S. Raj Chaudhury

Areas of Expertise:

Transformation of teaching and learning using research-based pedagogies
Faculty and organizational development across all spheres of scholarship
STEM education research (K-20) and Scholarship of Teaching & Learning
Project, personnel and budget management

Professional Experience:

University of South Alabama, Mobile, AL 2016 –
Executive Director, Innovation in Learning Center and USAonline
Associate Professor, Department of Physics
Instructor, Department of Music, Director, World Music Ensemble (India)

Summary of accomplishments: Provide campus leadership on teaching and learning innovations for traditional and online learning; oversee 8 full time staff and 10 graduate assistants with unit budget of ~$1.5M annually; provide comprehensive faculty teaching and learning development services to the University including - new faculty orientation, New Faculty Scholars year-long program, educational workshops and seminars, Scholarship of Teaching and Learning (SoTL) faculty grants and development; put on annual South Alabama Conference on Teaching and Learning; introduced mid semester teaching assessment program supporting both traditional and online courses; launched Learning Assistant program at South; led campus through 8 month review of LMS systems with migration planned from Sakai to Canvas; leading creation of first fully online non-credit course offerings at USA; member of leadership team for revamping Adult Interdisciplinary Studies (online) degree program; manage USA's market research contract with Eduventures; led adoption of new Student Perception of Instruction instrument with Faculty Senate support; co-investigator on multiple NSF grants for STEM education submitted with faculty colleagues.

Auburn University, Auburn, AL 2009 – 2016

Special Assistant for International Programs and Distance Learning, Office of the Provost, 2015-2016

Responsibilities: Led Global Teaching Academy in Office of International Programs to recognize outstanding international educators on Auburn staff; supported faculty international research collaboration; facilitated strategic growth of online undergraduate degree programs and non-credit offerings through Auburn Online, Office of the Provost

Associate Director, Biggio Center for the Enhancement of Teaching & Learning, 2009-14 [acted as interim Director of Center 2012-14]

Responsibilities: Led Preparing Future Faculty program; started GTA Fellows program; expanded Mid-Semester Instructional Feedback program; organized Professional Development Seminar series; managed New Faculty Scholars program; managed

Breeden Endowed Grants program; oversaw web & technical communications; participated in STEM Education grant writing and project evaluation; provided Center-wide staff supervision, budgeting and strategic spending; supported Senate Teaching Effectiveness Committee

Director, Office of Distance Learning & Testing Services (DL), 2011-14

Responsibilities: Significantly expanded fully online undergraduate course offerings at Auburn (from 20 to 120); provided leadership in distance learning initiatives for Provost; coordinated SACS reaffirmation responses on DL; designed faculty development and incentives for online course development; recruited, hired & supervised instructional design/technology team; oversaw expanded support for computer-based Testing Services used by online & traditional courses; served as ex-officio on University Curriculum Committee and Graduate Curriculum Committee

Director, Indian Music Ensemble, Dept. of Music, College of Liberal Arts, 2010-2016
Responsibilities: Design course in Indian classical music, teach and lead Indian Music Ensemble including public recitals and outreach events across Alabama

Courtesy Appointment, Dept. of Curriculum & Teaching, College of Education, 2010-2016
Courtesy Appointment, Dept. of Physics, College of Sciences & Mathematics, 2012-2016

Christopher Newport University, Newport News, VA 2005-2009
Associate Professor of Physics, 2005-2009
Associate Director, Office of Sponsored Programs, Aug.-Dec. 2008
Director, World Music Ensemble, 2007-2008

Norfolk State University, Norfolk, VA 1995 – 2005
Director, B.E.S.T. Lab*, Center for Excellence in Science Education, 1996-2005*
Assistant Professor of Physics, 1995-2000 (received tenure)
Associate Professor of Physics, 2000 – 2005 (received promotion to Full Professor)

State University of New York at Geneseo, 1993-1995
Visiting Assistant Professor of Physics

Kansas State University, 1992-1993
Post-doctoral Research Associate, Department of Physics, Prof. Dean Zollman

