Curriculum Vitae
Dr. Colin Inglefield

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Education:

1998	Ph.D. Physics, University of Utah, Salt Lake City UT Thesis title: "Luminescence and Modulated Luminescence Investigations of Semiconductors"
1992	B.S. Physics, Rensselaer Polytechnic Institute, Troy NY

Appointments:

My current primary affiliation is with Weber State University, a primarily undergraduate institution with no graduate programs in the sciences. I have an active collaboration with the semiconductor research group in the physics department at the University of Utah and have held an appointment in that department since 2001.

2004 - present	Adjunct Associate Professor, U. of Utah, Salt Lake City UT
2003 - present	Associate Professor, Physics Department, Weber State U., Ogden UT
2001 - 2004	Research Assistant Professor, U. of Utah, Salt Lake City UT
1999 - 2003	Assistant Professor, Physics Department, Weber State U., Ogden UT
1998-1999	Visiting Assistant Professor, Physics Department, Weber State U.
1996	Instructor, Salt Lake Community College, Salt Lake City UT
1994-1998	Research Assistant, Physics Department, U. of Utah, Salt Lake City UT
1992-1994	Teaching Assistant, Physics Department, U. Of Utah, Salt Lake City UT

Honors/Awards:

2005	WSU Hemingway Faculty Excellence Award
2002	Summer Research Fellowship, American Chemical Society, Petroleum Research Fund
1998 and 1996	"Outstanding Graduate Student in Physics" , U. of Utah
1994	"Outstanding Teaching Assistant in Physics", U. of Utah

Current Research Interests:

Optical Characterization of Semiconductors
Atomic Force Microscopy
Disorder in Semiconductors
Semiconductor and Semiconductor Device Physics
Materials Science
Nanotechnology

Research Grants/Contracts:

2004	"Acquisition of an Atomic Force Microscope for Undergraduate Research" National Science Foundation, Major Research Instrumentation
2002-2003	PI for the Beishline Undergraduate Research Fellowship "Modeling the Growth of Microcrystalline Silicon" College of Science, Weber State University
2001	"AFM characterization of HTPB Rocket Propellants" Thiokol Propulsion
2000	"Measurement of the Recombination Velocity of Microcrystalline/Amorphous Silicon Interfaces" Materials Research Society, Undergraduate Materials Research Initiative
2000-2001	"Mobilization of Lead By Lactic Acid" Weber State U., Research Scholarship and Professional Growth
1999-2001	"Photoreflectance Investigations of Semiconductors" Weber State U., Research Scholarship and Professional Growth

Affiliations/Memberships/Professional Service:

2003	National Science Foundation panel review "Major Research Instrumentation/Instrumentation for Materials Research"
2001-2002	American Physical Society 2002 4-Corners Section Meeting Local Organizing Committee and Scientific Organizing Committee
2000-present	Society of Physics Students Zone 15 (UT, ID, MT) Zone Councilor
2003-present	Member, Council on Undergraduate Research
2001-present	Member, Materials Research Society
1995-present	Member, American Physical Society

Courses Taught at Weber State University:

Phsx 1010 "Introduction to Physics"
Phsx 1030 "Introduction to Astronomy"
Phsx 2010L, 2020L "General Physics Laboratory"
Phsx 2210L, 2220L "Laboratory Physics"
Phsx 2210 "Physics for Scientists and Engineers I"
Phsx 2220 "Physics for Scientists and Engineers II"
Phsx 2800 "Introductory Individual Research Problems"
Phsx 3200 "Solid State Physics"
Phsx 3510 "Electromagnetic Theory"
Phsx 3540 "Mechanical and Electromagnetic Waves"
Phsx 3640 "Advanced Physics Laboratory"
Phsx 4800 "Individual Research Problems"
Phsx 4830 "Readings in Physics"
Phsx 4970 "Senior Thesis" (Advisor)
Phsx 4990 "Seminar in Physics"

Selected Administrative Service at Weber State:

2005	Interim Chair, Physics Department
2003-present	University Undergraduate Research Task Force
2003-present	Chair/Co-Chair, College of Science Undergraduate Research Committee
2003-2004	University Academic Resources and Computing Committee

1999-2001 Chair, Department of Physics Curriculum Committee

1998-present Advisor, Department of Physics Society of Physics Students chapter

Publications (Archival Journals):
(An * indicates an undergraduate author/coauthor)

"Acoustical impedence of sulfur near the polymerization transition" J. K. Olson, W. B. Payne, C. E. Inglefield, V. F. Kozhevnikov, and P. C. Taylor. International Journal of Thermophysics, **25**, 1429 (2004).

*"Physical properties of sulfur near the polymerization transition" V. F. Kozhevnikov, W.P. Payne, J.K. Olson, C. McDonald, and C.E. Inglefield. Journal of Chemical Physics, **121**, 7379 (2004).

