

- Education** **Dr. rer. nat. (Ph.D.), Technical University Dresden** Dresden, Germany
November 2014, Area: Physics (magna cum laude)
Advisor: Prof. Dr. Manfred Helm, Prof. Dr. Joachim Ohser
Thesis: “Carrier Relaxation Dynamics in Graphene”
- Dipl. Ing. (FH), University of Applied Science Darmstadt** Darmstadt, Germany
September 2010, Area: Photonics and Image Processing (1.2)
Advisor: Dr. Stephan Winnerl, Prof. Dr. Joachim Ohser
Thesis: “Measurement of the Complex Conductivity of Semiconductors in the THz Range”
- Research Experience** **University of Duisburg – Essen, Faculty of Physics** Duisburg, Germany
Associate Professor, August 2019 – present
Current research topics:
⇒ Time-resolved THz microscopy
⇒ Carrier dynamics in complex oxide heterostructures
⇒ Two-dimensional materials and heterostructures
- University of Duisburg – Essen, Faculty of Physics** Duisburg, Germany
Research Scientist, January 2018 – August 2019
Research topics:
⇒ Nonlinear optics in graphene magneto plasmons
⇒ Tailoring carrier lifetime in black phosphorus
⇒ Carrier dynamics in 2D heterostructures
- University of Maryland – Photonics Research Laboratory** College Park, MD USA
Postdoc & Assistant Research Scientist, September 2014 – December 2017
Research topics:
⇒ Black phosphorus physics and devices
⇒ Graphene based THz modulators and photonics
⇒ Nonlinear plasmonic absorption in graphene ribbons
- Helmholtz-Zentrum Dresden-Rossendorf** Dresden, Germany
Graduate Research Assistant, October 2010 – September 2014
Research topics:
⇒ Investigation of the carrier relaxation dynamics in graphene
⇒ Development of an ultra-fast graphene-based detector (MIR-THz)
⇒ Pump-probe spectroscopy with free-electron lasers and fs lasers
⇒ Development of InGaAs-based THz emitters for pumping at 1.55 μm
- Funding and Awards** ⇒ PI for multiple granted beam time proposals at the free-electron laser (>50 12h shifts) facility FELBE
 ⇒ PI on project within collaborative research center (DFG, SFB1242 B09)
 ⇒ DAAD travel grant to participate in Graphene Week 2018
 ⇒ Co PI in UMD & Smithsonian 2014–2015 Seed Grant Program
 ⇒ HZDR recognition award for outstanding PhD thesis 2015
- Professional Activities** ⇒ Reviewer for >10 journals, including Nature Communications and PRL
 ⇒ Member of Optica and DPG
 ⇒ Member and Chair of the subcommittee S&I 5 for CLEO 2021, 2022 & 2023
 ⇒ Chair of the examination board for the Energy Science program at UDE
 ⇒ Several lectures on THz spectroscopy, e.g. at the SFB 1242 summer school 2021

- ⇒ Co-Organizer of the Bad Honnef Physics School “As thin as it gets: Physics of 2D Materials and Heterostructures”, July 2022
- ⇒ Teaching courses “Basic Physics for Chemistry” and “Experimental Physics III and IV”
- ⇒ Advanced courses “THz Physics”, “Optoelectronics”, and “Photonics”