Education:

Ph.D., Physics, University of California, Los Angeles, 1992
M.S., Physics, University of California, Los Angeles, 1987
B.A., Physics, Magna Cum Laude, Vassar College, Poughkeepsie, 1985

Teaching Experience:

Physics: Undergraduate lecture and laboratories in introductory physics (calculus-based, algebra-based, conceptual), modern physics, solid state physics and quantum mechanics; graduate courses for future (K-16) physics teachers;
Pedagogy: Professional preparation course for future faculty; undergraduate and graduate

science education courses for pre-service elementary, in-service elementary and secondary teachers;
Music: North Indian classical music theory and performance

Instructor of Record at South Alabama:
World Music Ensemble (Spring 2017 -)

Instructor of Record at Auburn:
Professional Development: GRAD 8940 & 8950 (Fall 2011- Fall 2014)
Higher Education Program: HIED 8510 (Spring 2014)
Physics: PHYS 7970 (Summer 2015)
Music Ensemble: MUSE 1600/2600/3600/4600 (Fall 2010- Summer 2016)

Awards & Recognitions:

2018 Elected to *Regional Vice President (U.S.)* of International Society for the Scholarship of Teaching and Learning (governing board member)
2018 Elected to *Senate* of Phi Beta Kappa honor society (governing board member)
2003-4 *Carnegie Scholar* with the Carnegie Academy for the Scholarship of Teaching and Learning, Carnegie Foundation for the Advancement of Teaching, Stanford, CA
2003 *Forever Upward Academic Award*, Norfolk State University Foundation, Norfolk, VA
2002 *Distinguished Faculty Achievement Certificate*, State Council of Higher Education for Virginia, Richmond, VA
2001 *Best Paper Prize - 4-year College Faculty,* Chesapeake Section of the American Association of Physics Teachers, Richmond, VA, October
2001 *Millennium Award for Excellence in Teaching* at Historically Black Colleges and Universities, Office of the White House Initiative on HBCUs, Washington D.C.
2001 *Dean's Service Award*, School of Science & Technology, Norfolk State University, VA
2000 *Outstanding Faculty Service Award*, NASA Minority University Space Interdisciplinary Network, Goddard Space Flight Center, Greenbelt, MD
1985 *Phi Beta Kappa Honor Society,* elected at Vassar College, May 1985

Recent Publications:

D. Williams, S. Thongsawat, S. Raj Chaudhury and Dan Guo, "Small Group Instructional Feedback – Online Edition", in preparation for *The OLC Journal* (2019)

M. Kroetz, L. Arif, D. Williams and S. Raj Chaudhury, "Measuring the effectiveness of an innovative application of clickers through analyzing student performance data", in preparation for the *International Journal for the Scholarship of Teaching and Learning* (2019).

S. Raj Chaudhury, Sarah Canatsey and Phillip J. Ward, "A perspective on Interactive Lecture Demonstrations as a computer supported collaborative learning (CSCL) activity", *Journal of Physics: Conference Series*, Vol. 1287, No. 1 (2018).

E. Vandegrift, A. Mulnix, J. Yates and S. Raj Chaudhury, "A Different Kind of Workshop: Collaborative Design in Educational Development", *To Improve the Academy: A Journal of Educational Development*, Vol. 37, Issue 2, 2018, Wiley Periodicals.

A. Mulnix, S. Raj Chaudhury and E. Vandergrift, "How Important Is Achieving Equity in Undergraduate STEM Education to You?" *Journal of College Science Teaching,* Vol. 45, No. 4, 2016 pp. 8-10.

A. Major, S. Raj Chaudhury, B. Gilbertson and D. King, "An Integrated Science Course Moves Online: Four Concurrent Perspectives", *Journal of Applied Research in Higher Education,* Emerald Publishers, Vol. 6 Num. 2, 2014

Book Chapters:

S. Raj Chaudhury, L. Mandeltort, A. Mulnix, E. Vandergrift and J. Yates, "Using Scientific Visualization to enhance the teaching and learning of core concepts", in *Visualizing Learning: Essentials of Teaching and Integrating Visual and Media Literacy*, Baylen, D. and D'Alba A. (Eds.), pp. 185-202, Springer, New York, 2015.

