

## PHYSICS

### REFEREED JOURNAL PUBLICATIONS

- Koenig, K. M., Endorf, R. J., & **Braun, G. A.** (2007). Effectiveness of different tutorial recitation teaching methods and its implications for TA training. *Physical Review Special Topics – Physics Education Research*, 3, 0101041-0101049.
- Fatuzzo, M.**, Adams, F. C., & Melia, F. (2006). Enhanced cosmic ray flux and ionization for star formation in molecular clouds interacting with supernova remnants. *Astrophysical Journal*, 653, L49-L53.
- Adams, F. C., Proszkow, E. M., **Fatuzzo, M.**, & Meyers, P. C. (2006). Early evolution of stellar groups and clusters: Environmental effects on forming planetary systems. *Astrophysical Journal*, 641, 504-525.
- Liu, S., Melia, F., Petrosian, V., & **Fatuzzo, M.** (2006). Stochastic acceleration in the galactic center HESS source. *Astrophysical Journal*, 647, 1099-1105.
- Fatuzzo, M.**, Adams, F. C., Gauvin, R., & Proszkow, E. M. (2006). A statistical stability analysis of earth-like planetary orbits in binary systems. *Publications of the Astronomical Society of the Pacific*, 118, 1510-1527.
- Fatuzzo, M.**, & Melia, F. (2005). Primary versus secondary leptons in the EGRET supernova remnants. *Astrophysical Journal*, 630, 321-331.
- Crocker, R. M., **Fatuzzo, M.**, Jokipii, R., Melia, F., & Volkas, R. R. (2005). The AGASA/SUGAR anisotropies and TeV gamma rays from the Galactic Center: A possible signature of extremely high-energy neutrons. *Astrophysical Journal*, 622, 892-909.
- Fatuzzo, M.**, Adams, F. C., & Myers, P. C. (2004). Generalized collapse solutions with nonzero initial velocities for star formation in molecular cloud cores. *Astrophysical Journal*, 615, 813-831.
- Fatuzzo, M.**, & Toepker, T. (2004). More track and field. *Physics Teacher*, 42, 351-353.
- Fatuzzo, M.**, & Melia, F. (2003). A kinship between the EGRET supernova remnants and Sagittarius A East. *Astrophysical Journal*, 596, 1035-1043.
- David, E. M., Quintana, E. V., **Fatuzzo, M.**, & Adams, F. C. (2003). Dynamical stability of earth-like planetary orbits in binary systems. *Publications of the Astronomical Society of the Pacific*, 115, 825-836.
- Ferrari, J. A., Dultz, H., **Schmitzer, H.**, & Frins, E. (2007). Achromatic wavefront forming with space-variant polarizers: Application to phase singularities and light focusing. *Physical Review A*, 76(5), 053815-053821.
- Rothmayer, M., Frins, E., Dultz, W., Zhan, Q., Tierney, D. A., & **Schmitzer, H.** (2007). Non-linearity in the rotational dynamics of Haidinger's brushes. *Applied Optics*, 46(29), 7244-7251.