Journal Articles

- [J51] H. Azazoglu, P. Kapitza, M. Mittendorff, R. Möller, and M. Gruber, “Variable-temperature lightwave-driven scanning tunneling microscope with a compact, turn-key terahertz source”, *Review of Scientific Instruments* **95**, 023703 (2024).
- [J50] J. W. Han, P. Sai, D. B. But, E. Uykur, S. Winnerl, G. Kumar, M. L. Chin, R. L. Myers-Ward, M. T. Dejarld, K. M. Daniels, T. E. Murphy, and M. Mittendorff, “Strong transient magnetic fields induced by THz driven plasmons in graphene disks”, *Nature Communications* **14**, 7493 (2023).
- [J49] S. Izadi, A. Bhattacharya, S. Salloum, J. W. Han, L. Schnatmann, U. Wolff, N. Perez, G. Bendt, I. Ennen, A. Hütten, K. Nielsch, S. Schulz, M. Mittendorff, and G. Schierning, “Density-dependence of surface transport in tellurium-enriched nanograined bulk Bi_2Te_3 ”, *Small* **19**, 2204850 (2023).
- [J48] A. Kunzmann, J. Frenzel, U. Wolff, J. W. Han, L. Giebeler, D. Piorunek, M. Mittendorff, J. Scheiter, H. Reith, N. Perez, K. Nielsch, G. Eggeler, and G. Schierning, “The role of electrons during the martensitic phase transformation in NiTi-based shape memory alloys”, *Materials Today Physics*, **24**, 100671 (2022).
- [J47] J. W. Han, M. L. Chin, S. Matschy, J. Poojali, A. Seidl, S. Winnerl, H. A. Hafez, D. Turchinovich, G. Kumar, R. L. Myers-Ward, T. Dejarld, K. M. Daniels, H. D. Drew, T. E. Murphy, and M. Mittendorff, “Plasmonic Terahertz nonlinearity in graphene disks”, *Advanced Photonics Research* **3**, 2100218 (2022).
- [J46] S. Izadi, J. W. Han, S. Salloum, U. Wolff, L. Schnatmann, A. Asaithambi, S. Matschy, H. Schlörb, H. Reith, N. Perez, K. Nielsch, S. Schulz, M. Mittendorff, and G. Schierning, “Interface-dominated topological transport in nanograined bulk Bi_2Te_3 ”, *Small* **17**, 2103281 (2021).
- [J45] S. Kovalev, H. A. Hafez, K.-J. Tielrooij, J.-C. Deinert, I. Ilyakov, N. Awari, D. Alcaraz, K. Soundarapandian, D. Saleta, S. Germanskiy, M. Chen, M. Bawatna, B. Green, F. H. L. Koppens, M. Mittendorff, M. Bonn, M. Gensch, and D. Turchinovich, “Electrical tunability of terahertz nonlinearity in graphene”, *Science Advances* **7**, eabf9809 (2021).
- [J44] M. L. Chin, S. Matschy, F. Stawitzki, J. Poojali, H. Hafez, D. Turchinovich, S. Winnerl, G. Kumar, R. L. Myers-Ward, M. Dejarld, K. Daniels, H. D. Drew, T. E. Murphy, and M. Mittendorff, “Observation of strong magneto plasmonic nonlinearity in bilayer graphene discs”, *Journal of Physics: Photonics* **3**, 01LT01 (2021).
- [J43] M. M. Jadidi, M. Kargarian, M. Mittendorff, Y. Aytac, B. Shen, J. C. König-Otto, S. Winnerl, N. Ni, A. L. Gaeta, T. E. Murphy, and H. D. Drew, “Nonlinear optical control of chiral charge pumping in a topological Weyl semimetal”, *Physical Review B* **102**, 245123 (2020).
- [J42] M. Mittendorff, S. Winnerl, and T. E. Murphy “2D THz Optoelectronics”, *Advanced Optical Materials* **9**, 20001500 (2020).
- [J41] D. B. But, M. Mittendorff, C. Consejo, F. Teppe, N. N. Mikhailov, S. A. Dvoretzki, C. Faugeras, S. Winnerl, M. Helm, W. Knap, M. Potemski, and M. Orlita “Suppressed Auger scattering and tunable light emission of Landau-quantized massless Kane electrons”, *Nature Photonics* **13**, 783 (2019).
- [J40] M. M. Jadidi, K. M. Daniels, R. L. Myers-Ward, D. K. Gaskill, J. C. König-Otto, S. Winnerl, A. B. Sushkov, H. D. Drew, T. E. Murphy, and M. Mittendorff, “Optical Control of Plasmonic Hot Carriers in Graphene”, *ACS Photonics* **6**, 302 (2019).
- [J39] R. J. Suess, J. D. Hart, E. Leong, M. Mittendorff, and T. E. Murphy, “Black phosphorus frequency mixer for infrared optoelectronic signal processing”, *APL Photonics* **4**, 034502 (2019).
- [J38] Y. Aytac, M. Mittendorff, and T. E. Murphy, “Probing the free-carrier absorption in multi-layer black phosphorus”, *Applied Physics Letters* **113**, 031108 (2018).
- [J37] A. Lisauskas, K. Ikamas, S. Massabeau, M. Bauer, D. Cibiraite, J. Matukas, J. Mangeney, M. Mittendorff, S. Winnerl, V. Krozer, and H. G. Roskos “Field-effect transistors as electrically controllable nonlinear rectifiers for the characterization of terahertz pulses”, *APL Photonics* **3**, 051705 (2018).
- [J36] S. Winnerl, M. Mittendorff, J. C. König-Otto, H. Schneider, M. Helm, T. Winzer, A. Knorr, and E. Malic “Ultrafast processes in graphene: from fundamental manybody interactions to device applications”, *Annalen der Physik* **529**, 1700022 (2017).