J. Groccia, E. Mansour and S. Raj Chaudhury, "Interactive Group Learning", in *Paths to Learning: Teaching for Engagement in College*, Tobolowsky, B. (Ed.), University of South Carolina Press, 2014.

C. Archer, S. Nickson and S. Raj Chaudhury, "The Impact of Culture Bump and Technology in Creating Effective Diversity Leadership", in J. P Lewis, A.M. Green & D.W. Surrey (Eds.), *Technology as a tool for diversity leadership: Implementation and future implications*. Hersey, PA: IGI Global. 2013.

S. Raj Chaudhury, "The Lecture", in Groccia, J.E. and Buskist, W., (Eds.), *New Directions in Teaching and Learning,* No. 128, Winter 2011, Jossey-Bass.

Peer Reviewed Conference Proceedings:

"Learning to Learn Engineering", T. Utschig, D. Apple, S. Beyerlein, S. Raj Chaudhury, J. Morgan, W. Scheller, D. Litynski, V. Cox, M. El-Sayed, D. Leasure, 2018 IEEE Frontiers in Education Conference (FIE) - *Full Paper*. San Jose.

"Peer Review of Teaching Adapted to an Online World", Proceedings of VIII International GUIDE Conference, Aracaju, Brazil, November 2014. Lead Author.

"Agile learning and collaboration – Improvisational uses of group scribbles and other CSCL tools", *Computer Supported Collaborative Learning Practices: CSCL2009 Community Events Proceedings*, Dimitracopoulou et.al. (Ed.), International Society of the Learning Sciences, 2009. Co-Author.

"Cross-disciplinary Teaching: Bridging Cultural Divides", *Proceedings of the 2nd Annual SoTL Commons Conference*, Statesboro, GA, March 2009. Co-Author.

"Moving Beyond 'clickers': New Tools for Participatory Learning", *Proceedings of the 2nd Annual SoTL Commons Conference*, Statesboro, GA, March 2009

"From socially-mediated to technology-mediated coordination: A study of design tensions using Group Scribbles", Short paper, *Proceedings of Computer Supported Collaborative Learning 2007*, Rutgers, NY, July 2007. Co-author.

"Students as scholars in the cooperative classroom – Using GroupScribbles as a coordination tool," poster presented at the *4th Conference of International Society for the Scholarship of Teaching and Learning,* Sydney, Australia, July 2007

Relevant Conference Presentations:

"Renewed Attention for Interactive Lecture Demonstrations: scripts and orchestration graphs", Poster presented at American Association of Physics Teachers, 2019 Summer Meeting, Provo, Utah.

"Cross Disciplinary Strategies for Engaging Broader Audiences in Science Advocacy", Wise, A. and S. Raj Chaudhury, contributed talk at American Association of Physics Teachers, 2019 Summer Meeting, Provo, Utah.

"Leading Institutional Initiatives From the Middle: Unrecognized Role". Workshop presented at POD Network Conference, Mulnix, A., Vandegrift, E., Yates, J. and S. Raj Chaudhury, Portland, OR 2018.

"Tasks Inspired and Enhanced by Science Education Research". Workshop at Southern Regional Faculty and Instructional Design Conference, Virginia Beach, VA. 2018.

"Transforming Teaching and Learning through Advocacy and Outreach", Robinson, J., Friberg,

J., and S. Raj Chaudhury, 2nd EuroSOTL Conference, Lund, Sweden. 2017.

"Institutional Transformation through SoTL: Initial Steps at South Alabama", Mattson, S. and S. Raj Chaudhury, 2nd EuroSOTL Conference, Lund, Sweden. 2017.

"Professional Development in Teaching and Soccer Refereeing: Parallels and Contrasts", paper presented at 2nd EuroSOTL Conference, Lund, Sweden. 2017.