"An Instructional Two-Dimensional Diffraction Laboratory Using Patterns Created with Electron-Beam Lithography" Colin Inglefield, Royce Anthon. Journal of Materials Education, **24**, 53 (2003).

*"In-situ Pb Remobilization in Soils" M. Manecki, M. Matyjasik, C. Inglefield, J. Conlin, Hydrological Science and Technology, **18**, 123 (2002).

"Excitation mechanisms and structure-related Er3+ emission in amorphous and nanocrystalline GaN films" S. B. Aldabergenova, M. Albrecht, A. A. Andreev, C. E. Inglefield, J. Viner, V. Yu Davydov, P. C. Taylor, H. P. Strunk, J. Non-Cryst. Solids, **283**, 173 (2001).

"Quantum wells due to ordering in GaInP" Y. Hsu, G. B. Stringfellow, C. E. Inglefield, M. C. DeLong, P. C. Taylor, J. H. Cho, and T.-Y. Seong, Appl. Phys. Lett., **73**, 3905 (1998).

"Microwave modulated photoluminescence used to measure surface recombination velocities" C. E. Inglefield, M. C. DeLong, P. C. Taylor, and W. A. Harrison, J. Vac. Sci. Technol. B, **16**, 2328 (1998).

"Microwave modulated photoluminescence as a contactless probe of interface states" C. E. Inglefield, M. C. DeLong, P. C. Taylor, J. F. Geisz, and J. M. Olson, J. Vac. Sci. Technol. B, **15**, 1201 (1997).

"Characterization of unicompositional GaInP2 ordering heterostructures grown by variation of V/III ratio" C. E. Inglefield, M. C. DeLong, P. C. Taylor, Y. S. Chun, I. H. Ho, G. B. Stringfellow, J. H. Kim, and T.-Y. Seong, J. Appl. Phys., **82**, 5107 (1997).

"Heterostructures in GaInP grown using a change in V/III ratio" Y. S. Chun, H. Murata, S. H. Lee, I. H. Ho, T. C. Hsu, G. B. Stringfellow, C. E. Inglefield, M. C. DeLong, P. C. Taylor, J. H. Kim, and T.-Y. Seong, J. Appl. Phys., **81**, 7778 (1997).

"Effects of microwave electric fields on the luminescence of n- and p-type GaAs" C. E. Ingledfield, M. C. DeLong, P. C. Taylor, and W. A. Harrison, Phys. Rev. B, **56**, 12434 (1997).

"Microwave modulated photoluminescence in doped GaAs" C. E. Inglefield, M. C. DeLong, P. C. Taylor, and W. A. Harrison), J. Electronic Materials, **26**, 878 (1997).

"A dual-mode interpretation of nuclear spin relaxation for 13CO2 sorbed in polystyrene" A. Bandis, B. J. Cauley, C. E. Inglefield, W.-Y. Wen, P. T. Inglefield, A. A. Jones, and A. Melc'uk, J. Polymer Science B, **31**, 447 (1993).

"Nuclear spin relaxation dynamics of 13CO2 sorbed in polyisobutene rubber" Z. P. Dong, B. J. Cauley, A. Bandis, C. W. Mou, C. E. Inglefield,A. A. Jones, P. T. Inglefield, and W.-Y. Wen, J. Polymer Science B, **31**, 1213 (1993).

Publications (Peer-Reviewed Conference Proceedings):

***"Structural characterization of SiF4, SiH4, and H2 hot-wire-grown microcrsystalline silicon with large grains" J. J. Gutierrez, C. E. Inglefield, C. P. An,M. C. DeLong, P. C. Taylor, Scott Morrison, Arun Madan, Mat. Res. Soc. Symp. Proc., **664** (2001).

"Microwave modulated photoluminescence of excitons in III-V semiconductor heterostructures" C. E. Inglefield, M. C. DeLong, P. C. Taylor, and W. A. Harrison, in Proceedings of the Third International Conference on Excitonic Processes in Condensed Matter, edited by R. T. Williams and W. M. Yen, Proceedings Volume 98-25 (The Electrochemical Society, Pennington, NJ, 1999) pp 531-536.

"Local Structure and Er3+ Emission From Pseudo-Amorphous GaN:Er Thin Films" S.B. Aldabergenova, M. Albrecht, A.A. Andreev, C. Inglefield, J. Viner, P.C. Taylor, and H.P. Strunk, Mat. Res. Soc. Symp. Proc., **536**, 81 (1999).