- [J35] M. Mittendorff, R. J. Suess, E. Leong, and T. E. Murphy, “Optical gating of black phosphorus for terahertz detection”, *Nano Letters* **17**, 5811 (2017).
- [J34] F. Wendler, M. Mittendorff, J. C. König-Otto, S. Brem, C. Berger, W. A. de Heer, R. Böttger, H. Schneider, M. Helm, S. Winnerl, and E. Malic, “Symmetry-breaking supercollisions in Landau-quantized graphene”, *Physical Review Letters* **119**, 067405 (2017).
- [J33] E. Malic, T. Winzer, F. Wendler, S. Brem, R. Jago, A. Knorr, M. Mittendorff, J. C. König-Otto, T. Plötzing, D. Neumaier, H. Schneider, M. Helm, and S. Winnerl, “Carrier dynamics in graphene: ultrafast many particle phenomena”, *Annalen der Physik* **529**, 1700038 (2017).
- [J32] E. Leong, R. J. Suess, A. B. Sushkov, H. D. Drew, T. E. Murphy, and M. Mittendorff, “Terahertz photoreponse of black phosphorus”, *Optics Express* **25**, 12666 (2017).
- [J31] T. Winzer, M. Mittendorff, S. Winnerl, H. Mittenzwey, R. Jago, M. Helm, E. Malic, and A. Knorr, “Unconventional double-banded saturation of carrier occupation in optically excited graphene due to many-particle interactions”, *Nature Communications* **8**, 15042 (2017).
- [J30] N. Deßmann, S. G. Pavlov, V. V. Tsyplenkov, E. E. Orlova, A. Pohl, V. N. Shastin, R. K. Zhukavin, S. Winnerl, M. Mittendorff, J. M. Klopf, N. V. Abrosimov, H. Schneider, and H.-W. Hübers, “Dynamics of non-equilibrium charge carriers in p-germanium doped by gallium”, *Physica Status Solidi b* **254**, 1600803 (2017).
- [J29] M. Mittendorff, S. Li, and T. E. Murphy, “Graphene-based waveguide-integrated terahertz modulator”, *ACS Photonics* **4**, 316 (2017).
- [J28] M. M. Jadidi, R. J. Suess, C. Tan, X. Cai, K. Watanabe, T. Taniguchi, A. B. Sushkov, M. Mittendorff, J. Hone, H. D. Drew, M. S. Fuhrer, and T. E. Murphy, “Tunable ultrafast thermal relaxation in graphene measured by continuous-wave photomixing”, *Physical Review Letters* **117**, 257401 (2016).
- [J27] R. J. Suess, E. Leong, J. L. Garrett, T. Zhou, R. Salem, J. N. Munday, T. E. Murphy, and M. Mittendorff, “Mid-infrared time-resolved photoconduction in black phosphorus”, *2D Materials* **3**, 041006 (2016).
- [J26] J. C. König-Otto, M. Mittendorff, T. Winzer, F. Kadi, E. Malic, C. Berger, W. A. de Heer, A. Pashkin, H. Schneider, M. Helm, and S. Winnerl, “Slow noncollinear Coulomb scattering in the vicinity of the Dirac point in graphene”, *Physical Review Letters* **117**, 087401 (2016).
- [J25] R. J. Suess, S. Winnerl, H. Schneider, M. Helm, C. Berger, W. A. de Heer, T. E. Murphy, and M. Mittendorff, “Role of transient reflection in graphene nonlinear infrared optics”, *ACS Photonics* **3**, 1069 (2016).
- [J24] M. M. Jadidi, J. C. König-Otto, S. Winnerl, A. B. Sushkov, H. D. Drew, T. E. Murphy, and M. Mittendorff, “Nonlinear terahertz absorption of graphene plasmons”, *Nano Letters* **16**, 2734 (2016).
- [J23] K. J. Kaltenecker, J. C. König-Otto, M. Mittendorff, S. Winnerl, H. Schneider, M. Helm, H. Helm, M. Walther, and B. M. Fischer, “Gouy phase shift of a tightly focused, radially polarized beam”, *Optica* **3**, 35 (2016).
- [J22] M. Mittendorff, J. Kamann, J. Eroms, D. Weiss, C. Drexler, S. D. Ganichev, J. Kerbusch, A. Erbe, R. J. Suess, T. E. Murphy, S. Chatterjee, K. Kolata, J. Ohser, J. C. König-Otto, H. Schneider, M. Helm, and S. Winnerl, “Universal ultrafast detector for short optical pulses based on graphene”, *Optics Express* **23**, 28728 (2015).
- [J21] S. Preu, M. Mittendorff, S. Winnerl, O. Cojocari, and A. Penirschke, “THz autocorrelators for ps pulse characterization based on Schottky diodes and rectifying field-effect transistors”, *IEEE Transactions on Terahertz Science and Technology* **5**, 922 (2015).
- [J20] R. J. Suess, M. M. Jadidi, T. E. Murphy, and M. Mittendorff, “Carrier dynamics and transient photobleaching in thin layers of black phosphorus”, *Applied Physics Letters* **107**, 081103 (2015).
- [J19] S. Regensburger, M. Mittendorff, S. Winnerl, H. Lu, A. C. Gossard, and S. Preu, “Broadband THz detection from 0.1 to 22 THz with large area field-effect transistors”, *Optics Express* **23**, 20732 (2015).
- [J18] N. Deßmann, S. G. Pavlov, A. Pohl, N. V. Abrosimov, S. Winnerl, M. Mittendorff, R. Kh. Zhukavin, V. V. Tsyplenkov, D. V. Shengurov, V. N. Shastin, and H.-W. Hübers, “Lifetime-limited, subnanosecond terahertz germanium photoconductive detectors”, *Applied Physics Letters* **106**, 171109 (2015).
- [J17] M. Mittendorff, F. Wendler, E. Malic, A. Knorr, M. Orlita, M. Potemski, C. Berger, W. A. de Heer, H. Schneider, M. Helm, and S. Winnerl, “Carrier dynamics in Landau-quantized graphene featuring strong Auger scattering”, *Nature Physics* **11**, 75 (2015).