"Solving the Problem of Assessing E-Portfolios and Incorporating Peer Review", Roundtable at E-Learn 2015 - World Conference on E-Learning. B. Gilbertson, E. Hancock, S. Raj Chaudhury and G. Buschle-Diller. Kona, Hawaii, October 2015.

"History of Physics in India", invited talk at American Association of Physics Teachers 2015 Summer Meeting, College Park, MD, July 2015.

"Teaching for the 21st Century", workshop at AAC&U Centennial Annual Meeting, Washington D.C., January 2015. A. Mulnix, E. Vandergrift, S. Raj Chaudhury, J. Yates.

"Peer Review Adapted to an Online World", presentation at POD Network Conference, Dallas, TX, November 2014. S. Raj Chaudhury, E. Ismail, J. Groccia.

"What Students Want: Examining Small Group Instructional Feedback Results", presentation at POD Network Conference, Dallas, TX, November 2014. E. Hancock, S. Nickson, E. Ismail, S. Raj Chaudhury.

"Thinking Skills for the 21st Century: Teaching for Transfer", presentation at AAAS Annual Meeting, Chicago, February 2014. A. Mulnix, E. Vandergrift, S. Raj Chaudhury, J. Yates.

"Web Based Inquiry Science Environment (WISE) for Enhanced Learning", 19th Annual Sloan Consortium International Conference on Online Learning, Orlando, Nov. 2013

"An Integrated Science Course moves Online: Four Concurrent Perspectives", 18th Annual Sloan Consortium International Conference on Online Learning, Orlando, Nov. 2012

"Learning From International Graduate Students to Build Internationalization in Universities", Poster, POD Network Conference, Atlanta, GA. Oct. 2011. Co-Author.

"Science Through Literacy for Children", Alabama Community Education Association, 2010 Annual Conference, Montgomery, AL, February 2010

"Helping Teachers Integrate Inquiry and Technology: Multiple Representations of Motion", 6th Annual TEAM-Math Conference, Tuskegee, AL, December 2009

"Faculty Learning Communities as Communities of Practice", Plenary Talk, West Central Georgia STEM Institute, Columbus State University, GA, December 2009

"Cross Disciplinary Teaching - Hybrid Pedagogy connects Physics and Indian Music", Poster, POD Network Conference, Houston, TX. Oct. 2009. Lead Author.

"SPHERE Program: Engaging a diverse undergraduate student body in earth system science research", *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract ED13A-0596, December, 2008

"Technology Enhanced Learning of Science – TELS", workshop presented at AAPT National Meeting, Edmonton, Alberta, Canada, July 2008

"Technology Assisted Formative Assessment for STEM Education," Virginia Assessment Group Fall Conference, Williamsburg, VA, November 2007

"Beyond Clickers – using interactive technologies for learning", workshop presented at AAPT National Meeting, Seattle, WA, January 2007

"Computer Supported Collaborative Learning in classrooms – Design and Development of the interactive Group Scribbles software," Tidewater Sigma-Xi Poster Session, CNU, November 2006 (co-author with students)

"GroupScribbles", invited demo presentation at Microsoft Research Faculty Summit, Seattle, July 2006

"Beyond Clickers – new directions for Computer Supported Collaborative Learning", contributed talk at American Association of Physics Teachers (AAPT) 2006 Winter Meeting, Anchorage, AK, January 2006

"An internet-based, guided inquiry approach to geoscience education using interactive models

and supporting effective teacher practice", *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract ED53A-0331, 2005

"The Visual Learner – Challenges and Approaches in the Sciences", panel at 2005 Carnegie Colloquium on the Scholarship of Teaching & Learning, Atlanta, March 2005

"The manipulatives of geoscience education", S. R. Chaudhury, IOOS Education Workshop, Charleston, SC, March 2004

"Classroom Assessment Techniques using the Personal Response System", invited talk at Virginia Assessment Group Spring Workshop, Richmond, VA, March 2003

Recent National and International Seminars/Panels:

"Piecing Together the Online Program Management Puzzle: Buy, Build, or Both?" Panelist at Eduventures Summit, Howard Lurie (Organizer), 2019.

