D., Schumacher J., Schwichtenberg G., Soussana J.-F., Temperton V., Tscharntke T., Weisser W.W., Wilcke W., Schmid B.. Diversity Promotes Temporal Stability across Levels of Ecosystem Organization in Experimental Grasslands. *PLoS ONE* 5(10): e13382.
- Fischer M.**, Burkart M., Pasqualetto V & van Kleunen M 2010 Experiment meets biogeography: plants of river-corridor distribution are not more stress-tolerant but benefit less from more benign conditions elsewhere. *Journal of Plant Ecology* 3: 149-155.
- Fischer M.**, Bossdorf O., Gockel S., Hänsel F., Hemp A., Hessenmöller D., Korte G., Nieschluz J., Pfeiffer S., Prati D., Renner S., Schöning I., Schumacher U., Wells K., Buscot F., Kalko E.K.V., Linsenmair K.E., Schulze E.-D., Weisser W.W. Implementing large-scale and long-term functional biodiversity research: The Biodiversity Exploratories. *Basic and Applied Ecology*, 11: 473-485.
- Leimu R., **Fischer M.** Between-population outbreeding affects plant defence. *PLoS One* 5: e12614.
- van Kleunen M., Dawson W., Schlaepfer DR, Jeschke JM & **Fischer M** 2010 Are invaders different? A conceptual framework of comparative approaches for assessing determinants of invasiveness. *Ecology Letters* 13: 947-958. doi:10.1111/j.1461-0248.2010.01503.x.
- Nitschke N., Ebeling A., Rottstock T., Scherber C., Middelhoff C., Creutzburg S., Weigelt A., Tscharntke T., **Fischer M.**, Weisser W.W. 2010 Time course of plant diversity effects on *Centaurea jacea* establishment and the role of competition and herbivory. *Journal of Plant Ecology* 3: 109-121.
- Odat N., Hellwig H., Jetschke G., **Fischer M.** 2010. On the relationship between plant species diversity and genetic diversity of *Plantago lanceolata* (Plantaginaceae) within and between grassland communities. *Journal of Plant Ecology* 3: 41-48.
- Schlaepfer D.R., Glaetli M., **Fischer M.**, van Kleunen M. 2010. A multi-species experiment in their native range indicates pre-adaptation of invasive alien plant species. *New Phytologist* 185: 1087-1099.
- van Kleunen M., Weber E., **Fischer M.** 2010. A meta-analysis of trait differences between invasive and non-invasive plant species. *Ecology Letters* 13: 235-245.
- Marquard E., Weigelt A., Temperton V.M., Roscher C., Schumacher J. Buchmann N., **Fischer M.**, Weisser, W.W., Schmid B. 2009. Plant species richness and functional composition drive overyielding in a six-year grassland experiment. *Ecology* 90: 3290-3302.
- Van Kleunen M., **Fischer M.** 2009. Release from foliar and floral fungal pathogen species does not explain the geographic spread of naturalized North American plants in Europe. *Journal of Ecology* 97: 385-392.
- Raabová J., Münzbergová Z., **Fischer M.** Consequences of near and far between-population crosses for offspring fitness in a rare herb *Plant Biology* 11: 829-836.
- Raabová J., **Fischer M.**, Münzbergová Z. 2008. Niche differentiation between diploid and hexaploid *Aster amellus*. *Oecologia* 158(3): 463-472.
- Leimu R, Kloss L; **Fischer M.** 2008. Effects of experimental inbreeding on herbivore resistance and plant fitness: the role of history of inbreeding, herbivory and abiotic factors. *Ecology Letters* 11(10): 1101-1110.