- [J16] M. Mittendorff, M. Orlita, M. Potemski, C. Berger, W. A. de Heer, H. Schneider, M. Helm, and S. Winnerl, “Intraband carrier dynamics in Landau-quantized multilayer epitaxial graphene”, *New Journal of Physics* **16**, 123021 (2014).
- [J15] F. Kadi, T. Winzer, E. Malic, A. Knorr, F. Göttfert, M. Mittendorff, S. Winnerl, and M. Helm, “Microscopic description of intraband absorption in graphene: the occurrence of transient negative differential transmission”, *Physical Review Letters* **113**, 035502 (2014).
- [J14] S. G. Pavlov, N. Deßmann, V. N. Shastin, R. Kh. Zhukavin, B. Redlich, A. F. G. van der Meer, M. Mittendorff, S. Winnerl, N. V. Abrosimov, H. Riemann, and H.-W. Hübers, “Terahertz stimulated emission from silicon doped by hydrogenlike acceptors”, *Physical Review X* **4**, 021009 (2014).
- [J13] M. Mittendorff, T. Winzer, E. Malic, A. Knorr, C. Berger, W. A. de Heer, H. Schneider, M. Helm, and S. Winnerl, “Anisotropy of excitation and relaxation of photogenerated charge carriers in graphene”, *Nano Letters* **14**, 1504 (2014).
- [J12] N. Deßmann, S. G. Pavlov, V. N. Shastin, R. Kh. Zhukavin, V. V. Tsypfenkov, S. Winnerl, M. Mittendorff, N. V. Abrosimov, H. Riemann, and H.-W. Hübers, “Time-resolved electronic capture in n-type germanium doped with antimony”, *Physical Review B* **89**, 035205 (2014).
- [J11] M. Xu, M. Mittendorff, R. Dietz, H. Künzel, B. Sartorius, T. Göbel, H. Schneider, M. Helm, and S. Winnerl, “Terahertz generation and detection with InGaAs-based large-area photoconductive devices excited at $1.55\ \mu\text{m}$ ”, *Applied Physics Letters* **103**, 251114 (2013).
- [J10] S. Preu, M. Mittendorff, S. Winnerl, H. Lu, A. C. Gossard, and H. B. Weber, “Ultra-fast transistor-based detectors for precise timing of near infrared and THz signals”, *Optics Express* **21**, 17941 (2013).
- [J9] M. Mittendorff, S. Winnerl, J. Kamann, J. Eroms, D. Weiss, H. Schneider, and M. Helm, “Ultrafast graphene-based broadband THz detector”, *Applied Physics Letters* **103**, 021113 (2013).
- [J8] M. Beck, I. Rousseau, M. Klammer, P. Leiderer, M. Mittendorff, S. Winnerl, M. Helm, G. N. Gol’tsman, and J. Demsar, “Transient increase of the energy gap in superconducting NbN thin Films excited by resonant narrow-band terahertz pulses”, *Physical Review Letters* **110**, 267003 (2013).
- [J7] M. Mittendorff, M. Xu, R. J. B. Dietz, H. Künzel, B. Sartorius, H. Schneider, M. Helm, and S. Winnerl, “Large area photoconductive THz emitter for $1.55\ \mu\text{m}$ excitation based on an InGaAs heterostructure”, *Nanotechnology* **24**, 214007 (2013).
- [J6] S. Winnerl, F. Göttfert, M. Mittendorff, H. Schneider, M. Helm, T. Winzer, E. Malic, A. Knorr, M. Orlita, M. Potemski, M. Sprinkle, C. Berger, and W. A. de Heer, “Time-resolved spectroscopy on epitaxial graphene in the infrared spectral range: relaxation dynamics and saturation behavior”, *Journal of Physics: Condensed Matter* **25**, 054202 (2013).
- [J5] S. Boppel, A. Lisauskas, M. Mundt, D. Seliuta, L. Minkevicius, I. Kašalynas, G. Valušis, V. Krozer, M. Mittendorff, S. Winnerl, and H. G. Roskos, “CMOS integrated antenna-coupled field-effect-transistors for the detection of radiation from 0.2 to 4.3 THz”, *IEEE Transactions on Microwave Theory and Techniques* **60**, 3834 (2012).
- [J4] T. Winzer, A. Knorr, M. Mittendorff, S. Winnerl, D. Sun, T. B. Norris, M. Helm, and E. Malic, “Absorption saturation in optically pumped graphene”, *Applied Physics Letters* **101**, 221115 (2012).
- [J3] S. Winnerl, R. Hubrich, M. Mittendorff, H. Schneider, and M. Helm, “Universal phase relation between longitudinal and transverse fields observed in focused terahertz beams”, *New Journal of Physics* **14**, 103049 (2012).
- [J2] S. Preu, M. Mittendorff, H. Lu, H. B. Weber, S. Winnerl, and A. C. Gossard, “1550 nm ErAs:In(Al)GaAs Large Area Photoconductive Emitters”, *Applied Physics Letters* **101**, 101105 (2012).
- [J1] C. Kaya, C. Schneider, A. Al Shemmary, W. Seidel, M. Kuntzsch, J. Bhattacharyya, M. Mittendorff, P. Evtushenko, S. Winnerl, G. Staats, M. Helm, N. Stojanovic, P. Michel, and M. Gensch, “Phase sensitive monitoring of electron bunch form and arrival time in superconducting linear accelerators”, *Applied Physics Letters* **100**, 141103 (2012).