"Advances in correlating the unusual optical properties of Ga0.52In0.48P to the microstructure" M. C. DeLong, C. E. Inglefield, P. C. Taylor, L. C. Su, I. H. Ho, T. C. Hsu, G. B. Stringfellow, K. A. Bertness, and J. M. Olson, Int. Phys. Conf. Ser., **141**, 207 (1994).

Publications Submitted and in Preparation:

"What constitutes successful undergraduate research?" Colin Inglefield, Adam Johnston (Journal of Materials Education).

Selected Presentations to Professional Groups:

"Instructional Laboratory Exercises for Undergraduate Students in Solid-State Physics or Materials Science" Colin Inglefield, Royce Anthon, Fall 2002 meeting of the Materials Research Society, symposium on "The Undergraduate Curriculum in Materials Science and Technology" Boston, MA 12/02

"Microwave Modulated Photoluminescence used to measure Surface Recombination Velocities"(talk and poster) C. E. Inglefield, M. C. DeLong, P. C. Taylor, and W. A. Harrison, 1998 conference on the Physics and Chemistry of Semiconductor Interfaces, Salt Lake City, UT, 1/98

"Characterization of Unicompositional GaInP2 Ordering Heterostructures Grown by Variation of V/III Ratio" C. E. Inglefield, M. C. DeLong, P. C. Taylor, Y. S. Chun, I. H. Ho, G. B. Stringfellow, J. H. Kim, and T.-Y. Seong. 1997 Electronic Materials Conference, Fort Collins, CO, 6/97

"Microwave Modulated Photoluminescence as a Contactless Probe of Interface States"(talk and poster) C. E. Inglefield, M. C. DeLong, P. C. Taylor, J. F. Geisz, and J. M. Olson, 1997 Conference on the Physics and Chemistry of Semiconductor Interfaces, Raleigh, NC, 1/97

"Microwave Modulated Photoluminescence in Doped GaAs" C. E. Inglefield, M. C. DeLong, P. C. Taylor, and W. A. Harrison. 1996 Electronic Materials Conference, Santa Barbara, CA, 6/96

Presentations By Undergraduate Students in Dr. Inglefield's Research Group:

"Microstructural Characteristics of GeSbTe Thin Films Grown by RF Sputtering" M. J. Nelson, C. E. Inglefield, J. K. Olson, H. Li, P. C. Taylor, 4-Corners section meeting of the American Physical Society 10/04.

"Electron Spin Resonance Studies of $[Et_4N]_2[TCNE]_2$ Single Crystals" T. Christofferson, C. E. Inglefield, L. Tiliaferro, Joel S. Miller, P. C. Taylor, 4-Corners section meeting of the American Physical Society 10/04.

"Raman Scattering and Electron Spin Resonance Measurements of Liquid Sulfur Near the Polymerization Transition" C. McDonald, C. E. Inglefield, J. Olson, V. Kozhevnikov, P. C. Taylor, 4-Corners section meeting of the American Physical Society, 10/02. This presentation received an award as an "Outstanding presentation by an Undergraduate".

"Modeling the Topography of Hot-Wire Chemical Vapor Deposition Grown Microcrystalline Silicon Using a Voronoi Diagram" J. L. Conlin, C. E. Inglefield, 4-Corners section meeting of the American Physical Society, 10/02

"Atomic Force Microscope Model" (Poster) M. T. Smith, C. E. Inglefield, A. T. Johnston, Presented at the American Association of Physics Teachers annual national meeting in Boise, ID, 8/02. Abstract also published in the AAPT Announcer, Summer 2002

"Calculations of Internal Electric Fields in GaInP Quantum Wells" J. L. Conlin. Presented in a Society of Physics Students undergraduate research session at the American Association of Physics Teachers annual national meeting in Boise, ID, 8/02. Abstract also published in the AAPT Announcer, Summer 2002

"Mobilization of Lead Studied by Atomic Force Microscopy" J. L. Conlin (Poster), 4-Corners section meeting of the American Physical Society 11/01. This presentation won an award as an "Outstanding Poster".

"Photoluminescence of Amorphous Silicon" J. L. Conlin, 4-Corners section meeting of the American Physical Society 11/01

"Measurement of the recombination velocity of microcrystalline silicon/amorphous silicon interfaces" C. Pedersen (Poster), Spring meeting of the Materials Research Society 4/01. A copy of this poster has also been on display at the University of Utah physics department.

"AFM characterization of hot-wire grown microcrystalline silicon with large grains" J. J. Gutierrez, Spring meeting of the Materials Research Society 4/01

"Waveguides based on photodarkening in As2Se3" D. Housely, Society of Physics Students zone 15 meeting 3/01.

"An atomic force microscopy study of the topology of microcrystalline silicon surfaces" J. J. Gutierrez , 4-Corners section meeting of the APS 9/00. This presentation received an award as an "Outstanding presentation by an Undergraduate".