

November, 2009

CURRICULUM VITAE

Mark Christian Zrull

Business Address: Appalachian State University (828) 262-3131
Dr. Wiley F. Smith Dept. of Psychology (office)
ASU Box 32109 (828) 262-7538
222 Joyce Lawrence Lane (laboratory)
Boone, North Carolina 28608

E-mail: zrullmc@appstate.edu

Home Address: 234 Holiday Hills Road (828) 265-4568
Boone, North Carolina 28607

Education

University of South Carolina, Ph.D., General / Experimental Psychology, 1991
Major area: Behavioral Neuroscience. Minor area: Quantitative Psychology
Dissertation: *The inferior colliculus, tectal grafts and sound localization in hooded rats*. Ralph Tindall Dissertation Research Award.

Georgia State University, B.S., Psychology, Cum Laude with College Honors, 1986
Mortar Board Citation for Outstanding Scholarship
Thesis: *Recovery of behavioral function after two-stage cortical lesions in the rat:
A test of vicariation.*

University of Toledo, 1980-1981
University of Michigan, 1976-1978

Ann Arbor Pioneer High School, High Honors, 1976

Appointments and Employment

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| 1992- | Appalachian State University, Professor (2008-), Associate Professor (1998-2008), Assistant Professor (1992-1998), Head of General-Experimental M.A. Program (2000-2003), Department of Psychology; Graduate Faculty, Member (1995-), Associate Member (1992-95), Cratis Williams Graduate School. |
| 1991-92 | University of Wisconsin, Post-doctoral Fellow, Department of Neurophysiology and Waisman Center. |
| 1986-91 | University of South Carolina, Research Assistant (1987-91), Teaching Assistant (1986-90), Department of Psychology. Part-time. |
| 1986 | Georgia State University, Laboratory Instructor, Department of Psychology, Physiological Psychology. Part-time. |
| 1985-86 | Georgia Mental Health Institute, Atlanta, Georgia, Alcohol and Drug Abuse Unit. |
| 1983-85 | St. Jude's House, Inc., Atlanta, Georgia, Assistant Director and Therapy Group Leader, Intermediate Care-Residential Program for Chemically Dependent Men. |

Professional Societies

Carolinas Associates, Member, 2008-present
Network of Directors of Undergraduate Research Experiences, Member, 2004-present
Society for the Teaching of Psychology, Member, 2001-present
Council on Undergraduate Research, Member, 1999-present
Faculty for the 21st Century, Project Kaleidoscope, Member, 1996-present
Association for Research in Otolaryngology, Member, 1995-present
Southeastern Psychological Association, Member, 1994-present
Faculty for Undergraduate Neuroscience, Member, 1993-present
Society for Neuroscience, Member, 1989-present
American Psychological Society, Member, 1988-92
American Psychological Association, Student Affiliate, 1986-91

Academic Awards and Nominations

R. Randy Rice Service Award, North Carolina Housing Officers, 2005, 2007
for work with the Community of Science Interest a residential living-learning
community at Appalachian State University
Project Kaleidoscope (PKAL) Faculty for the 21st Century, Class of '96, 1996
Nominated by College of Arts & Sciences at Appalachian State for membership. PKAL
F21 focuses effort on enhancing math and science education for undergraduate and
K-12 students with approximately 400 members nationally prior to 1996.
Ralph Tindall Award, Department of Psychology, University of South Carolina, 1991
Citation for Outstanding Scholarship, Mortar Board, Georgia State University, 1986

Nominated for the North Carolina Governor's and Appalachian State University Awards
for Teaching Excellence, 1997-1998, 2006-2007
Nominated for the Plemmons Leadership Award, Appalachian State University, 2003

TEACHING

Most recently, my Fall semester teaching load consists of 3 undergraduate courses
(*Biological Psychology*, *Research Methods*, and a *Selected Topics*, *Honors Colloquium* or
other course section as needed); occasionally, I also teach 1 graduate section (*Selected
Topics*) in the fall. During the Spring semester, I usually teach 2 undergraduate courses
(*Biological Psychology* and *Research Methods* or a *Selected Topics*, *Honors Colloquium* or
other course section as needed) and 1 graduate course (*Proseminar III: Biopsychology and
Developmental Psychology*).