"Building a Learning to Learn course online", Moderator for panel at Process Education/CoTL Conference, Mobile, AL. 2019.

"Multiple Representations for STEM disciplines: Lessons from the Learning Sciences", Creighton University, Omaha, NE. 2019.

"Learning Science and the Science of Learning", Air Force Institute of Technology, Dayton, OH, 2019.

"Multiple Representations in STEM Teaching and Learning", University College London, UK, 2018.

"Mid semester Feedback Provides Insight into iGEN Needs", Panelist at Process Education Conference, Erie, PA, 2018.

"Social Media Strategies for Scholarship of Teaching and Learning", Panelist at International Society for the Scholarship of Teaching and Learning Conference, Calgary, 2017.

"Using Learning Science in the Active Learning Classroom", Webinar for Macmillan Publishing, Online. 2017.

"Active Learning – Transform your Teaching", Faculty workshop, Miranda House College, New Delhi, India. 2017.

"Mentoring Faculty Towards Effectiveness in Teaching", Faculty Workshop at PSG Institutes, Coimbatore, India, 2015.

"Engaging Large Groups of Students", Technology in Business Schools Roundtable, Auburn University, Alabama. 2015.

Grant Proposals:

(at South Alabama)

"Inclusive Excellence for Pre-Health Disciplines", Howard Hughes Medical Institute, (in preparation); co-PI: Chaudhury

"Team Based Learning in Linear Algebra", National Science Foundation, PI: Lewis, co-PI: Chaudhury, $600K, (declined)

"Identity Building through Course Embedded Research for STEM majors", National Science Foundation, PI: Borchert, co-PI: Chaudhury, $800K (declined)

"Pathway USA and One Math", APLU/Gates Foundation, PI: Green and Carr; co-PI: Chaudhury, $50K (**funded** 2017-18, 2018-19)

(at Auburn University)

"Math Science Partnership: STEM Enrichment in Physics, Mathematics and Project Based Learning", AL Dept. of Education, $400K, co-PI: Chaudhury (**funded** 2015-17)

"Learning Assistants in Physics and Chemistry", College of Sciences and Mathematics, $20K, co-PI: Chaudhury, (**funded** 2015)

"Research Experience for Undergraduates: BioFuels and BioProducts", National Science Foundation, 3 years, ~$300K, PI: Adhikari; Evaluator: Chaudhury (**funded**: 2013-16)

"Transforming Biology-Based Engineering Education Using a Hybrid Pedagogical Approach", USDA-Higher Education Program, 3 years, $180K, PI: Srivastava, co-PI: Fasina, Raju, Chaudhury (**funded:** 2012-15)

"Masterclass in Indian Classical Music", Breeden Endowed Grants Program, Auburn University, 1 year, $2950, PI: Baird, Co-PI: Chaudhury (**funded:** 2011-12)

(Prior to Auburn)

"TELES – Technology Enhanced Learning of English and Science", NCLB grant from State Council for Higher Education in Virginia, **funded $93K**, PI: Wheeler; co-PI: Chaudhury (2007-08)

"PEESS – Partnership for Excellence in Elementary School Science", 1.5 years, Math Science Partnership grant, Va. Dept. of Education, **funded $173K**, PI: Chaudhury (2007-08)

"Students as Professionals Helping Educators Research the Earth", 3 years, NASA Earth Science Education, **funded $570K**, PI: Chaudhury (2005-'08)

"Mentoring Online – MODELS", sub-contract to UC-Berkeley, 5 years, NSF Teacher Professional Continuum, **funded $118K** (2005-'10), PI: Linn (Berkeley), co-PI: Chaudhury

"Technology Enhanced Learning of Science", **funded $125K** (consulting agreement with Concord Consortium), NSF Centers for Learning and Teaching, PI: Linn (Berkeley), Tinker (Concord) (2003-'08)