Conference Proceedings

- [C29] J. W. Han, P. Han, Y. Liu, P. Barbara, T. E. Murphy, and M. Mittendorff, “Photon-assisted interlayer transport in transition-metal dichalcogenide heterostructures”, *Conference on Lasers and Electro-Optics (CLEO) 2022*, Paper# FTu4B.5 (2022).

- [C28] J. W. Han, S. Izadi, S. Salloum, U. Wolff, L. Schnattmann, A. Bhattacharya, A. Asaithambi, S. Matschy, H. Schlörb, H. Reith, N. Perez, K. Nielsch, S. Schulz, G. Schiering, and M. Mittendorff, “Terahertz conductivity of nanograined bulk Bi_2Te_3 ”, Conference on Lasers and Electro-Optics (CLEO) 2022, Paper# FM5F.8 (2022).
- [C27] M. L. Chin, F. Stawitzki, S. Matschy, J. Poojali, H. A. Hafez, D. Turchinovich, S. Winnerl, G. Kumar, R. L. Myers-Ward, M. T. Dejarld, K. M. Daniels, T. E. Murphy, and M. Mittendorff, “Magnetically tuned THz nonlinearity in bilayer graphene disc arrays”, Conference on Lasers and Electro-Optics (CLEO) 2018, Paper# STuG.2 (2018).
- [C26] T. E. Murphy, M. M. Jadidi, M. Mittendorff, A. B. Sushkov, H. D. Drew, and M. S. Fuhrer, “Terahertz detection in 2D materials”, Quantum Sensing and Nano Electronics and Photonics XV (2018).
- [C25] S. Winnerl, J. C. König-Otto, M. Mittendorff, A. Pashkin, T. Venanzi, H. Schneider, and M. Helm, “Low-energy carrier dynamics in graphene and other 2D materials”, 2018 International Conference Laser Optics (ICLO) (2018).
- [C24] Y. Aytac, M. Mittendorff, and T. E. Murphy, “Mid-IR ultrafast carrier dynamics in black phosphorus observed above and below the bandgap”, Conference on Lasers and Electro-Optics (CLEO) 2018, Paper# SW4N.5 (2018).
- [C23] Y. Aytac, M. Mittendorff, and T. E. Murphy, “Broadband third-harmonic generation in black phosphorus”, Conference on Lasers and Electro-Optics (CLEO) 2017, Paper# SW4K.2 (2017).
- [C22] R. J. Suess, L. Chen, J. D. Hart, E. Leong, T. E. Murphy, and M. Mittendorff, “A black phosphorus optoelectronic mixer”, Conference on Lasers and Electro-Optics (CLEO) 2017, Paper# SF1J.1 (2017).
- [C21] M. M. Jadidi, M. Mittendorff, S. Winnerl, B. Shen, A. B. Sushkov, G. S. Jenkins, N. Ni, H. D. Drew, and T. E. Murphy, “Terahertz pump-probe study of the Weyl semimetal TaAs”, Conference on Lasers and Electro-Optics (CLEO) 2017, Paper# FF1F.3 (2017).
- [C20] Y. Aytac, M. Mittendorff, and T. E. Murphy, “Mid-infrared pump-probe measurements of carrier dynamics in black phosphorus”, Frontiers in Optics 2017, Paper# JTu3A.31 (2017).
- [C19] M. Mittendorff, R. J. Suess, E. Leong, A. B. Sushkov, H. D. Drew, and T. E. Murphy, “Terahertz detection mechanisms in black phosphorus”, Frontiers in Optics 2017, Paper# JW4A.79 (2017).
- [C18] M. M. Jadidi, A. B. Sushkov, M. Mittendorff, K. M. Daniels, A. K. Boyd, R. L. Myers-Ward, H. D. Drew, M. S. Fuhrer, D. K. Gaskill, and T. E. Murphy, “Graphene plasmonics for terahertz photonics”, 2016 IEEE Photonics Conference (IPC), Paper# MA2.2 (2016).
- [C17] K. J. Kaltenecker, J. C. König-Otto, M. Mittendorff, S. Winnerl, H. Schneider, M. Helm, H. Helm, M. Walther, and B. Fischer, “Tracing the Gouy phase shift of focused, radially polarized THz pulses”, 41st International Conference on Infrared, Millimeter and Terahertz Waves (2016).
- [C16] M. Mittendorff, M. M. Jadidi, J. C. König-Otto, S. Winnerl, A. B. Sushkov, H. D. Drew, and T. E. Murphy, “Nonlinear plasmonic THz absorption in graphene ribbons”, CLEO: Science and Innovations, Paper# SM3L.5 (2016).
- [C15] S. Winnerl, J. C. König-Otto, M. Mittendorff, T. Winzer, E. Malic, A. Knorr, A. Pashkin, H. Schneider, and M. Helm, “Long-lived anisotropy of photoexcited graphene electrons”, QELS Fundamental Science, Paper# FTu4L.3 (2016).
