

January 2008

Curriculum Vitae

Grover A. Swartzlander, Jr.

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EDUCATION

Ph.D. 1990 The Johns Hopkins University, Baltimore, Maryland

M.S.E.E 1985 Purdue University, West Lafayette, Indiana

B.S. 1982 Drexel University, Philadelphia, Pennsylvania

RECENT EMPLOYMENT

Apr. 2001 – Present Associate Professor
College of Optical Sciences
University of Arizona, Tucson, AZ

Mar. 1999 – Apr. 2001 Associate Professor
Department of Physics
Worcester Polytechnic Institute, Worcester, MA

Aug. 1993 – Mar. 1999 Assistant Professor
Department of Physics
Worcester Polytechnic Institute, Worcester, MA

Sept. 1990 - Aug. 1993 ONR/ONT Postdoctoral Fellow
Laser Physics Branch
Naval Research Laboratory, Washington, D.C.

HONORS AND AWARDS

- **Fellow**, Optical Society of America, 2003
- **Wakonse Fellow**, State of Arizona, 2003
- **Cottrell Scholar**, Research Corporation, 1996
- **NSF Young Investigator**, National Science Foundation, 1994

NATIONAL / INTERNATIONAL SERVICE

- **Topical Editor**, Optics Letters
- **Guest Editor**, Journal of Optics
- **Editorial Advisory Board**, J. Nonlinear Optical Physics and Materials
- **Editor**, Singular Optics Online

NATIONAL / INTERNATIONAL SERVICE (cont.)

- **Annual Meeting of the Optical Society of America**
Optical Vortex Symposium Organizer: 2003 and 2005
- **Conference on Lasers and Electro-Optics (CLEO)**
Nonlinear Optics Subcommittees: 2006 and 2007
- **Quantum Electronics and Lasers Conference (QELS)**
Session Conference Subcommittee: 2002 and 2005
- **Correlation Optics Conference**
International Program Committees: 2005 and 2007

PUBLICATIONS (arranged by journal or category)

**** *Physical Review Letters* ****

1. R. I. Hernandez-Aranda and G. A. Swartzlander,
The Optical Rankine Vortex and the Anomalous Circulation of Light,
Phys. Rev. Lett. 99, 163901 (1-4) (2007).
1. J. H. Lee, G. Foo, E. G. Johnson, and G. A. Swartzlander,
Experimental Verification of an Optical Vortex Coronagraph,
Phys. Rev. Lett. 97, 053901(1-4) (2006).
1. Grover A. Swartzlander, Jr. and Joanna Schmit,
Temporal Correlation Vortices and Topological Dispersion,
Phys. Rev. Lett. 93, 093901 (1-4) (2004).
1. D.M. Palacios, I.D. Maleev, A.S. Marathay, and G.A. Swartzlander, Jr.,
Spatial Correlation Singularity of a Vortex Field,
Phys. Rev. Lett. 92, 143905 (1-4) (2004).
1. David Palacios, David Rozas, and Grover A. Swartzlander, Jr.,
Observed Scattering into a Dark Optical Vortex Core,
Phys. Rev. Lett., 88, 103902 (1-4) (2002).
1. D. Rozas, Z.S. Sacks, and G.A. Swartzlander, Jr.,
Experimental observation of fluid-like motion of optical vortices,
Phys. Rev. Lett., 79, 3399-3402 (1997).
1. G.A. Swartzlander, Jr. and C.T. Law,
Optical vortex solitons observed in Kerr nonlinear media,
Phys. Rev. Lett. 69, 2503-2506 (1992).
1. G.A. Swartzlander, Jr., D.R. Andersen, J. J. Regan, H. Yin, and A.E. Kaplan,
Spatial grid of dark solitons in self-defocusing materials,
Phys. Rev. Lett. 66, 1583-1586 (1991).

