Charles W. Johnson

Curriculum Vita

Division of Natural Sciences and Mathematics
South Georgia College
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EDUCATION

Kent State University — Kent, OH
- Ph.D. in Physics, May 1998
- Dissertation: Strongly-interacting matter at high densities with a soliton model
- Advisor: Dr. George Fai
- GPA 3.63/4.00

Saint Bonaventure University — Saint Bonaventure, NY
- M.S. in Physics, May 1989
- Thesis: SU(1,1) coherent states in anharmonic potentials
- Advisor: Dr. Christopher Gerry
- GPA 4.00/4.00

State University of New York (SUNY) at Geneseo — Geneseo, NY
- B.A. in Physics with a minor in Mathematics, May 1987
- GPA 2.80/4.00

RESEARCH INTERESTS

The use of computers in the classroom setting, web-based interactive learning, the Quark-gluon structure of nuclei, phase transitions, and large-scale numerical computation.

ADMINISTRATIVE EXPERIENCE

South Georgia College

Chairperson, Division of Natural Sciences and Mathematics 2005

TEACHING EXPERIENCE

Associate Professor of Physics, South Georgia College

Introductory Physics I 1998-present
The first in a two-semester sequence physics course for non-majors. Responsibilities include both lecture and laboratory. Developed PowerPoint presentations for the lecture, class demonstrations, and an extensive class Web page that includes homework solutions, examples from class, and practice tests. I have also have developed some computer-based labs.

Introductory Physics II 1998-present
The second in a two-semester sequence physics course for non-majors. Responsibilities include both lecture and laboratory. Developed PowerPoint presentations for the lecture, class demonstrations, and an extensive class Web page that includes homework solutions, examples from class, and practice tests.

Principles of Physics I 1998-present
The first in a two-semester sequence physics course for majors. Responsibilities include both lecture and laboratory. Developed PowerPoint presentations for the lecture, class demonstrations, and an extensive class Web page that includes homework solutions, examples from class, and practice tests. I have also developed some computer based-labs.

Principles of Physics II 1998-present
The second in a two-semester sequence physics course for majors. Responsibilities include both lecture and laboratory. Developed PowerPoint presentations for the lecture, class demonstrations, and an extensive class Web page that includes homework solutions, examples from class, and practice tests.

Principles of Physics I and Lab (on-line) 2002-present
An introductory course which will include material from mechanics, thermodynamics and waves. Elementary differential calculus will be used. This course is offered though the University System of Georgia eCore program.

Principles of Physics II and Lab (on-line) 2003-present
The second in a two-semester sequence physics course for majors which will include material form electromagnetism, optics, and modern physics. Elementary differential and integral calculus will be used. Elementary differential calculus will be used. This course is offered though the University System of Georgia eCore program.

Science for Early Childhood Education Teachers 2003-present
Basic information about biology, chemistry, and the physical sciences including astronomy, geology, and physics for early childhood education majors. The course provides an integrated view of the role of the biological, chemical and physical sciences in understanding the natural world. Coordinated laboratory activities are an integral part of the course. Developed PowerPoint presentations for the lecture, class demonstrations, and an extensive class Web page.

Foundations of Physical Science 1998-present
A survey course covering the basic principles underlying physical phenomena. Developed PowerPoint presentations for the lecture, class demonstrations, and an extensive class Web page that includes homework solutions, examples from class, and self-grading practice tests.

Laboratory for Foundations of Physical Science 1998-present
A laboratory course to augment and support Foundations of Physical Science. Developed some computer-based laboratories.

Introduction to the Universe 2000-2002
A survey course covering the basics of astronomy. Topics range from the history of astronomy to the birth of the universe. Developed PowerPoint presentations for the lecture, class demonstrations, and an extensive class Web page that includes homework answers, notes from class, and practice tests.

Laboratory for Introduction to the Universe 2000-2002
A laboratory course to augment and support Introduction to the Universe.

Astronomy of the Solar System 2002-present
The study of the sun and stars, their physical properties and evolution, interstellar matter, star clusters, our galaxy and other galaxies, and the origin and evolution of the universe. Developed PowerPoint presentations for the lecture, class demonstrations, and an extensive class Web page that includes homework answers, notes from class, and practice tests.

Laboratory for Astronomy of the Solar System 2002-present
A laboratory course to augment and support Astronomy of the Solar System.

Stellar and Galactic Astronomy 2003-present
A survey course covering the solar system. Topics range from the history of astronomy to the search for extraterritorial life. Developed PowerPoint presentations for the lecture, class demonstrations, and an extensive class Web page that includes homework answers, notes from class, and practice tests.

Laboratory for Stellar and Galactic Astronomy 2003-present
A laboratory course to augment and support Stellar and Galactic Astronomy.