- [C14] R. J. Suess, E. Leong, T. E. Murphy, and M. Mittendorff, “Intrinsic speed of a black phosphorus photoconductive detector”, CLEO: Applications and Technology, Paper# JW2A.41 (2016).
- [C13] R. J. Suess, S. Winnerl, H. Schneider, M. Helm, C. Berger, W. A. de Heer, T. E. Murphy, and M. Mittendorff, “Far-infrared nonlinear optics in multilayer epitaxial graphene”, CLEO: Science and Innovations, Paper# SM3L.4 (2016).
- [C12] E. Leong, R. J. Suess, A. B. Sushkov, H. D. Drew, T. E. Murphy, and M. Mittendorff, “THz photoresponse of thin layers of black phosphorus”, CLEO: Science and Innovations, Paper# STh4L.4 (2016).
- [C11] M. Mittendorff, S. Li, and T. E. Murphy, “Silicon-Integrated Graphene-Based THz”, Frontiers in Optics, Paper# FTh4B.5 (2015).
- [C10] R. J. Suess, M. M. Jadidi, T. E. Murphy, and M. Mittendorff, “Time resolved spectroscopy on thin layers of black phosphorus”, Frontiers in Optics, Paper# FW3A.5 (2015).

- [C9] M. M. Jadidi, R. J. Suess, X. Cai, A. B. Sushkov, M. Mittendorff, M. S. Fuhrer, D. H. Drew, and T. E. Murphy, “Characterization of graphene photothermoelectric detector via two-wave mixing technique”, CLEO: Science and Innovations, Paper# SM2G.7 (2015).
- [C8] F. Wendler, H. Funk, M. Mittendorff, S. Winnerl, M. Helm, A. Knorr, and E. Malic, “Efficient Auger scattering in Landau-quantized graphene”, Photonics West Conference, Proceedings of SPIE, 936105 (2015).
- [C7] S. Preu, S. Regensburger, S. Kim, M. Mittendorff, S. Winnerl, S. Malzer, H. Lu, P. G. Burke, A. C. Gossard, H. B. Weber, and M. S. Sherwin, “Broadband THz detection and homodyne mixing using GaAs high-electron-mobility transistor rectifiers”, 6th International Conference on Millimetre Wave and Terahertz Sensors and Technology (2013).
- [C6] S. Winnerl, R. Hubrich, M. Mittendorff, H. Schneider, and M. Helm, “Longitudinal fields in focused terahertz beams”, 38th International Conference on Infrared, Millimeter and Terahertz Waves (2013).
- [C5] W. Seidel, O. Drachenko, M. Gensch, M. Helm, M. Kuntzsch, M. Justus, U. Lehnert, P. Michel, M. Mittendorff, C. Schneider, H. Schneider, R. Schurig, M. Teich, J. Teichert, and S. Winnerl, “The THz user facility FELBE at the radiation source ELBE of Helmholtz-Zentrum Dresden-Rossendorf”, 38th International Conference on Infrared, Millimeter and Terahertz Waves (2013).
- [C4] N. Deßmann, S. Pavlov, M. Mittendorff, S. Winnerl, R. Zhukavin, V. Tsyplenkov, V. Shengurov, V. Shastin, N. Abrosimov, H. Riemann, and H.-W. Hübers, “Fast relaxation of free carriers in compensated n- and p-type germanium”, 38th International Conference on Infrared, Millimeter and Terahertz Waves (2013).
- [C3] M. Xu, M. Mittendorff, R. Dietz, T. Göbel, H. Schneider, M. Helm, and S. Winnerl, “InGaAs-based large area photoconductive emitters for 1.55 μm excitation”, 38th International Conference on Infrared, Millimeter and Terahertz Waves (2013).
- [C2] M. Mittendorff, S. Winnerl, J. Kamann, J. Eroms, D. Weiss, H. Schneider, and M. Helm, “Ultrafast graphene-based THz detection at room temperature”, 38th International Conference on Infrared, Millimeter and Terahertz Waves (2013).
- [C1] N. Deßmann, S. G. Pavlov, V. N. Shastin, R. Kh. Zhukavin, S. Winnerl, M. Mittendorff, and H. W. Hübers, “Time-resolved electronic capture in germanium doped with hydrogen-like impurity centers”, 37th International Conference on Infrared, Millimeter and Terahertz Waves (2012).