**** Optics Letters ****

1. T. Fadeyeva, Yu. Egorov, A. Rubass, G. A. Swartzlander, Jr., and A. Volyar
Indistinguishability limit for off-axis vortex beams in uniaxial crystals,
Opt. Lett. 32, 3116-3118 (2007).
2. G. A. Swartzlander, Jr.,
Achromatic Optical Vortex Lens,
Opt. Lett. 31, 2042–2044 (2006).
3. G. Foo, D. M. Palacios, G. A. Swartzlander, Jr.,
Optical Vortex Coronagraph,
Opt. Lett. 30, 3308-3310 (2005).
4. G. A. Swartzlander, Jr.,
Broadband Nulling of a Vortex Phase Mask,
Opt. Lett. 30, 2876-2878 (2005).
5. G. A. Swartzlander, Jr.,
Peering into darkness with a vortex spatial filter,
Opt. Lett. 26, 497-499 (2001).
6. D. Rozas and G.A. Swartzlander, Jr.,
Observed rotational enhancement of nonlinear optical vortices,
Opt. Lett. 25, 126-128 (2000).
7. C. T. Law, X. Zhang and G. A. Swartzlander, Jr.,
Waveguiding dynamics of optical vortex solitons,
Opt. Lett. 24, 55-57 (2000).
8. A.M. Deykoon, M.S. Soskin, and G.A. Swartzlander, Jr.,
Nonlinear optical catastrophe from a smooth initial beam,
Opt. Lett. 24, 1224-1226 (1999).
9. K.T. Gahagan and G.A. Swartzlander, Jr.,
Optical vortex trapping of particles,
Opt. Lett., 21, 827-829 (1996).
10. A.E. Kaplan and G.A. Swartzlander, Jr.,
Self-bending of light: comment,
Opt. Lett. 19, 71 (1994).
11. C.T. Law and G.A. Swartzlander, Jr.,
Optical vortex solitons and the stability of dark soliton stripes,
Opt. Lett. 18, 586-588 (1993).
12. G.A. Swartzlander, Jr.,
Dark soliton prototype devices: analysis using direct scattering theory,
Opt. Lett. 17, 493-495 (1992).
13. D.R. Andersen, D.E. Hooton, G.A. Swartzlander, Jr., and A.E. Kaplan,
Direct measurement of the transverse velocity of dark spatial solitons,
Opt. Lett. 15, 783-785 (1990).
14. Y.J. Ding, C. L. Guo, G.A. Swartzlander, Jr., J. B. Khurgin, and A.E. Kaplan,
Spectral measurement of n_2 in ZnSe using self-bending of a pulsed laser beam,
Opt. Lett. 15, 1431-1433 (1990).

15. G. A. Swartzlander, Jr., H. Yin, and A.E. Kaplan,
Self-bending of a cw laser beam in sodium vapor,
Opt. Lett. 13, 1011-1013 (1988).

**** Journal of the Optical Society of America ****

1. K. Motzek, Y. S. Kivshar, M. F. Shih, and G. A. Swartzlander, Jr.,
Spatial coherence singularities and incoherent vortex solitons,
J. Opt. Soc. Am. B 22, 1437-1442 (2005).
2. I. D. Maleev, D. M. Palacios, A. S. Marathay, and G. A. Swartzlander, Jr.,
Spatial correlation vortices in partially coherent light: theory,
J. Opt. Soc. Am. B 21, 1895-1900 (2004).
3. I.D. Maleev and G.A. Swartzlander, Jr.,
Composite Optical Vortices,
J. Opt. Soc. Am. B 20, 1169-1176, (2003).
4. A.M. Deykoon and G.A. Swartzlander, Jr.,
The pinched optical vortex soliton,
J. Opt. Soc. Am. B 18, 804-810 (2001).
5. K.T. Gahagan and G.A. Swartzlander, Jr.,
*Simultaneous Trapping of Low-Index and High-Index Microparticles
Observed with an Optical-Vortex Trap*,
J. Opt. Soc. Am. B. 16, 533-537 (1999).
6. Z.S. Sacks, D. Rozas, and G.A. Swartzlander, Jr.,
Holographic Formation of Optical Vortex Filaments,
J. Opt. Soc. Am. B, 15, 2226-2234 (1998).
7. K.T. Gahagan and G.A. Swartzlander, Jr.,
Trapping of Low-Index Microparticles in an Optical Vortex,
J. Opt. Soc. Am. B, 15, 524-534 (1998).
8. D. Rozas, C.T. Law, and G.A. Swartzlander, Jr.,
Propagation dynamics of optical vortices,
J. Opt. Soc. Am. B, 14, 3054-3065 (1997).
9. P.B. Lundquist, D.R. Andersen, and G.A. Swartzlander, Jr.,
*Asymptotic Behavior of the Self-Defocusing Nonlinear Schrodinger Equation
for Piecewise Constant Initial Conditions*,
J. Opt. Soc. Am. B, 12, 698-703 (1995).
10. G.A. Swartzlander, Jr., H. Yin, and A.E. Kaplan,
Cw self-deflection effect in sodium vapor,
J. Opt. Soc. Am. B 6, 1317-1325 (1989).
11. G.A. Swartzlander, Jr. and A.E. Kaplan,
Self-deflection of laser beams in a thin nonlinear film,
J. Opt. Soc. Am. B 5, 765-768 (1988).