College Algebra 2000-present

This course is a functional approach to algebra that incorporates the use of appropriate technology. Developed PowerPoint presentations and an extensive class Web page that includes homework solutions and class examples.

Mathematical Modeling 1999-2005

This course is an introduction to mathematical modeling using graphical, numerical, and symbolic, and verbal techniques to describe real-world data and phenomena. Developed PowerPoint presentations and an extensive class Web page that includes homework solutions and class examples.

Part Time Instructor, Kent State University

Physical Science 1994-1998

A survey course covering the basic principles underlying physical phenomena with up to 90 students. Developed overhead transparencies for lectures, a class homepage, in-class demonstrations, homework sets, and exams.

Teaching Assistant, Kent State University

College Physics I 1992-1994

Taught three recitations per semester for a non-calculus-based physics course. Responsibilities included grading the homework, creating and grading quizzes, and helping students during office hours.

University Physics I and II 1991-1992

Taught three labs per semester for calculus-based physics courses. Responsibilities included helping students set up and perform labs, and grading lab reports.

Teaching Assistant, Saint Bonaventure University

University Physics I and II 1987-1989

Taught lab for a calculus-based physics course. Responsibilities included designing and setting up labs, helping students perform labs, and grading lab reports.

Teaching Assistant, SUNY at Geneseo

Astronomy I 1985-1987

Taught lab for an introductory astronomy course. Responsibilities included lecturing about important concepts, helping students perform labs, and grading lab reports.

EDUCATIONAL PROJECTS

Selected as a member of the teams to develop the online Principles of Physics I and II courses for the University System of Georgia's eCore program. This process consisted of writing on-line content for lessons, and developing and writing on-line and at home labs.

PRESENTATIONS

PRS and Streaming Video
C. Johnson and L. Watford, "Southeastern Scholarship Conference on E-Learning", Macon State College, Georgia (2005).

Socrates Goes Wireless (Using streaming video and PRS in the classroom)
C. Johnson and L. Watford, "Teaching Matters: Tradition, Innovation, and the Making of Students", Gordon College, Georgia (2005).

Streaming Laboratory and Class Instruction Cheaply over the Internet, C. Johnson and L. Watford, League for Innovation in the Community College conference on information technology, Tampa, Florida (2004).

Using Streaming Media to Provide Classroom and Laboratory Instruction over the Internet,
C. Johnson and L. Watford, Teaching Matters conference, Gordon College, Georgia (2003).

Using Streaming Media to Provide Laboratory Instruction Over the Internet, C. Johnson, League for Innovation in the Community College conference on information technology, Minneapolis, Minnesota (2001).

Using Streaming Media to Provide Laboratory Instruction Over the Internet, C. Johnson, poster session at The Teaching of Science: New Approaches, Kennesaw State University, Georgia (2001).

Video Internet Resources for Physical Science Labs, C. Johnson, Two-Year College Physics Teachers Region 11, Macon State College, Georgia (2000).

Computer use in the classroom-Two applications, C. Johnson, Two-Year College Physics Teachers Region 11, Waycross College, Georgia (1999).

High-density nuclear matter in terms of individually confining solitons,
C. Johnson and G. Fai, poster session at the Sixth International Conference on Nucleus-Nucleus Collisions, Gatlinburg Tennessee, (1997).

Hadron-quark transition in cold nuclear matter with a lattice of nonlocal confining solitons,
C. Johnson, G. Fai, and M. Frank, Bull Am. Phys. Soc. **41** 1268 (1996).

Strongly interacting matter with a confining nonlocal soliton model, C. Johnson. G Fai, and M. Frank, Bull Am. Phys. Soc. **39** 1421 (1994).

REFEREED PAPERS

Saturation properties of nuclear matter with a nonlocal confining solitons, C. W. Johnson and G. Fai, Heavy Ion PHYS. **8** (1998) 343.

High-density nuclear matter with nonlocal confining solitons, C. W. Johnson, and G. Fai, Phys. Rev. C **56**, (1997) 3353.

The hadron-quark transition with a lattice of nonlocal confining solitons,
C. W. Johnson, G. Fai **,** and M. Frank, Phys. Lett. B. **386** (1996) 75.

SU(1,1) coherent states interacting with a four-photon medium, C. C. Gerry, and C. Johnson**,** Phys. Rev. A **40** (1989) 2781.

COMMITTEE SERVICE

South Georgia College

Academic Council	2003-2005
Admissions Committee	2001-2002
Representative for the two-year colleges to the executive committee of the Academic Advisory Committee for Physics and Astronomy	2000-2001
Discipline Committee	1999-2001
Academic Advisory Committee for Physics and Astronomy	1998-present

Kent State University

Physics Graduate Student Representative	1994-1995
Undergraduate Curriculum Committee	1993-1994
President, Society of Physics Students (SPS)	1992-1994