

Two-page Biographical Sketch

Name: Volodymyr Turkowski

Job Title Research: Assistant Professor

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(a) Professional Preparation

Undergraduate Institution	Kyiv Univ., Ukraine	Physics	MrSc 1995
Graduate Institution	Kyiv Univ., Ukraine	Theor. Physics	PhD 1998
Postdoctoral Institution	U. Salerno, Italy	Physics	1998-2001
Postdoctoral Institution	IST, Lisbon, Portugal	Physics	2001-2003
Postdoctoral Institution	Georgetown U.	Physics	2003-2006
Postdoctoral Institution	U. Missouri	Physics	2006-2008
Postdoctoral Institution	U. Central Florida	Physics	2008-2010

(b) Appointments

Research Assistant Professor, University of Central Florida, 2011-

(c) Publications

(i) Most current publications

1. Ch.E. Stevens, J. Paul, T. Cox, P.K. Sahoo, H.R. Gutiérrez, V. Turkowski, D. Semenov, S.A. McGill, M.D. Kapetanakis, I.E. Perakis, D.J. Hilton, D. Karaiskaj, “Biexcitons in monolayer transition metal dichalcogenides tuned by magnetic fields”, *Nature Comm.* **9**, 3720 (2018). DOI: 10.1038/s41467-018-05643-1
2. S.R. Acharya, V. Turkowski, G.P. Zhang, T.S. Rahman TS. “Ultrafast Electron Correlations and Memory Effects at Work: Femtosecond Demagnetization in Ni”, *Phys Rev Lett.* **125**, 017202 (2020). DOI: <https://doi.org/10.1103/PhysRevLett.125.017202>
3. V. Mapara, A. Barua, V. Turkowski, T.M. Trinh, C. Stevens, H. Liu, F.A. Nugera, N. Kapuruge, H.R. Gutierrez, F. Liu, X. Zhu, D. Semenov, S.A. McGill, N. Pradhan, D.J. Hilton, D. Karaiskaj, “Bright and Dark Exciton Coherent Coupling and Hybridization Enabled by External Magnetic Fields”, *Nano Lett.* **22**:1680 (2022). DOI: <https://doi.org/10.1021/acs.nanolett.1c04667>
4. D. Alam, N. Ud Din, M. Chini, and V. Turkowski, “Electron-electron Interactions and High-Order Harmonics in Solids”, *Phys. Rev B* **106**, 235124 (2022). DOI: <https://doi.org/10.1103/PhysRevB.106.235124>

5. J. Shi, V. Turkowski, and T.S. Rahman, “Dark-exciton energy splitting in monolayer WSe₂: Insights from time-dependent density functional theory”, *Phys. Rev. B* **107**, 155431 (2023). DOI: <https://doi.org/10.1103/PhysRevB.107.155431>

(ii) Other significant publications

1. J.K. Freericks, V.M. Turkowski, V. Zlatić, “Nonequilibrium dynamical mean-field theory”, *Phys Rev Lett.* **97**, 266408 (2006). DOI:<https://doi.org/10.1103/PhysRevLett.97.266408>
2. S. Kahle, Z. Deng, N. Malinowski, C. Tonnoir, A. Forment-Aliaga, N. Thontasen, G. Rinke, D. Le, V. Turkowski, T.S. Rahman, S. Rauschenbach, M. Ternes, K. Kern, “The quantum magnetism of individual manganese-12-acetate molecular magnets anchored at surfaces”, *Nano Lett.* **12**:518 (2012). DOI: [dx.doi.org/10.1021/nl204141z](https://doi.org/10.1021/nl204141z)
3. N. Nayyar, V. Turkowski, T.S. Rahman, “Optical generation of collective plasmon modes in small gold chains induced by doping transition-metal impurities”, *Phys Rev Lett.* **109**, 157404 (2012). DOI:<https://doi.org/10.1103/PhysRevLett.109.157404>
4. V. Turkowski, A. Kabir, N. Nayyar, T.S. Rahman, “Dynamical mean-field theory for molecules and nanostructures”, *J. Chem Phys.* **136**, 114108 (2012). DOI: [http://dx.doi.org/10.1063/1.3692613](https://doi.org/10.1063/1.3692613)
5. J. Paul, C.E. Stevens, C. Liu, P. Dey, C. McIntyre, V. Turkowski, J.L. Reno, D.J. Hilton, D. Karauskaj, “Strong Quantum Coherence between Fermi Liquid Mahan Excitons”, *Phys Rev Lett.* **116**, 157401 (2016). DOI:<https://doi.org/10.1103/PhysRevLett.116.157401>

(d) Graduate teaching experience

- Statistical Physics for graduate students PHY5524, Department of Physics, UCF (Spring 2016)

(e) Graduate students mentored

- Member of thesis/dissertation committees:

V. Mapara (Physics Department, USF, PhD, graduated March 2022)

T. Journigan (Physics Department, UCF, PhD, thesis defense date TBA)

C. Lantigua (Physics Department, UCF, PhD, thesis defense date TBA)

- Thesis supervisor

Didarul Alam (Physics Department, UCF, PhD, thesis defense date TBA)

(f) Other synergistic activities related to Graduate Education

1. Editorial Board Member: Journal of Physics Communications (IOP, since 2018), Computation (MDPI, since 2018)
2. Invited Guest Editor: Special Issue “Static and Time-Dependent DFT for strongly correlated materials” (Computation)
3. Reviewer of the proposals: Department of Energy (since 2019), Swiss National Science Foundation (since 2022)
4. Referee: Nature Communications, Physical Review Letters, Physical Review B, Journal of Physics: Condensed Matter, Journal of Materials Chemistry C, Nanoscale, Molecules, Materials, Nanomaterials
5. Organizing Committee Member: International Meet on Condensed Matter Physics, May 23-25, 2022 in Munich, Germany