**** Other Refereed Journals ****

1. Mary Anne Peters, Laird M. Close, Matt Rademacher, Tom Stalcup, Grover A. Swartzlander, Erin Ford, and Rukiah S. Abdul-Malik
A High Strehl Testbed for Planet Finding Coronagraphs in the Optical (BESSEL): Detection of a $0.7\lambda/D$ Binary from the Ground,
Pub. Astro. Soc. of the Pacific (submitted)
2. A. M. Deykoon, M. S. Soskin, and G. A. Swartzlander, Jr.,
Nonlinear cusp diffraction catastrophe and vortex quadrupoles from a smooth initial beam,
J. Nonlinear Opt. Phys. and Mat., 11, 351-365 (2002).
3. C.S. Buer, P.J. Weathers, and G.A. Swartzlander, Jr.,
Hechtian stand investigations using optical microsurgery techniques,
Plant Physiology 122, 1365-1377 (2000).
4. Buer, C.S., K.T. Gahagan, G.A. Swartzlander, Jr., P.J. Weathers,
Differences in Optical Trapping Prompt Investigations of Agrobacterium Surface Characteristics,
J. Industrial Microbiology and Biotechnology, 21, 233-236 (1998).
5. Buer, C.S., K.T. Gahagan, G.A. Swartzlander, Jr., P.J. Weathers,
Insertion of Microscopic Objects Through Plant Cell Walls using Laser Microsurgery,
Biotechnology and Bioengineering, 60, 348-355 (1998).
6. G.A. Swartzlander, Jr., D. L. Drugan, N. Hallak, M.O. Freeman, and C.T. Law,
Optical transistor effect using an optical vortex soliton,
Laser Physics, 5, 704 (1995).
7. C.T. Law and G.A. Swartzlander, Jr.,
Polarized Optical Vortex Solitons: Instabilities and dynamics in Kerr nonlinear media,
Chaos, Solitons & Fractals 4, 1759 (1994).
8. G.A. Swartzlander, Jr., A. J. Campillo, B. Justus, A. Huston, and C.T. Law,
Characteristics of a low f-number broadband visible thermal optical limiter,
International Journal of Nonlinear Optical Physics 2,577 (1993).
9. A.R. Knudson, A.B. Campbell, D. McMorrow, S. Buchner, K. Kang, T. Weatherford, V. Srinivas, G.A. Swartzlander, and Y.J. Chen,
Pulsed laser-induced charge collection in GaAs MESFETS,
IEEE Trans. On Nuclear Science, 37 (6) Part 1, 1909-1915 (1990).

**** Scholarly books, chapters, monographs ****

1. Zdenek Bouchal, Radek Celechovsky, and G. A. Swartzlander, Jr.,
Spatially Localized Vortex Structures: Theory and Experiment (Wiley, 2007).
2. G.A. Swartzlander, Jr. *Optical Vortex Solitons*, in
Spatial Solitons, Springer Series in Optical Sciences, Vol. 82,
S. Trillo and W. Torruellas, Eds. Springer-Verlag, Berlin, 2001
3. G.A. Swartzlander, Jr., *Optical vortex filaments*, in
Optical Vortices. (Vol. 228 in Horizons in World Physics)
Mikhail Vasnetsov, Ed. (Institute of Physics, Kiev), K. Staliunas (Braunschweig, Germany) 1999.