- Stein C., Auge H., **Fischer M.**, Weisser W.W., Prati D. 2008 Dispersal and seed limitation affect diversity and productivity of montane grasslands. *Oikos* 117: 1469-1478
- Bowman G., Perret C., Hoehn S., Galeuchet D.J., **Fischer M.** 2008. Habitat fragmentation and adaptation: a reciprocal replant-transplant experiment among 15 populations of *Lychnis flos-cuculi* L. *Journal of Ecology* 96: 1056-1064.
- Rudmann-Maurer K., Weyand A., **Fischer M.**, Stöcklin J. 2008. The role of landuse and natural determinants for grassland vegetation composition in the Swiss Alps. *Basic and Applied Ecology* 9(5): 494-503.
- van Kleunen M., Meier A., Saxenhofer M., **Fischer M.** 2008. Support for the predictions of the pollinator-mediated stabilizing-selection hypothesis. *Journal of Plant Ecology* 1(3): 173-178
- Fischer M.**, Winkler E., Schmid, B. 2008. Simulating the evolution of a clonal trait in plants with sexual and vegetative reproduction. *Journal of Plant Ecology* 1(3): 161-171.
- van Kleunen M., **Fischer M.** 2008 Adaptive rather than non-adaptive evolution affects *Mimulus guttatus* in its invasive range. *Basic and Applied Ecology* 9: 213-223.
- Raabová J., Münzbergová Z., **Fischer M.** 2007. Ecological rather than geographic or genetic distance affects local adaptation of the rare perennial herb, *Aster amellus*. *Biological Conservation* 139: 348-357.
- Rudmann-Maurer K., Weyand A., **Fischer M.**, Stöcklin J. 2007. Microsatellite diversity of the agriculturally important alpine grass *Poa alpina* in relation to land use and natural environment. *Annals of Botany* 100: 1249-1258.
- van Kleunen M., **Fischer M.**, Johnson S.D. 2007. Reproductive assurance through self-fertilization does not vary with population size in the alien invasive plant *Datura stramonium*. *Oikos* 116: 1400-1412.
- van Kleunen M., Lenssen J.P.M., **Fischer M.**, de Kroon H. 2007. Selection on phenotypic plasticity of morphological traits in response to flooding and competition in the clonal shore plant *Ranunculus reptans*. *Journal of Evolutionary Biology* 20: 2126-2137.
- van Kleunen M., Johnson S.D., **Fischer M.** 2007. Predicting naturalization of southern African Iridaceae in other regions. *Journal of Applied Ecology* 44: 594-603.
- Willi Y., Van Buskirk J., Schmid B., **Fischer M.** 2007. Genetic isolation of fragmented populations is exacerbated by drift and selection. *Journal of Evolutionary Biology* 20: 534-542.
- Willi Y., Dietrich S., van Kleunen M., **Fischer M.** 2007. Interspecific competitive stress does not affect the magnitude of inbreeding depression. *Evolutionary Ecology Research* 9: 959-974.
- Willi Y., van Kleunen M., Dietrich S., **Fischer M.** 2007. Genetic rescue persists beyond first-generation outbreeding in small populations of a rare plant. *Proceedings of the Royal Society B* 274: 2357-2364.
- Leimu R., Mutikainen P., Koricheva J., **Fischer M.** 2006. How general are positive relationships between plant population size, fitness, and genetic variation? *Journal of Ecology* 94: 942-952