- Schmid, K., Becker, H., Dultz, W., Martienssen, W., Kempe, M., & **Schmitzer, H.** (2007). Interferometric optical path measurement of a glass wedge with single photons and biphotons. *Optical Letters*, 32(15), 2257-2259.
- Wagner, H. P., Gangilenka, V. R., DeSilva, A., **Schmitzer, H.**, Scholz, R., & Kampen, T. U. (2006). Exciton absorption in PTCDA films, PTCDA/Alq3 multilayers, and codeposited films. *Physical Review B (Condensed Matter and Materials Physics)*, 73(12), 125323-125328.
- Robbins, J. R., Tierney, D. A., & **Schmitzer, H.** (2006). An optically driven bacterial screw of Archimedes. *Applied Physics Letters*, 88(2), 023901-023903.
- Schmid, K., Frins, E., **Schmitzer, H.**, & Dultz, W. (2005). Beam mixing with a pinhole. *Journal of Optical Society of America A*, 22, 2672-2676.
- Garces-Chavez, V., McGloin, D. Padgett, M. J., Dultz, W., **Schmitzer, H.**, & Dholakia, K. (2003). Observation of the transfer of the local angular momentum density of a multiringed light beam to an optically trapped particle. *Physical Review Letters*, 91(9), 093602-1-093602-4.
- Patterson, L., MacDonald, M. P., Arlt, J., Dultz, W., **Schmitzer, H.**, Sibbett, W., et al. (2003). Controlled simultaneous rotation of multiple optically trapped particles. *Journal of Modern Optics*, 50(10), 1591-1599.
- Rothmayer, M., Frins, E., Dultz, W., Zhan, Q., **Tierney, D. A.**, & Schmitzer, H. (2007). Non-linearity in the rotational dynamics of Haidinger's brushes. *Applied Optics*, 46(29), 7244-7251.
- Robbins, J. R., **Tierney, D. A.**, & Schmitzer, H. (2006). Optically driven bacterial screw of Archimedes. *Applied Physics Letters*, 88(2), 023901-023903.
- Toepker, T. P.** (2004). Center of mass of a suspended slinky. *Physics Teacher*, 42, 16-17.
- Fatuzzo, M., & **Toepker, T.** (2004). More track and field. *Physics Teacher*, 42, 351-353.
- Arjmandi, S., Brinkman, J., & **Toepker, T. P.** (2003). Physical push-ups. *Physics Teacher*, 41, 323-324.
- Toepker, T. P.** (2003). A center of gravity demonstration. *Physics Teacher*, 41, 549.

#### BOOKS

- Hurst, G. S., & **Hamilton, R. E.** (2007). *Quantum doors: Probability and information in games and in quantum mechanics*. Charleston, SC: BookSurge.

## PROCEEDINGS

- Endorf, R.J., Koenig, K.M., & **Braun, G.A.** (2005). A preliminary study of the effectiveness of different recitation teaching methods. In *Proceedings of the Physics Education Research Conference, AIP Proceedings 818*, 89-92.
- Adams, F. C., David, E. M., **Fatuzzo, M.**, & Myers, P. C. (2005). Early evolution of stellar clusters: Effects on forming planetary systems. In *Proceedings of the Protostars and Planets V Conference* [Waikoloa village, HI]. Retrieved March 17, 2008, from <http://www.lpi.usra.edu/meetings/ppv2005/pdf/8185.pdf>
- Grossman, C. J., Kluener, C., **Herbert, S. T.**, & Johnson, J. (2004). Frequency modulation in male-to-male acoustical communication in the Florida manatee (*Trichechus manatus*). In *Proceedings of the 18th National Conference on Undergraduate Research (NCUR)*. Asheville, NC: University of North Carolina at Asheville.
- Frins, E., Tierney, D. A., **Schmitzer, H.**, & Dultz, W. (2007). Radial polarizers with an azimuthally transmitted component of the e-field. In *Proceedings of the 91st Annual Meeting of the Optical Society of America* [San Jose, CA]. Washington, DC: The Society.
- Gangilenka, V. R., DeSilva, A., Wagner, H. P., **Schmitzer, H.**, Scholz, R., & Kampen, T. U. (2007). Absorption of Frenkel excitons in PTCDA thin films, in PTCDA/Alq3 multilayers, and in co-deposited films. In W. Jantsch & F. Schaeffler (Eds.), *Proceedings of the 28th International Conference of the Physics of Semiconductors*. Melville, NY: American Institute of Physics.
- Schmitzer, H.**, Rothmayer, M., Dultz, W., & Tierney, D. A. (2007). Perception of Haidinger's brushes and macular degeneration. In *Proceedings of the 108th Spring Meeting of the German Society of Applied Optic* [Bad Heringsdorf]. Erlangen, Germany: The Society.
- Frins, E., Hils, B., **Schmitzer, H.**, & Dultz, W. (2007). Haidingers' dichroic lens – A forgotten instrument. In *Proceedings of the 108th Spring Meeting of the German Society of Applied Optic* [Bad Heringsdorf]. Erlangen, Germany: The Society.
- Schmid, K., Dultz, W., Hils, B., Frins, E., & **Schmitzer, H.** (2006). A simple comb filter for fiber communication according to the principle of Talbot's fringes. In *Proceedings of the 107th Spring Meeting of the German Society of Applied Optics* [Weingarten]. Erlangen, Germany: The Society.
- Schmitzer, H.**, Swearingen, J., Robbins, J. R., Engle, D., Dultz, W., & Tierney, D. (2006). Helical bacteria as optically driven microrotors. In *Proceedings of the 107th Spring Meeting of the German Society of Applied Optics* [Weingarten]. Erlangen, Germany: The Society.