4. G.A. Swartzlander, Jr., *Level-Splitting and Band Formation of Dark Soliton Eigenvalues*, Nonlinear Processes in Physics, A. S. Fokas, D. J. Kaup, A. C. Newell, and V. E. Zakharov, Eds., (Springer-Verlag, New York, 1993), pp. 256-260.

**** Articles in Non-Technical Professional Magazines ****

1. **(INVITED)** G. A. Swartzlander, Jr., *The Optical Vortex Lens*, Optics & Photonics News, Vol. 17, No. 11, 37-41 (Nov. 2006)
2. G. A. Swartzlander, Jr., *Global Optics: Optics in Thailand*, Optics & Photonics News, Vol. 16, No. 2, 12-13, (Feb. 2005)
3. G. A. Swartzlander, Jr., *Peering into Darkness*, Optics and Photonics News, Vol. 12, No. 12, (Dec. 2001)
4. G.A. Swartzlander, Jr. and C.T. Law, *The optical vortex soliton*, Optics and Photonics News Vol. 4 , No. 12, 10 (Dec. 1993)

**** Patent Disclosures ****

- G. A. Swartzlander, Jr.,
Achromatic Optical Vortex Lens, UA06-035 (2005).
- G. A. Swartzlander, Jr.,
Optical Vortex Interferometric Nuller, UA04-083 (2004).
- G. A. Swartzlander, Jr.,
High Density Optical Data Storage, UA03-073 (2003).
- G. A. Swartzlander, Jr. and D. Palacios,
Coherence Blocking Filter, UA03-020 (2002).
- G. A. Swartzlander, Jr.,
Optical Vortex Spatial Filter for Coherent and Incoherent Detection of Electromagnetic Radiation, UA02-060 (2002).

RECENT SCHOLARLY PRESENTATIONS G. Swartzlander is sole author unless stated

● **Colloquia and Seminars**

Optical Vortices and the Hunt for Habitable Planets,
University of North Carolina, Charlotte,
Charlotte, NC, 19 Oct. 2007 (Michael Fiddy, host).

Optical Vortices and the Hunt for Habitable Planets,
Physics Department, University of Central Florida,
Orlando, FL, 4 Oct. 2007 (Humberto Campins, host).

Extrasolar Planet Detection with a Vortex Coronagraph,
U. Colorado / JILA OSEP Seminar Series,
Boulder, CO, 23 Apr. 2007 (Dana Anderson, host).

Optical Vortex Coronagraph,
Applied Mathematics Department, University of Arizona
7 March 2007 (Ildar Gabitov, host).

Partially Coherent Optical Vortices, (OSA Eastman Speaker)
Taurida Nat. V. Vernadky Univ.,
Simferopol, Crimea, Ukraine, 12 February 2007 (Alexander Volyar, host).

Twisted Light and the Search for Extra-Solar Planets, (OSA Eastman Speaker)
Monterrey Technical University,
Monterrey, Mexico, 28 March 2006 (Julio Gutierrez-Vega, host) .

Optical Tweezers, Computer-Generated Holography, and Writing in the Optics Curriculum,
(OSA Eastman Speaker), National Electronics and Computer Technology Center (NECTEC),
Pathumthani, Thailand, 9 April 2004 (Sarun Sumriddetchkajorn, host) .

Optical Tweezers,
Chiang Mai University, Chiang Mai, Thailand, 12 April 2004 (Arnon Chaipanich, host).

Experimental Verification of the Optical Vortex Coronagraph,
Jet Propulsion Laboratory, Pasadena, CA, Aug. 25, 2006 (Stewart Shaklan, host) .

The Optical Vortex Coronagraph,
College of Optical Sciences, Univ. Arizona, 14 Sept. 2006.

The Hunt for Earth-Like Planets, Tsinghua Univ.,
Beijing, China, 4 July 2006 (Liangcai Cao, host) .

The Optical Vortex Coronagraph, Peking Univ.,
Beijing, China, 29 June 2006 (Qihuang Gong, host).

The Optical Vortex Coronagraph, National Optical Astronomy Observatory (NOAO),
Tucson, AZ, 31 March 2006.