- Maurer. K., Weyand A., **Fischer M.**, Stöcklin J. 2006. Old cultural traditions, in addition to land use and topography, are shaping plant diversity of grasslands in the Alps. *Biological Conservation* 130: 438-446.
- Galeuchet D., Perret C., **Fischer M.** 2005. Microsatellite variation and structure of 28 populations of the common wetland plant *Lychnis flos-cuculi* L. in a fragmented landscape. *Molecular Ecology*, 14: 991-1000.
- Galeuchet D., Perret C., **Fischer M.** 2005. Performance of *Lychnis flos-cuculi* under experimental biotic interactions. *Ecology* 86: 1002-1011
- Maurer K., Gautschi B., Weyand A., Stöcklin J., **Fischer M.** 2005. Isolation and characterization of microsatellite DNA markers in the grass *Poa alpina* L. *Molecular Ecology Notes* 5: 719-720.
- van Kleunen M., **Fischer M.**, Schmid B. 2005. Three generations under low versus high neighborhood density affect the life history of a clonal plant through differential selection and genetic drift. *Oikos* 108: 573-581.
- Willi Y., **Fischer M.** 2005. Genetic rescue in interconnected populations of small and large size of the self-incompatible *Ranunculus reptans*. *Heredity* 95: 437-443.
- Willi Y., Van Buskirk J., **Fischer M.** 2005. A threefold genetic Allee effect: population size affects cross-compatibility, inbreeding depression, and drift load in the self-incompatible *Ranunculus reptans*. *Genetics* 169: 2255-2265.
- Wipf S., Rixen C., **Fischer M.**, Schmid B., Stöckli V. 2005. Effects of ski piste preparation on alpine vegetation. *Journal of Applied Ecology* 42: 306-316
- Fischer M.**, van Kleunen M., Schmid B. 2004. Experimental life-history evolution: selection on the growth form of a clonal plant and on its plasticity. *Journal of Evolutionary Biology* 17: 331-341.
- Lenssen J.P.M., van Kleunen M., **Fischer M.**, de Kroon H. 2004. Local adaptation of the clonal plant *Ranunculus reptans* to flooding along a small-scale gradient. *Journal of Ecology* 92: 696-706.
- Lienert J., **Fischer M.** 2004. Experimental inbreeding reduces seed production and germination independent of fragmentation of populations of *Swertia perennis*. *Basic and Applied Ecology* 5: 43-52.
- Pfisterer A., Joshi J., Schmid B., **Fischer M.** 2004. Rapid decay of diversity -productivity relationships after invasion of experimental plant communities. *Basic and Applied Ecology* 5: 5-14.
- Fischer M.**, Hock M., Paschke M. 2003. Low genetic variation reduces cross-compatibility and offspring fitness in populations of a narrow endemic plant with a self-incompatibility system. *Conservation Genetics* 4: 325-336.
- Lienert J., **Fischer M.** 2003. Habitat fragmentation affects the common wetland specialist *Primula farinosa* in NE-Switzerland. *Journal of Ecology* 91: 587 - 599.
- van Kleunen M., **Fischer M.** 2003. Effects of four generations of density-dependent selection on life history traits and their plasticity in a clonally propagated plant. *Journal of Evolutionary Biology* 16: 474-484.
- Fischer M.**, Wipf S. 2002. Effect of low-intensity grazing on the vegetation of traditionally mown subalpine meadows. *Biological Conservation* 104: 1-11.