Invited Talks

- [I17] “Plasmonic nonlinearities for terahertz applications”, SPIE Photonics Europe, Strasbourg, France (April 2024).
- [I16] “Graphene plasmonics for non-linear terahertz applications”, SPIE Optics and Photonics, San Diego, CA, USA (August 2023).
- [I15] “Graphene plasmonics: THz nonlinearities beyond thermal effects”, TERFEL, Warsaw, Poland (July 2022).
- [I14] “Graphene plasmonics for terahertz nonlinear optics”, CIOP 2021, Xi’an, China (August, 2021).
- [I13] “Photon-assisted interlayer transport in transition metal dichalcogenide heterostructures”, SFB1242 Workshop on 2D Materials, Duisburg, Germany (July, 2021).
- [I12] “Hot Carriers in Graphene: a Versatile Platform for THz Nonlinear Plasmonics”, CLEO 2020, San Jose, CA, USA (May, 2020).
- [I11] “Tunable nonlinearity in graphene THz plasmonics”, SPIE Optics and Photonics, San Diego, CA USA (August, 2019).
- [I10] “Hot Carriers in Graphene: a Versatile Platform for THz Nonlinear Plasmonics”, FELBE/TELBE User Workshop, Dresden, Germany (May, 2019).
- [I9] “THz detection mechanisms in black phosphorus”, 2nd Terahertz and Materials Workshop, University of Chester, Chester, UK (March, 2018).
- [I8] “Graphene and THz Radiation: Time Resolved Spectroscopy and Applications”, U.S. Naval Research Laboratory, Washington D.C., USA (November, 2017).

- [17] “Graphene and THz Radiation: Time Resolved Spectroscopy and Applications”, The University of Texas Rio Grande Valley, Brownsville, TX USA (February, 2017).
- [16] “Terahertz Properties of 2D Semiconductors: Time-Resolved Spectroscopy and Applications”, Philipps University Marburg, Marburg, Germany (April, 2016).
- [15] “Graphen und THz Strahlung: Zeitaufgelöste Spektroskopie und Anwendungen”, University of Duisburg-Essen, Essen, Germany (April, 2016).
- [14] “THz Properties of Graphene: Time Resolved Spectroscopy and Applications”, Oakland University, Rochester, MI USA (April, 2016).
- [13] “Kurzeitspektroskopie: Kürzeste Laserpulse für Materialuntersuchungen”, University of Applied Science Darmstadt, Darmstadt, Germany (June, 2014).
- [12] “Carrier relaxation dynamics in Landau quantized graphene”, University of Regensburg, Regensburg, Germany (November, 2013).
- [11] “Relaxation dynamics in Landau quantized graphene”, THz dynamics in carbon based nanostructures (2012), Dresden, Germany (February, 2012).