- Starr, C., Dultz, W., Wagner, H. P., Dholakia, K., & **Schmitzer, H.** (2004). Optically controlled rotation of PTCDA crystals in optical tweezers. In *Proceedings of the International Conference on the Physics of Semiconductors* [Flagstaff, AZ]. College Park, MD: American Institute of Physics.
- Dultz, W., Hils, B., Frins, E., & **Schmitzer, H.** (2004). Applications of pinholes in polarization optics and quantum optics. In *Proceedings of the 105th Spring Meeting of the German Society of Applied Optics*. Erlangen, Germany: The Society.
- Arjmandi, S., Dholakia, K., Dultz, W., & **Schmitzer, H.** (2004). Angular velocity oscillations of birefringent platelets from spin angular transfer of photon flux. In *Proceedings of the Hawaii International Conference on Sciences* [Waikiki, HI]. Honolulu, HI: Hawaii International Conference on Sciences.
- Frins, E., **Tierney, D. A.**, Schmitzer, H., & Dultz, W. (2007). Radial polarizers with an azimuthally transmitted component of the e-field. In *Proceedings of the 91st Annual Meeting of the Optical Society of America* [San Jose, CA]. Washington, DC: The Society.
- Schmitzer, H., Rothmayer, M., Dultz, W., & **Tierney, D. A.** (2007). Perception of Haidinger's brushes and macular degeneration. In *Proceedings of the 108th Spring Meeting of the German Society of Applied Optic* [Bad Heringsdorf]. Erlangen, Germany: The Society.
- Schmitzer, H., Swearingen, J., Robbins, J. R., Engle, D., Dultz, W., & **Tierney, D.** (2006). Helical bacteria as optically driven microrotors. In *Proceedings of the 107th Spring Meeting of the German Society of Applied Optics* [Weingarten]. Erlangen, Germany: The Society.

#### PRESENTATIONS AT ACADEMIC CONFERENCES

- Fatuzzo, M.**, Adams, F. C., & Myers, P. C. (2005). *Generalized collapse solutions with initial velocities for star formation in molecular cloud cores*. Paper presented at the American Astronomical Society Meeting, Minneapolis, MN.
- Prozko, E. M., Adams, F. C., **Fatuzzo, M.**, & Myers, P. C. (2005). *Early evolution of stellar groups and clusters: Environmental effects on forming planetary systems*. Paper presented at the Prostars and Planets V Meeting, Kona, HI.
- Fatuzzo, M.** (2004). *A kinship between Sgr A East and the EGRET SNR's*. Paper presented at the Physics Department Colloquium, Northern Kentucky University, Highland Heights, KY.
- David, E. M., Quintana, E., **Fatuzzo, M.**, & Adams, F. C. (2003). *Dynamical stability of earth-like orbits in binary systems*. Paper presented at the American Astronomical Society Meeting, Seattle, WA.