- Galeuchet D., Husi R., Perret C., **Fischer M.**, Gautschi B. 2002. Characterization of microsatellite loci in *Lychnis flos-cuculi*. Molecular Ecology Notes 2: 491-492.
- Lienert J., **Fischer M.**, Diemer M. 2002. Local extinctions of the wetland specialist *Swertia perennis*: a revisit study based on herbarium records. Biological Conservation 103: 65-76.
- Lienert J., **Fischer M.**, Schneller J., Diemer M. 2002. Isoenzyme variability of the wetland specialist *Swertia perennis* L. in NE Switzerland in relation to habitat size and isolation and to plant fitness. American Journal of Botany 89: 801-811.
- Pflugshaupt K., Kollmann J., **Fischer M.**, Roy B. 2002. Pollen quantity and quality affect fruit abortion in small populations of a rare fleshy-fruited shrub. Basic and Applied Ecology 3: 319-327.
- van Kleunen M., **Fischer M.**, Schmid B. 2002. Experimental life-history evolution: selection on the allocation to sexual reproduction and on its plasticity in a clonal plant. Evolution 56: 2168-2177.
- Kéry M., Matthies D., **Fischer M.** 2001. The effect of plant population size on the interactions between the rare plant *Gentiana cruciata* and its specialized herbivore *Maculinea rebeli*. Journal of Ecology 89: 418-427.
- Müller-Schärer H., **Fischer M.** 2001. Genetic structure of the annual weed *Senecio vulgaris* in relation to habitat type and population size. Molecular Ecology 10: 17-28.
- van Kleunen M., **Fischer M.** 2001. Adaptive evolution of plastic foraging responses in a clonal plant. Ecology 82: 3309-3319.
- van Kleunen M., **Fischer M.**, Schmid B. 2001. Effects of intraspecific competition on size variation and reproductive allocation in a clonal plant. Oikos 94: 515-524.
- Winkler E., **Fischer M.** 2001. The role of vegetative spread and seed dispersal for optimal life histories of clonal plants: a simulation study. Evolutionary Ecology 15: 281-301.
- Fischer M.**, Husi R., Prati D., Peintinger M., van Kleunen M., Schmid B. 2000. RAPD variation among and within small and large populations of the rare clonal plant *Ranunculus reptans* (Ranunculaceae). American Journal of Botany 87: 1128-1137.
- Fischer M.**, van Kleunen M., Schmid B. 2000. Genetic Allee effects on performance, plasticity, and developmental stability in a clonal plant. Ecology Letters 3: 530-539.
- Stöcklin J., Ryf M., **Fischer M.** 2000. Small population size puts populations of endangered plant species at risk in remnants of calcareous grassland (Mesobromion) in the Swiss Jura Mountains. Zeitschrift für Ökologie und Naturschutz 9: 109-118.
- van Kleunen M., **Fischer M.**, Schmid B. 2000. Clonal integration in *Ranunculus reptans*: by-product or adaptation? Journal of Evolutionary Biology 13: 237-248.
- van Kleunen M., **Fischer M.**, Schmid B. 2000. Costs of plasticity in foraging characteristics of the clonal *Ranunculus reptans*: Evolution 54: 1947-1955.
- Dietz H.J., **Fischer M.**, Schmid, B. 1999. The invasion history of a 9-year-old population of *Bunias orientalis*. Oecologia 120: 225-234.
- Stöcklin J., **Fischer M.** 1999. Plants with longer-lived seeds have lower local extinction rates in grassland remnants 1950-1985. Oecologia 120: 539-543.
- Winkler E., **Fischer M.** 1999. Two fitness measures for clonal plants and the importance of spatial aspects. Plant Ecology 141(1/2): 191-199.
- Winkler E., **Fischer M.**, Schmid B. 1999. Modeling the competitiveness of clonal plants by complementary analytical and simulation approaches. Oikos 85: 217-233.
- Fischer M.**, Matthies D. 1998. Effects of population size on performance in the rare plant *Gentianella germanica*. Journal of Ecology 86: 195-204.
- Fischer M.**, Matthies D. 1998. Experimental demography of the rare *Gentianella germanica*: seed bank formation and microsite effects on seedling establishment. Ecography 21: 269-278.
- Fischer M.**, Matthies D. 1998. RAPD variation in relation to population size and plant performance in the rare *Gentianella germanica*. American Journal of Botany 85: 811-819.
- Schläpfer F., **Fischer M.** 1998. An isozyme study of clone diversity and relative importance of sexual and vegetative reproduction in the grass *Brachypodium pinnatum*. Ecography 21: 351-360.
- Fischer M.**, Matthies D. 1997. Mating structure and inbreeding and outbreeding depression in the rare plant *Gentianella germanica* (Gentianaceae). American Journal of Botany 84: 1685-1692.
- Fischer M.**, Stöcklin J. 1997. Local extinctions of plants in remnants of extensively used calcareous grasslands 1950-1985. Conservation Biology 11: 727-737.
- Fischer M.**, Schreier E., Larigauderie A. 1997. Interdisziplinäre Forschung im «Integrierten Projekt Biodiversität» des Schweizerischen Nationalfonds: Ziele und Strukturen. Zeitschrift für Ökologie und Naturschutz 6: 247-252.
- Fischer M.**, Matthies D., Schmid B. 1997. Responses of rare calcareous grassland plants to elevated CO₂: a field experiment with *Gentianella germanica* and *Gentiana cruciata*. Journal of Ecology 85: 681-691.