Optical Vortices, Instituto Nacional de Astrofísica Óptica y Electrónica (INAOE),
Puebla, Mexico, 6 July 2005 (Sabino Chavez-Cerda, Inviter) .

January 2008

Optical Vortices, Community Speakers Lecture Series, Optical Sciences Center, Univ. Arizona, Tucson, AZ, 23 Jan. 2004.

Coherence Filtering, Sensor Protection, and Optical Vortices, Wright Patterson Air Force Base, Dayton, OH, 19 Feb. 2003.

Optical Vortices, Optical Sciences Center, University of Arizona, Tucson, AZ, 23 August 2001.

● Invited Conferences and Workshops

The Optical Vortex Coronagraph,

OSA Annual Meeting Frontiers in Optics, San Jose, CA 16-20 Sept, 2007.

(Declined) *Physical Optics and Applications of Optical Vortices*,
8th International Conference on Correlation Optics,
Chernivtsi, Ukraine, 11-14 Sept. 2007 (M.Kujawinska, Oleg V. Angelsky, Inviters).

(Declined) *Physical Optics and Applications of Optical Vortices*,
Hokkaido University, Sapporo, Japan, 23-25 July 2007 (Kazuhiko Oka, host).

Advancements of the optical vortex coronagraph,

G. A. Swartzlander, L. M. Close, E. Ford, R. S. Abdul-Malik, M. A. Peters, J. Kim,
D. M. Palacios, D. W. Wilson,

Paper 6693-39, "Techniques and Instrumentation for Detection of Exoplanets III,"

SPIE International Symposium on Optics and Photonics,
San Diego, CA, 26-30 August 2007 (Dan Coulter, Inviter).

An Optical Rankine Vortex in Partially Coherent Light,

Random Electromagnetic Fields Workshop,

Orlando Florida, May 3-4, 2007 (Aristide Dogariu, host).

Optical Vortices in Spatially Incoherent Light,

Computational Optical Sensing and Imaging (COSI '07),

Vancouver, BC, 18-20 June, 2007 (Aristide Dogariu, Inviter).

(Declined) OASIS, Tel Aviv, Israel, 26-27 March, 2007 (Erez Hasman, Inviter).

Partially Coherent Optical Vortices and the Potential for Optical Micromanipulation,

Trends in Optical Micromanipulation,

Obergurgl, Tirol, Austria, 4-9 Feb. 2007 (Monika Ritsch-Marte, Inviter).

Terrestrial Planet Finding Coronagraph Workshop, Pasadena, CA, Sept. 28-29, 2006.

Optical vortex application concerns: coherence and topological dispersion,

No. 6131-04, **SPIE Symposium on Optoelectronics**, Photonics West,
San Jose, CA, 23 January 2006.

Optical Vortices in Incoherent Light,

Seventh International Conference on Correlation Optics,

Chernivtsi, Ukraine, 6-9 September 2005.

January 2008

Optical Vortex Soup,
The Bi-National Consortium of Optics, Applied Mathematics Department,
University of Arizona, 1-3 April 2005.

G. A. Swartzlander, Jr., D. Palacios, I. Maleev, A. Marathay,
Global Phase Topology in Incoherent Light,
Joint OSA Annual Meeting Frontiers in Optics / Laser Science Conference XX,
Rochester, NY, 10-14 Oct. 2004.

Coherence and Optical Vortices, (Key Speaker)
Singular Optics 2003,
Kiev, Ukraine, 24-28 June 2003.

Optical Vortices,
Nonlinear Optics, Materials, and Applications (NOMA),
Cetraro, Italy, 9-13 June 2003.

Applications of Optical Vortices,
Industrial Affiliates Workshop, Optical Sciences Center,
Tucson, AZ, 25 Feb. 2003.

Optical Coherence Filter,
Army Research Office Workshop, Durham, NC, 17 Oct. 2002.

Scattering into darkness,
D. Palacios and G.A. Swartzlander, Industrial Affiliates Workshop, Tucson, AZ, 26-27 Feb 2002.