Undergraduates who do research with me take *Independent Study* credit hours (named
Behavioral Neuroscience Research I, II or III), which is appropriate for collaborative projects
with expectation of intellectual contribution and a product and often provides a better
“credit mechanism” for mentorship relationships than research assistant or simply
volunteer hours. Some students do opt for Research Assistant hours when their goal is
focused mainly on learning and using lab skills. Graduate students collaborating with my
lab team enroll in *Research Seminar* or *Independent Study* hours. I consider each
collaborative research/mentoring relationship I have with a student to be a collaborative
teaching/learning relationship.

Complete List of Courses Taught

Undergraduate

Biological Psychology (also as Physiological Psychology)
Research Methods in Psychology
Behavioral Neuroscience Research I, II and III (Independent Study)

The Brain: A User's Guide (First Year Seminar)
General Psychology
Brain Chemistry and Behavior (Selected Topics Course)
Brain and Mind (Selected Topics Course)
Recovery from Brain Injury (Selected Topics Course)
Brain, Behavior and Sex (Honors Colloquium)
The Brain: Structure and Function (Honors Colloquium)
Neuroethology (Selected Topics Course)
Sensation and Perception (at University of South Carolina [USC])
Physiological Psychology and Physiological Psychology Laboratory (at USC)
Statistics in Psychology (at USC)

Graduate

Proseminar III: Biopsychology and Development
Proseminar I: Biopsychology and Learning
Brain Chemistry and Behavior (Selected Topics Course)
Quantitative Methods in Psychology
Research Methods in Psychology
Recovery of Function (Selected Topics Course)
Sensory Processes (Selected Topics Course)
Histological Techniques (Selected Topics Course)
Data Analysis (Selected Topics Course)
Behavioral Neuroendocrinology (Selected Topics Course)
Behavioral Neuroscience Research (Selected Topics Course)
Comparative Animal Behavior (Selected Topics Course)
Learning and the Biological Basis of Behavior
Quantitative Methods in Experimental Design I and II: Applications Labs (at USC)

Workshops/Training Relevant to Student Research, Curriculum, and/or Pedagogy

- 2004 Project Kaleidoscope Discussion among Directors of Undergraduate Research Programs, Winthrop University, Rock Hill, SC. (This meeting resulted in the formation of the Network of Directors of Undergraduate Research Experiences).
- 2003 Building and Sustaining Vital Undergraduate Departments and Programs, Tenth of the 2003 Project Kaleidoscope Assemblies, Agnes Scott College, Decatur, GA.
- 2003 Motivating Students to Pursue STEM Careers, First of the 2003 Project Kaleidoscope Assemblies, Oberlin College, Oberlin, OH.
- 2002 Enabling the Future: The Role of Leadership in Institutional Transformation, Project Kaleidoscope National Assembly, Washington, DC.
- 2002 Project Kaleidoscope 2002 Summer Institute, Psychology—Undergraduate Psychology Programs: Current 'Best Practices' and the Future, Williamsburg, VA.
- 2002 Project Kaleidoscope 2002 Roundtable on the Future—Assessment in the Service of Student Learning, Duke University, Durham, NC.
- 2001 Science on the Cutting-Edge, Undergraduate Science and Math Education, Project Kaleidoscope National Assembly, Madison, WI.
- 2001 Project Kaleidoscope 2001 Summer Institute, Psychology—Quality Undergraduate Psychology Programs, Snowbird, UT.
- 2000 Project Kaleidoscope 2000 Summer Institute, Psychology I—Reforming the Undergraduate Psychology Curriculum: Beyond the Saint Mary's Recommendations, Keystone, CO.