- David, E. M., Quintana, E., **Fatuzzo, M.**, & Adams, F. C. (2003). *Dynamical stability of earth-like orbits in binary systems*. Paper presented at the National Council on Undergraduate Research, Posters on the Hill Session, Washington, DC.
- Fatuzzo, M.**, & Melia, F. (2003). *A kinship between the EGRET SNR's and Sgr A East*. Paper presented at the American Astronomical Society, Nashville, TN.
- Lijoi, M., **Fatuzzo, M.**, & Toepker, T. (2003). Charged particle trajectories in simple magnetic fields and galactic fields. Paper presented at the 126th American Association of Physics Teachers National Meeting, Austin, TX.
- Langenbrunner, J., & **Fatuzzo, M.** (2003). The effects of turbulence on the initial mass function and clustering. Paper presented at the 126th American Association of Physics Teachers National Meeting, Austin, TX.
- Rahman, S., **Herbert, S.**, Newrock, R., & Debray, P. (2007). *Anomalous conductance quantization in side-gated inas quantum point contacts*. Paper presented at the March Meeting of the American Physical Society, New Orleans, LA.
- Muhammad, M., **Herbert, S.**, Newrock, R., & Debray, P. (2007). *Experimental evidence of spin-incoherent Luttinger liquid state in semiconductor quantum wires*. Paper presented at the March Meeting of the American Physical Society, New Orleans, LA.
- Muhammad, M., **Herbert, S.**, Newrock, R., & Debray, P. (2007). *Coulomb drag by forward momentum transfer between one-dimensional electron systems*. Paper presented at the 34th International Symposium on Compound Semiconductors, Kyoto, Japan.
- Rahman, S. M., **Herbert, S.**, Newrock, R., & Debray, P. (2007). *Spontaneous spin polarization in inas quantum point contacts induced by spin-orbit coupling due to lateral confinement*. Paper presented at the 34th International Symposium on Compound Semiconductors, Kyoto, Japan.
- Kluener, C. J., Robbins, J. R., Jacob, G. A., Schroder, B. J., **Herbert, S.**, & Grossman, C. J. (2005). *Presence of ultrasonic harmonics and a frequency modulation repertoire in male-to-male vocalizations by captive adult Florida manatees*. Poster presented at the Marine Mammals Conference, San Diego, CA.
- Grossman, C. J., **Herbert, S.**, Kluener, C., Johnson, J., & Bellman, D. (2005). *Acoustical research studies on the captive manatees at the Cincinnati and Columbus zoos*. Invited paper presented at the International Sirenian Symposium, San Diego, CA.
- Grossman, C., **Herbert, S.**, Bellman, D., Johnson, J., Flaspohler, D., & Kluener, C. (2005). *Behavioral patterns elicited to audible sound frequencies may be related to the interactions taking place between different manatee pairs*. Paper presented at the Marine Mammals Conference, San Diego, CA.
- Herbert, S. T.**, & Hinton, M. (2004). *Square orbits*. Paper presented at the American Association of Physics Teachers, Albuquerque, NM.