● Contributed Conferences and Workshops

The Optical Vortex Coronagraph,
G. A. Swartzlander, Jr., L. M. Close, E. Ford, R. S. Abdul-Malik, J. Kim, M. A. Peters,
D. M. Palacios, D. Wilson, and J. Schmit
The Spirit of Lyot: Direct Detection of Exoplanets and Circumstellar Disks,
Berkeley, CA, 4-8 June 2007.

BESSEL: A High Strehl Visible Telescopic Test Bed for Planet Finding Coronagraphs
M. A. Peters, L. M. Close, G. A. Swartzlander, R. S. Abdul-Malik, M. Rademacher, T. Stalcup
The Spirit of Lyot: Direct Detection of Exoplanets and Circumstellar Disks,
Berkeley, CA, 4-8 June 2007.

Lorenzo Narducci Memorial Symposium, 24-25 May 2007, Philadelphia, PA.

A High Strehl Visible Telescopic Test Bed for Planet Finding Coronagraphs,
M. A. Peters, L. M. Close, G. A. Swartzlander, R. S. Abdul-Malik, and M. Rademacher,
Cool Stars 14 Workshop, Pasedena, CA, Nov. 6-10, 2006.

Exposing Extrasolar Planets,
G. A. Swartzlander, Jr., Jae-Hoon Lee, Carmen Paleta-Toxqui, and David M. Palacios,
Quantum Electronics and Lasers (QELS), Long Beach, CA, 23 May 2006.

Optical Rankine Vortex,
OSA Annual Meeting Frontiers in Optics, Tucson, AZ, 20 October 2005.

Optical Vortex Coronagraph,

G. Foo, D. Palacios, and G. A. Swartzlander, Jr.,
OSA Annual Meeting Frontiers in Optics, Tucson, AZ, 19 October 2005.

Broadband Brightness of the Vortex Core,

OSA Annual Meeting Frontiers in Optics, Tucson, AZ, 19 October 2005.

Optical Vortex Coronagraphs,

G. A. Swartzlander, Jr., D. Palacios, G. Foo, E. Christensen, H. Hockel, E. Johnson,
OSA Annual Meeting Frontiers in Optics, Rochester, NY, 10-14 Oct. 2004.

Imaging Through an Optical Vortex,

Lt Col (Ret) Gregory Foo, David Palacios, Heidi Hockel, and Grover Swartzlander, Jr.,
OSA Annual Meeting Frontiers in Optics, Tucson, AZ, 5-9 Oct. 2003.

Hunting for Optical Vortices,

Ivan D. Maleev and Grover A. Swartzlander, Jr.,
OSA Annual Meeting Frontiers in Optics, Tucson, AZ, 5-9 Oct. 2003.

Optical Vortices in Low Coherence Light,

David M. Palacios, Arvind S. Marathay, and Grover A. Swartzlander, Jr.,
OSA Annual Meeting Frontiers in Optics, Tucson, AZ, 5-9 Oct. 2003.

Temporal Coherence Vortex,

Joanna Schmit and Grover A. Swartzlander, Jr.,
OSA Annual Meeting Frontiers in Optics, Tucson, AZ, 5-9 Oct. 2003.

A Method for Eliminating Coherent Electromagnetic Radiation,

G.A. Swartzlander, Jr., G.E. Foo, D.A. Palacios, H. Hockel, and E. Johnson,
Optical Limiting Workshop, Sedona, AZ, 30 Sept. – 3 Oct. 2003.

White light optical vortices,

D. Palacios and G.A. Swartzlander, Jr.,
Annual Meeting of the Optical Society of America, Orlando, FL, 3 Oct. 2002.

Optical Vortex Diffractive Optical Element- Scattering Application,

D. Palacios and G.A. Swartzlander, Jr.,
Diffractive Optics and Micro-Optics Topical Meeting, Tucson, AZ, 3-6 June 2002.

Optical Vortex Detection of Forward Scattered Light,,

D. Palacios and G.A. Swartzlander, Jr.,
Annual Meeting of the Optical Society of America, Long Beach, CA, 18 Oct. 2001.

An Optical Vortex Spatial Filter,

D. Palacios and G.A. Swartzlander, Jr.,
Conference on Lasers and Electro-Optics (CLEO), Baltimore, MD, 6-11 May 2001.

Teaching and Pedagogy

Courses

- Physics (Freshman Level): Mechanics, calculus based for science and engineering majors
- Physics (Freshman Level): Electromagnetism, calculus based for science and engineering majors
- Astronomy (Sophomore-Junior Level), calculus based for science and engineering majors
- Electromagnetism (Junior Level), physics majors
- Physical Optics (Junior Level), optical science and engineering majors
- Independent Study (All Levels)
- Nonlinear Optics (Graduate)
- Advanced Electromagnetism (Graduate)