- 1998 Institutionalizing Undergraduate Research, Council on Undergraduate Research Institute, University of Wisconsin-La Crosse, La Crosse, WI. Appalachian State University team: C. Cartaya, R. Johnson, M. Zrull
- 1998 Building Connections, Undergraduate Science and Math Education, Project Kaleidoscope National Assembly, Chicago, IL.
- 1997 Thinking Outside the Box: Problem-solving and Problem-solvers, Undergraduate Science and Math Education, Project Kaleidoscope National Assembly, Houston, TX.
- 1996 Exploration and Discovery, Undergraduate Science and Math Education, Project Kaleidoscope National Assembly, Kansas City, MO.

M.A. Theses Directed (All at Appalachian State University)

- Morgan, A.M. (in progress) *Extrinsic inhibition of the inferior colliculus during audiogenic seizures: Effects of unilateral dorsal nucleus of the lateral lemniscus lesions in young rats.*
- Henson, S.A. (December, 2009) *Multisensory integration in the deep layers of the superior colliculus: Effects of unilateral lesions in juvenile rats.*
- Hodgin, E.L. (August, 2006) *The effects of frequent generalized audiogenic seizures on some aspects of memory and exploratory behavior.*
- Haulter, H. (May, 2004) *Pure tone evoked activity in the brain stem of rats primed for audiogenic seizure susceptibility: A c-fos study.*
- Garrett, C. (December, 2001) *Inferior colliculus afferents in rats developmentally primed for audiogenic seizure susceptibility.*
- Davison, R. (August, 2000) *The superior colliculus and spatial problem solving using visual and acoustic cues.*
- Rochelle, J. (May, 2000) *A comparison of auditory place-cued and spatial map-based navigating in rats.*
- Waddell, J. (August, 1999) *The importance of social and enriched aspects of the therapeutic environment for mitigation of deficits after prefrontal cortex lesions.*
- Ishiwari, K. (August, 1998) *The effects of unilateral inferior colliculus lesions of the detection of sound.*
- Krueger, J. (May, 1998) *The effects of tectal cell suspension grafts on inferior colliculus mediated audiogenic seizure activity in rats.*
- Bowman, R. (May, 1997) *Organizational hormonal effects on observed sex-differences in visually cued or sound cued navigational tasks.*
- Trivette, A. (May, 1997) *The acoustic orienting response exhibited by cats (Felis catus) in a natural environment.*
- Dromsky, L. (February, 1996) *Evaluation of a computerized aircraft manual: A initial study.*
- Rothstein, L. (October, 1995) *Overlearning paired nonsense syllables: A comparison of 0%, 100% and 400% overlearning.*
- Dyche, J. (July, 1995) *Spatial navigation using brief broadband sound cues in blind and sighted rats.*

Senior Honors Theses Directed (All at Appalachian State University)

- Trimnal, M. Waddell (May, 2008) *Delayed alternation learning and memory are affected by sound-induced seizures in adult but not juvenile or adolescent rats.*
- Glenn, E. (December, 2007) *Sound induced seizures in adolescent rats affect GABAergic cells in the dorsal nucleus of the lateral lemniscus.*
- Price, V. (May, 2007) *Exploratory behavior in Long-Evans rats after adult audiogenic seizures.*

- Will, E. (May, 2007) *Modeling reflex epilepsy: The effect of age on audiogenic seizure severity.*
- Lindsay, V. (December, 2006) *Neuronal activation in the amygdala evoked by audiogenic seizures in Long-Evans rats: A c-fos study.*
- Ostertag, M. (December, 2006) *Gamma-aminobutyric acid neurons in the dorsal nucleus of lateral lemniscus of audiogenic seizure-prone rats.*
- Durkee, A. (May, 2005) *Neural activity in the rat superior colliculus evoked by light, sound, or light and sound stimulation.*
- Hester, J. (May, 2005) *Afferents of rat superior colliculus support a role in sensory integration.*
- Kersey, S. (May, 2000) *Perception of condom use in casual and serious dating relationships.*
- Hall, M. (May, 1999) *Small inferior colliculus lesions and the mitigation of audiogenic seizures in a rat model of acquired epilepsy.*
- Deni, K. (December, 1998) *Differences in the impact of periodic and continuous environmental enrichment on recovery from frontal cortex lesions.*
- Mengle, K. (December, 1998) *Afferent connections of the central nucleus and external cortex of the inferior colliculus connections in primed audiogenic seizure-prone rats.*
- Harris, K. (May, 1997) *The effects of tectal suspension grafts on navigational behavior after midbrain damage.*
- Kluttz, Christy. (May, 1995) *The role of inferior colliculus in spatial navigation with visual or visual and sound cues.*