Peer-reviewed review articles

- Leimu R., **Fischer M.** 2008. A meta-analysis of local adaptation in plants. PLOS One 3(12): e4010
- Fischer M.**, Rudmann-Maurer K., Weyand A., Stöcklin J. 2008. Agricultural land use and biodiversity in the Alps: how cultural tradition and socio-economically motivated changes are shaping grassland biodiversity in the Swiss Alps. Mountain Research and Development 28: 148-155.
- van Kleunen M., **Fischer M.** 2007. Progress in the detection of costs of phenotypic plasticity in plants. New Phytologist, 176: 727-730.

van Kleunen M. **Fischer M.** 2005. Constraints on the evolution of adaptive phenotypic plasticity in plants. *New Phytologist* 166: 49-60.

Fischer M., van Kleunen M. 2001. On the evolution of clonal plant life histories. *Evolutionary Ecology* 15: 565-582.

Book and peer-reviewed book chapters

Fischer M. in press. Faszination, Bedeutung, Zustand und Zukunft unserer Lebensgrundlage : eine einführung in Fragen der biologischen Vielfalt. In Beck E. (ed.) *Die Vielfalt des Lebens: wie hoch, wie komplex, warum?* Wiley-VCH: 3-9

Fischer M., Kalko E.K.V., Linsenmair K.E., Pfeiffer S., Prati D., Schulze E.D., Weisser W.W. 2010. Exploratories for large-scale and long-term functional biodiversity research In Müller F., Baessler C., Schubert H., Klotz, S. (eds) *Long-term ecological research – between theory and application*. Springer: 429-443.

Stöcklin J., Bosshard A., Klaus G., Rudmann-Maurer K., **Fischer M.** 2007. Landnutzung und biologische Vielfalt in den Alpen – Fakten, Perspektiven, Empfehlungen. vdf Verlag, Zürich, Switzerland. Also printed in French as:

Stöcklin J., Bosshard A., Klaus G., Rudmann-Maurer K., **Fischer M.** 2007. Utilisation du sol et diversité biologique dans les Alpes: faits, perspectives, recommandations. vdf Verlag, Zürich, Switzerland.

Further publications

Fischer M. 2011. Biodiversität benötigt Fläche – Naturschutzbiologische Grundlagen. *Hotspot* 24: 17-19.

Fischer M. 2011. Integrative Biodiversitätsforschung in Deutschland. *VDL-Journal* 3/2011: 12-13.

Pfeiffer S., Gockel S., Hemp A., Wells K., Prati D., Nieschulze J., Kalko EKV, Buscot F., Linsenmair KE, Schulze E-D, Weisser WW, **Fischer M.** 2010. Exploratories for Functional Biodiversity Research. In *Atlas of Biodiversity Risk*. Settele J., Penev L., Georgiev T., Grabaum R., Grobelnik V., Hammam V., Klotz S., Kotarac M., Kühn I. (eds.). Pensoft, Sofia, Moscow, 26-29.

Bosshard O., Parepa M. and **Fischer M.** 2010. Climate-neutral ecology conferences: just do it. *Trends in Ecology and Evolution* 25: 61

Prati D., **Fischer M.** 2009. Darwin's Erben: die Evolution der Evolutionstheorie. *Hotspot* 19: 16-17

Fischer M., Rottstock T., Marquard E., Middelhoff C., Roscher C., Temperton V.M., Oelmann Y., Weigelt A. et le consortium de l'expérience de Jena 2008. L'expérience de Jena démontre les avantages de la diversité végétale pour les prairies agricoles. *Fourrages* 195: 275-286.

Pfeiffer S., Bernert P., Grossmann M., Henne E., Kalko E.K.V., Linsenmair K.E., Prati D., Schulze E.-D., Weisser W.W., **Fischer M.** 2008. Exploratorien für funktionelle Biodiversitätsforschung. In: *Naturschutz und Ökologie – Ausgewählte Beiträge zur GfÖ-Jahrestagung 2007 in Marburg*. (Eds) V. Wolters & A. Krüss, ISBN 978-3-7843-3960-3 *Naturschutz und Biologische Vielfalt* 60: 183-188.