Other Student Training

Organizer, Writing and Library Skills Workshops (Fall Semesters: 2002-2006)

Participant, University Peer Learning (Preceptor) Program (Fall Semesters: 2002, 2003, 2004)

Organizer, Departmental Study Skills Workshops (Fall Semesters: 2002, 2003, 2004)

Undergraduate Research Projects: Total of 50 Students

Graduate Research Projects: Total of 25 Students

Education Related Publications

1. G. A. Swartzlander, Jr.,
Writing in the Optics Curriculum, (Invited Feature Article)
Optics & Photonics News, Vol. 17, No. 10, 20-21 (Oct. 2006).
2. Grover A. Swartzlander, Jr., Maliaca Oxnam, and Lisa Lebduska,
Integrating Writing into the Optics Curriculum,
Frontiers in Optics Technical Digest, **ETOP Proceedings**,
pdf/etop/papers/24_ETOP_Proceedings.pdf, p. 217-219
(Optical Society of America, 2003).
3. G. A. Swartzlander, Jr. and L. Lebduska,
Interactive Freshman Electromagnetism,
ASEE/IEEE Frontiers in Education Conference Proceedings, Paper 1313,
IEEE Catalog No. 02CH37351C, ISBN: 0-7803-7445-2 (2002).

Education Related Invited Talks, Conferences, and Workshops

Thirteenth Annual Cottrell Scholars Workshop on Science Education, (Invited)
Tucson, AZ, 6-7 July, 2007.

Writing in the Optics Curriculum, (Invited)

Spring English Conference,

Univ. AZ, 4 March 2006, Tucson AZ (Cat Bohannon, Yvonne Merrill, Inviters).

Integrating Writing and Peer Learning into the Optics Curriculum, (Invited)

Education and Training in Optics and Photonics Conference,

Marseille, France, 24-27 October 2005.

Education Related Invited Talks, Conferences, and Workshops (cont.)

G. A. Swartzlander, Jr. Maliaca Oxnam, and Lisa Lebduska,
Filling a Need for Qualitative Knowledge – Writing Across the Optics Curriculum,
7th National Writing Across the Curriculum Conference, St. Louis, MO, 20-22 May 2004.

Integrating Writing into the Optics Curriculum,
Grover A. Swartzlander, Jr., Maliaca Oxnam, and Lisa Lebduska,
Education and Training on Optics and Photonics (ETOP) Tucson, AZ, 6-8 Oct. 2003.

Wakonse Support for College Teaching Program, (Invited)
Camp Tontozona, AZ, May 15 - 18, 2003.

Interactive Freshman Electromagnetism,
G.A. Swartzlander, Jr. and L. Lebduska,
Frontiers in Engineering Education, 6-9 Nov. 2002, Boston, MA.
Seventh Annual Cottrell Scholars Workshop on Science Education, (Invited)
Tucson, AZ, 13-14 July, 2001.

Education Related Outreach

Southern Arizona Regional Science and Engineering Fair (SARSEF), Judge (2003, 2004, 2005)

Optical Sciences Center Summer Camp, Volunteer Instructor, 2005

First Grade Reading and Math Volunteer, Manzanita Elementary School (Spring 2006)

High Technology Career Day at TCC (Panel Member with Bob Breault, 2005)

OSA Eastman Speaker (1999-Present)

Education Related Service

International Conference:

Co-Organizer: Education and Training in Optics and Photonics Conference (ETOP), 2003

ETOP Steering Committee, 2005, and 2007

Departmental Committees

Undergraduate Curriculum Committee: 2001-Present

Graduate Admissions Chair: 2004-2005

Graduate Admissions: 2003-2004

University Committees

University Literacy Council, 2003-Present