- Herbert, S. T.** (2004). *Manatee acoustical responses to generated frequencies in the audible range and associated avoidance behaviors*. Poster presented at the Ohio Fish and Wildlife Service Conference, Fawcett Center, Ohio State University, Columbus, OH.
- Frins, E., Tierney, D. A., **Schmitzer, H.**, & Dultz, W. (2007). Radial polarizers with an azimuthally transmitted component of the e-field. Poster presented at the 91st Annual Meeting of the Optical Society of America, San Jose, CA.
- Schmitzer, H.**, Rothmayer, M., Dultz, W., & Tierney, D. A. (2007). Perception of Haidinger's brushes and macular degeneration. Poster presented at the 108th Spring Meeting of the German Society of Applied Optics, Bad Heringsdorf, Germany.
- Brandenburg, K., & **Schmitzer, H.** (2007). Microsized objects in optical tweezers with orbital angular momentum. Paper presented at the American Association of Physics Teachers (AAPT) Winter Meeting, Seattle, WA.
- Rothmayer, M., Dultz, W., Tierney, D., & **Schmitzer, H.** (2006). *A mathematical and experimental simulation of Haidinger's brushes*. Poster presented at the 90th Annual Meeting of the Optical Society of America, Rochester, NY.
- Tierney, D., Robbins, J. R., & **Schmitzer, H.** (2006). *Effects of optically driven helical bacteria*. Poster presented at the Optics and Photonics Conference of the International Society for Optical Engineering, San Diego, CA.
- Schmitzer, H.**, Swearingen, J., Robbins, J., Engle, D., Dultz, W., & Tierney, D. (2006). *Helical bacteria as optically driven microrotors*. Paper presented at the 107th Spring Meeting of the German Society of Applied Optics, Weingarten, Germany.
- Schmid, K., Dultz, W., Hils, B., Frins, E., & **Schmitzer, H.** (2006). *A simple comb filter for fiber communication according to the principle of Talbot's fringes*. Paper presented at the 107th Spring Meeting of the German Society of Applied Optics, Weingarten, Germany.
- Rothmayer, M., Tierney, D., & **Schmitzer, H.** (2006). *Birefringence of the cornea and individual perception of Haidinger's brushes*. Paper presented at the American Association of Physics Teachers Meeting, Anchorage, AK.
- Jaindl, D., Tierney, D., & **Schmitzer, H.** (2006). *Photon gun experiments and the measurement of light pressure*. Paper presented at the American Association of Physics Teachers Meeting, Anchorage, AK.
- Robbins, J. R., Tierney, D., & **Schmitzer, H.** (2005). *A bacterial screw of Archimedes*. Poster presented at the Meeting of the American Society for Cell Biology, San Francisco, CA.
- Schmitzer, H.**, Robbins, J. R., & Tierney, D. (2005). *Bacteria as micro mechanical augers*. Poster presented at the 89th Annual Meeting of the Optical Society of America, Tucson, AZ.

- Schmitzer, H.**, Rothmayer, M., Dultz, W., & Tierney, D. (2005). *Self adjusting optical elements on the basis of angular momentum transfer from light at the end of an optical fiber*. Poster presented at the 10th International Conference on Photorefractive Materials and Devices, Sanya, China.
- Spaeth, A., Robbins, J. R., Tierney, D., & **Schmitzer, H.** (2005). *Rotating bacteria using optical tweezers with an elliptically shaped focus*. Paper presented at the American Association of Physics Teachers Meeting, Albuquerque, NM.
- Starr, C., Dultz, W., Wagner, H. P., Dholakia, K., & **Schmitzer, H.** (2004). *Optically controlled rotation of PTCDA crystals in optical tweezers*. Poster presented at the 27th International Conference on the Physics of Semiconductors, Flagstaff, AZ.
- Dultz, W., Hils, B., Frins, E., & **Schmitzer, H.** (2004). *A variable phase plate without wedge shaped parts*. Paper presented at the 105th Spring Meeting of the German Society of Applied Optics, Bad Kreuznach, Germany.
- Dultz, W., Arjmandi, S., Dholakia, K., & **Schmitzer, H.** (2004). *The angular momentum transfer from light to birefringent particles – the experiment and its quantum mechanical description*. Paper presented at the 68th Spring Meeting of the German Physical Society, München, Germany.
- Arjmandi, S., Dholakia, K., Dultz, W., & **Schmitzer, H.** (2004). *Angular velocity oscillations of birefringent platelets from spin angular momentum transfer of photon flux*. Paper presented at the Hawaii International Conference on Sciences, Waikiki, HI.
- Starr, C., Dultz, W., Dholakia, K., & **Schmitzer, H.** (2004). *Steering and rotating a birefringent particle in an optical tweezer*. Paper presented at the American Association of Physics Teachers Meeting, Miami, FL.
- Schmitzer, H.**, Wagner, H. P., & Dultz, W. (2003). *How to determine the effective length in higher harmonic generation*. Poster presented at the March Meeting of the American Physical Society, Austin, TX.
- Frins, E., **Tierney, D. A.**, Schmitzer, H., & Dultz, W. (2007). Radial polarizers with an azimuthally transmitted component of the e-field.. Poster presented at the 91st Annual Meeting of the Optical Society of America, San Jose, CA.
- Schmitzer, H., Rothmayer, M., Dultz, W., & **Tierney, D. A.** (2007). Perception of Haidinger's brushes and macular degeneration. Poster presented at the 108th Spring Meeting of the German Society of Applied Optics, Bad Heringsdorf, Germany.
- Rothmayer, M., Dultz, W., **Tierney, D.**, & Schmitzer, H. (2006). *A mathematical and experimental simulation of Haidinger's brushes*. Poster presented at the 90th Annual Meeting of the Optical Society of America, Rochester, NY.
- Tierney, D.**, Robbins, J. R., & Schmitzer, H. (2006). *Effects of optically driven helical bacteria*. Poster presented at the Optics and Photonics Conference of the International Society for Optical Engineering, San Diego, CA.