Conference Talks

- [T17] J. W. Han, P. Han, Y. Liu, P. Barbara, T. E. Murphy, and M. Mittendorff, “Photon-assisted interlayer transport in transition-metal dichalcogenide heterostructures”, Conference on Lasers and Electro-Optics (CLEO) 2022, Paper# FTu4B.5 (2022).
- [T16] R. J. Suess, L. Chen, J. D. Hart, E. Leong, T. E. Murphy, and M. Mittendorff, “A black phosphorus optoelectronic mixer”, Conference on Lasers and Electro-Optics (CLEO) 2017, Paper# SF1J.1 (2017).
- [T15] M. Mittendorff, R. J. Suess, E. Leong, and T. E. Murphy, “Photoconductive THz detection with flakes of black phosphorus”, Graphene (2017).
- [T14] M. Mittendorff, M. M. Jadidi, J. C. König-Otto, S. Winnerl, A. B. Sushkov, H. D. Drew, and T. E. Murphy, “Nonlinear plasmonic THz absorption in graphene ribbons”, CLEO: Science and Innovations, Paper# SM3L.5 (2016).
- [T13] M. Mittendorff, E. Leong, R. J. Suess, A. B. Sushkov, H. D. Drew, and T. E. Murphy, “Room temperature THz detection with thin layers of black phosphorus”, Graphene (2016).
- [T12] M. Mittendorff, R. J. Suess, H. Schneider, M. Helm, T. E. Murphy, and S. Winnerl, “Pump-induced far-infrared reflection in quasi-intrinsic graphene”, APS March Meeting (2016).
- [T11] M. Mittendorff, S. Li, and T. E. Murphy, “Silicon-Integrated Graphene-Based THz”, Frontiers in Optics, Paper# FTh4B.5 (2015).
- [T10] M. Mittendorff, F. Wendler, E. Malic, A. Knorr, M. Orlita, M. Potemski, C. Berger, W. A. de Heer, H. Schneider, M. Helm, and S. Winnerl, “Strong Auger scattering in Landau-quantized graphene investigated by infrared pump-probe experiments”, High Magnetic Fields in Semiconductor Physics (2014).
- [T9] M. Mittendorff, S. Winnerl, J. Kamann, J. Eroms, D. Weiss, C. Drexler, S. Ganichev, H. Schneider, and M. Helm, “Ultrafast detection from 0.6 THz to 33 THz employing graphene flakes”, Graphene (2014).
- [T8] M. Mittendorff, T. Winzer, E. Malic, A. Knorr, H. Schneider, M. Helm, and S. Winnerl, “Polarization dependence of optical carrier excitation in graphene”, DPG Frühjahrstagung, (2014).
- [T7] M. Mittendorff, S. Winnerl, J. Kamann, J. Eroms, D. Weiss, H. Schneider, and M. Helm, “Ultrafast graphene-based THz detection at room temperature”, 38th International Conference on Infrared, Millimeter and Terahertz Waves (2013).
- [T6] M. Mittendorff, S. Winnerl, M. Orlita, M. Potemski, C. Berger, W. A. de Heer, H. Schneider, and M. Helm, “Time-resolved spectroscopy on intraband Landau-level transitions in graphene”, Graphene Week (2013).
- [T5] M. Mittendorff, S. Winnerl, J. Kamann, J. Eroms, H. Schneider, and M. Helm, “Broadband THz detection with graphene flakes”, DPG Frühjahrstagung, (2013).

- [T4] M. Mittendorff, S. Winnerl, J. Kamann, J. Eroms, H. Schneider, and M. Helm, “Graphene based broadband THz detector working at room temperature”, International Workshop on Terahertz Science and Technology (2013).
- [T3] M. Mittendorff, S. Winnerl, H. Schneider, M. Helm, M. Orlita, M. Potemski, F. Wendler, E. Malic, A. Knorr, M. Sprinkle, C. Berger, and W. A. de Heer , “Selective pump-probe measurements in Landau quantized graphene”, International Conference on Superlattices, Nanostructures, and Nanodevices (2012).
- [T2] M. Mittendorff, S. Winnerl, H. Schneider, M. Helm, M. Orlita, M. Potemski, C. Berger, and W. A. de Heer, “Relaxation dynamics in Landau-quantized graphene probed in the mid-infrared range”, DPG Frühjahrstagung (2012).
- [T1] M. Mittendorff, S. Winnerl, P. Plochocka, P. Kossacki, H. Schneider, M. Orlita, M. Potemski, M. Sprinkle, C. Berger, W. A. de Heer, and M. Helm, “Relaxation dynamics of graphene in magnetic fields close to the Dirac point”, DPG Frühjahrstagung, (2011).

Conference Posters

- [P3] M. Mittendorff, M. M. Jadidi, K. M. Daniels, R. L. Myers-Ward, D. K. Gaskill, J. C. König-Otto, S. Winnerl, A. B. Sushkov, H. D. Drew, and T. E. Murphy, “Ultrafast thermal redshift in bilayer-graphene plasmons”, Graphene Week (2018).
- [P2] M. Mittendorff, R. J. Suess, E. Leong, A. B. Sushkov, H. D. Drew, and T. E. Murphy, “Terahertz detection mechanisms in black phosphorus”, Frontiers in Optics 2017, Paper# JW4A.79 (2017).
- [P1] M. Mittendorff, S. Winnerl, H. Schneider, M. Helm, M. Orlita, M. Potemski, C. Berger, and W. A. de Heer, “Carrier relaxation in Landau-quantized graphene”, Graphene Week (2012).