Fischer M. 2008 Book review: Plant–Pollinator Interactions: From Specialization to Generalization, N.M. Waser, J. Ollerton (Eds.). University of Chicago Press, Chicago, London (2006). *Basic and Applied Ecology* 9: 92.

Fischer M., Kuss P., Stöcklin J. 2007. Neophytische Opuntien im Sukkulantenbusch auf Teneriffa. *Bauhinia* 20: 35-44.

Fischer M., Stöcklin J., Weyand A., Maurer K. 2004. Cultural and biological diversity of grasslands in the Swiss Alps. *Grassland Science in Europe* 9: 293-295.

Fischer M. 2003. Warum wir grosse Schutzgebiete brauchen. *Hotspot* 7: 6-7.

Fischer M. 2003. Trockenwiesen und die funktionelle Kaskade der Biodiversität. *Bauhinia* 17: 58-59.

Fischer M., Schütz W., Koch M., Bernhardt K.-G. 2003. Special feature: Plant population biology in a multidisciplinary context. *Basic and Applied Ecology* 4: 285-286.

Fischer M. 2002. Positive biodiversity-production relationships: towards mechanisms. *Trends in Ecology and Evolution* 17: 61 (invited commentary).

Fischer M. 2001. Landscape dynamics can accelerate metapopulation extinction. *Trends in Ecology and Evolution* 16: 225-226 (invited commentary).

Fischer M. 2000. Species loss after habitat fragmentation. *Trends in Ecology and Evolution* 15: 396 (invited commentary).

Fischer M. 1998. Über die Ursachen der Gefährdung lokaler Pflanzenpopulationen. *Bauhinia* 12: 9-22.

Fischer M., Schmid B. 1998. Die Bedeutung der genetischen Vielfalt für das Überleben von Populationen. *Laufener Seminarbeiträge* 98: 23-30.

Unpublished white papers

Fischer M., Edwards P., Gessner M., Körner C., Müller-Schärer H., Nentwig W., Pauli D., Scheidegger C., Schmid B., Walter T. (Arbeitsgruppe des Forum Biodiversität der SCNAT) 2010. Zukunft Biodiversitätsforschung Schweiz: Herausforderungen, Potenziale, Visionen, Roadmap Ein Strategiepapier zuhanden der Schweizerischen Forschungsförderung. Unpublished.

Marquard E., **Fischer M.** 2010. Ökologische Biodiversitätsforschung in Deutschland - Ein Überblick. Zuhandne von Diversitas-Deutschland. Unpublished.

Fischer M., Beck E., Boetius A., Gemeinholzer B., Hillebrand H., Weisser W.W. 2008. Zukunft der deutschen Biodiversitätsforschung - Ein Strategiepapier für das Forum für Forschungsförderung der Allianz der Deutschen Wissenschaftsorganisationen. Unpublished. (This paper initiated the foundation of the DFG Forschungszentrum für Integrative Biodiversitätsforschung and of the German National Biodiversity Data Repository)

Fischer M., Weisser W.W., Linsenmair K.E., Nuppenau , Buscot F. 2004. Feed back loops in anthropogenic biodiversity change: Genes, species, ecosystems, landscapes, and society. Ein Strategiepapier zuhanden der Deutschen Forschungsgemeinschaft DFG. Unpublished. (This paper initiated the DFG Priority Program Biodiversity Exploratories and the science-policy platform Netzwerk-Forum Biodiversität).

Original publications in physics (if these are included, h increases to 31)

- Müller P., Gerstenberg H., **Fischer M.**, Schindler W., Strobel J., Saemann-Ischenko G., Kammermeier H . 1988. Low-temperature neutron-irradiation of the high-T_c-superconductors YBa₂Cu₃O₇ and YBa_{1.2}Cu₃O₇. Solid state communications 65: (3) 223-225.
- Müller P., Schindler W., Saemann-Ischenko G., Burzlaff H., Gerstenberg H. **Fischer M.** 1988. Neutron-irradiation of YBa₂Cu₃O₇ and YBa_{1.2}Cu₃O₇. Physica C 153: 343-344, Part 1.