- Schmitzer, H., Swearingen, J., Robbins, J., Engle, D., Dultz, W., & **Tierney, D.** (2006). *Helical bacteria as optically driven microrotors*. Paper presented at the 107th Spring Meeting of the German Society of Applied Optics, Weingarten, Germany.
- Rothmayer, M., **Tierney, D.**, & Schmitzer, H. (2006). *Birefringence of the cornea and individual perception of Haidinger's brushes*. Paper presented at the American Association of Physics Teachers Meeting, Anchorage, AK.
- Jaindl, D., **Tierney, D.**, & Schmitzer, H. (2006). *Photon gun experiments and the measurement of light pressure*. Paper presented at the American Association of Physics Teachers Meeting, Anchorage, AK.
- Robbins, J. R., **Tierney, D.**, & Schmitzer, H. (2005). *A bacterial screw of Archimedes*. Poster presented at the Meeting of the American Society for Cell Biology, San Francisco, CA.
- Schmitzer, H., Robbins, J. R., & **Tierney, D.** (2005). *Bacteria as micro mechanical augers*. Poster presented at the 89th Annual Meeting of the Optical Society of America, Tucson, AZ.
- Schmitzer, H., Rothmayer, M., Dultz, W., & **Tierney, D.** (2005). *Self adjusting optical elements on the basis of angular momentum transfer from light at the end of an optical fiber*. Poster presented at the 10th International Conference on Photorefractive Materials and Devices, Sanya, China.
- Spaeth, A., Robbins, J. R., **Tierney, D.**, & Schmitzer, H. (2005). *Rotating bacteria using optical tweezers with an elliptically shaped focus*. Paper presented at the American Association of Physics Teachers Meeting, Albuquerque, NM.

#### OTHER

- Hamilton, R. E.** (2007). *The Milky Way*. Invited lecture delivered at the Cincinnati Community, Cincinnati, OH.
- Hamilton, R. E.** (2007). *What happened to Pluto?* Invited lecture delivered to the alumni Association, Xavier University, Cincinnati, OH.
- Hamilton, R. E.** (2007). *Energy production in the sun*. Invited lecture delivered at the Project Astro Teacher's Workshop, Cincinnati Observatory Center, Cincinnati, OH.
- Hamilton, R. E.** (2007). *Explorations in mathematics*. Eight-session course for secondary mathematics teachers supported by the Xavier University XCEED program and presented at the Cincinnati Observatory Center, Cincinnati, OH.
- Hamilton, R. E.**, & Regas, D. (2007). *Astronomy teachers' workshop*. Five-session workshop supported by the Xavier University XCEED program and presented at the Cincinnati Observatory Center, Cincinnati, OH.
- Hamilton, R. E.** (2007). *Stellar astronomy*. Eight-session course for secondary science teachers supported by the Xavier University XCEED program and presented at the Cincinnati Observatory Center, Cincinnati, OH.