"Tuple Spaces as a Foundation for Collaborative Learning", **funded $168K** (subcontract to SRI International, Menlo Park), NSF Information Technology Research, PI: Roschelle, co-PI: Chaudhury 2004-06

"Scenario Based Learning – Inquiry for a Digital Earth", NASA Earth Science Enterprise Education, co-PI/PI, **funded $225K**, 2000-03

"Science And Technology Academicians on the Road to Success – STARS", NSF Historically Black Colleges and Universities Undergraduate Program, **funded $2.5M**, 2001-06, co-PI; (PI: President McDemmond)

"Mission Leveraged Education – NSU/NASA Innovative Undergraduate Model", NASA Minority University Partnership Award for the Integration of Research, **funded $1.2M**, co-PI/PI, 2000-04

"BEST Systemic Training & Empowerment of Pre-service Students", NASA Minority University Research Division MASTAP Program, **funded $560K**, co-PI, 2000-03

"ATOM: Accentuating, Technical Opportunities for Minorities," U.S. Dept. of Education, Minority Science & Engineering Improvement Program, PI, **funded $490K**, 1999-2002

"Summer of Seasons: Earth System Science Workshops for Emerging Educators", NASA Earth Science Enterprise Education, PI, **funded $60K**, 1997-2001

"The Science Studio - a workshop based approach for Physical Science," National Science Foundation Instrumentation & Laboratory Improvement program, PI, **funded $60K**, 1996-98

"Research Experience in Earth System Science", NASA Earth Science Enterprise Education award, PI, **funded $220K**, 1997-2001

"Scientific and Cultural Investigations using the Bicycle", U.S. Dept. of Education, FIPSE, co-PI, **funded $150K,** 1998-2001

"A Cooperative Program for Research & Curriculum Development in Earth System Science", NASA Langley Research Center, PI, **funded $600K**, 1995-98

Professional Service:

International Society for the Scholarship of Teaching and Learning:
Vice-President (U.S.), 2018-21;
co-Chair, Advocacy and Outreach Committee, 2017-19

Member, Convenings and Conferences Committee; 2018-
Phi Beta Kappa Honor Society:
Member, site lead, *Committee on Qualifications*, 2012- ;
At large Senator (governing board) 2018-21
POD Network, Chair, Electronic Communications and Resources Committee, 2016-18
Auburn University eLearning Working Group, Office of the Provost, 2012-2015
NASA GLOBE Review Committee (appointed), July-December, 2007 & October 2008
Technical Proposal Reviewer, NASA Office of Earth Science, 2004-10
Technical Proposal Reviewer, National Science Foundation, 2004-
Technical Reviewer, *To Improve the Academy*, Jossey-Bass, 2010-
Technical Reviewer, *Journal of Applied Research in Higher Education,* Emerald, 2012-
NASA Earth Science Education Roadmap Steering Committee, 2004-05
Education Technologies Committee, American Association of Physics Teachers, 2006-08
Advisory Board for Education, Collaboration and Outreach, NSF Learning in Informal and Formal Environments (LIFE) Center, Univ. of Washington/SRI Intl., 2005-2008
Advisory Board, NanoSense Education Project, SRI International, Menlo Park, CA 2005-2008
Advisory Board, Governor's School for Science & Technology, Hampton, Virginia, 2002-2008
International Program Committee, IEEE Virtual Reality 2002
Technical Reviewer, Journal of Mathematics and Science Collaborative Explorations, Virginia Math and Science Coalition, Richmond, VA 2001-2008
Technical Reviewer, NASA Office of Space Science, 1996-2002

Current Memberships:

American Association of Physics Teachers, 1992-
Educause, 2016-
International Society for the Scholarship of Teaching and Learning, 2004-
Phi Beta Kappa, 1985-
Professional and Organizational Development (POD) Network, 2008-
Online Learning Consortium (formerly Sloan-C), 2011-
Southern Regional Faculty and Instructional Development Consortium, 2010-