- Hamilton, R. E.** (2006). *Light and the electromagnetic spectrum*. Invited lecture delivered at the Cincinnati Art Academy, Cincinnati, OH.
- Hamilton, R. E.** (2006). *The new planet definition and the fate of Pluto*. Invited lecture delivered to the Department of Physics, Xavier University, Cincinnati, OH.
- Hamilton, R. E.** (2006). *The new planet definition and the fate of Pluto*. Invited lecture delivered at the ScopeOut Astronomy Fair, Cincinnati Observatory Center, Cincinnati, OH.
- Hamilton, R. E.** (2006). *Introduction to astronomy*. Eight-session course for secondary science teachers supported by the Xavier University XCEED program and presented at the Cincinnati Observatory Center, Cincinnati, OH.
- Hamilton, R. E.** (2006). *Initiative for Catholic schools science teachers' workshop*. Ten-session science and astronomy workshop supported by the Xavier University XCEED program and presented at Xavier University, Cincinnati, OH.
- Hamilton, R. E.** (2006). *Astronomy teachers' workshop*. Five-session workshop supported by the Xavier University XCEED program and presented at the Cincinnati Observatory Center, Cincinnati, OH.
- Hamilton, R. E.** (2005). *Variable stars*. Invited lecture delivered at the ScopeOut Astronomy Fair, Cincinnati Observatory Center, Cincinnati, OH.
- Hamilton, R. E.** (2004). *Extra-solar planets*. Invited lecture delivered at the Cincinnati Art Academy, Cincinnati, OH.
- Hamilton, R. E.** (2004). *Extra-solar planets*. Invited lecture delivered at the ScopeOut Astronomy Fair, Cincinnati Observatory Center, Cincinnati, OH.
- Hamilton, R. E.** (2003). *The solar neutrino problem*. Invited lecture delivered at Cincinnati Observatory Center, Cincinnati, OH.
- Hamilton, R. E.** (2003). *Energy production in the sun*. Invited lecture delivered at Cincinnati Observatory Center, Cincinnati, OH.
- Schmitzer, H.** (2006). *Johann Wolfgang von Goethe as a Scientist*. Invited lecture delivered to students in the German Language Course, Xavier University, Cincinnati, OH.
- Schmitzer, H.** (2006). *Microfluids and optomechanical micromachines*. Invited lecture delivered at the University of Cincinnati, Cincinnati, OH.
- Schmitzer, H.** (2006). *Light with a twist*. Invited lecture delivered at the Southern Ohio Section of the American Association of Physics Teachers, Cincinnati, OH.
- Schmitzer, H.** (2005). *Opto-mechanical micromachines and the angular momentum of light*. Invited lecture presented at Miami University, Oxford, OH.
- Schmitzer, H.** (2004). *Light with a twist*. Invited lecture presented at the Colloquium at Northern Kentucky University, Highland Heights, KY.
- Schmitzer, H.** (2004). *The angular momentum of light*. Invited lecture presented at the Colloquium at the University of Cincinnati, Cincinnati, OH.

- Schmitzer, H.** (2004). *Angular momentum transfer from light to birefringent particles modeled on the Poincare sphere*. Invited lecture presented at the Optical Science Center, Tucson, AZ.
- Schmitzer, H.** (2003). *Dark sun. The eclipse of the sun and its observation*. Invited lecture delivered at the Fall Meeting of the Southern Ohio Section of the American Association of Physics Teachers, Cincinnati, OH.
- Schmitzer, H.** (2003). *Dark sun. The eclipse of the sun and its observation*. Invited lecture delivered at the Junior Faculty Colloquium, Xavier University, Cincinnati, OH.
- Toepker, T.** (2004). *Conservation, motion, energy*. Paper presented at the Workshop for Cincinnati Public Schools, Mayerson Center, Cincinnati, OH.
- Toepker, T.** (2004). *Nuclear fuel cycle*. Presentation given at Mount Notre Dame High School, Cincinnati, OH.