SERVICE

I have engaged in various service activities; however, my service work continues to focus on promoting the value of and enhancing opportunities for students to experience a discipline outside the traditional classroom or teaching lab. I try to work across disciplines both within and outside my institution when possible. Annually, I review papers from a variety of disciplines for the *Proceedings of the National Conference on Undergraduate Research* (NCUR), and I continue my national service on the Council on Undergraduate Research (CUR). Between 2000 and 2002, I worked with the Psychology workshops during the Project Kaleidoscope Summer Institutes. I served as co-chair of the Appalachian State University Center for Undergraduate Research until 2005 and as a faculty member involved with and the programming chair for our annual research day at Appalachian until 2005. I continue to serve as coordinator of the Dept. of Psychology's student research and travel grant program (the WiSE Awards), and as an advocate and publicist of student and student-faculty collaborative research in the Department of Psychology for undergraduate majors and M.A. students across 4 programs.

National Committees / Boards

2008-present	Faculty Consultant, Psi Chi The National Honor Society in Psychology
2004-present	Network of Directors of Undergraduate Research Experiences (NDURE)
1999-present	National Editorial Board, <i>Proceedings of the National Conference on Research</i>
2006-2009	Councilor, Psychology Division, Council on Undergraduate Research
2006-2008	Outreach Committee, Council on Undergraduate Research
2003	Planning Committee, Motivating Students to Pursue STEM Careers, First of the 2003 Project Kaleidoscope Assemblies
2002-2004	Chair, Psychology Division, Council on Undergraduate Research
2002-2004	Co-chair, Membership Committee, Council on Undergraduate Research
2002-2004	Executive Board, Council on Undergraduate Research
2002-2003	Psychology Task Force, Project Kaleidoscope

2001-2003	Research and Analysis Committee, Council on Undergraduate Research
2001-2004	Councilor, Psychology Division, Council on Undergraduate Research
2001-2003	Building Partnerships: Alliances and Collaborations (2001-2003) Task Force, Society for the Teaching of Psychology
2001, 2002	Faculty for the 21 st Century National Assembly Planning Committee, Project Kaleidoscope
2001-2002	Outreach Committee, Council on Undergraduate Research
1999-2002	Psychology Workshop and Planning Committee, Project Kaleidoscope Summer Institutes 2000, 2001, 2002 (2002, Co-chairperson)
1993-94	Membership Committee, Co-chairperson, Faculty for Undergraduate Neuroscience
1990-91	Student Representative, South Carolina Society for Neuroscience

Appalachian State University

2009-present	Faculty Fellow for Appalachian Heights Residence Hall, Residence Life
2008-present	Animal Care Training Officer
2007-present	Health Professionals Advising and Evaluation Committee
2006-present	Grant Review Committee, Office of Student Research
2005-present	Office of Student Research Advisory Board, Board Member
2009	Chancellor's Scholarships Interviews Committee
2008	Freshman Engagement in the Residence Halls Task Force, Member
2007	Strategic Planning Commission, Undergraduate Programs Committee, Committee Member
2006-2009	Learning Communities Council, Council Member
2004-2009	Leadership Committee, Community of Science Interest (CSI), Residence Life Living-Learning Community located in Coltrane Hall, Member
2003-2004	Student/Faculty Collaborative Research Committee, College of Arts & Sciences, Appalachian State University
2000-2005	Appalachian State University Celebration of Student Research and Creative Endeavor, College of Arts & Sciences, Graduate School, faculty committee member/program coordinator.
1999-2005	Appalachian State Center for Undergraduate Research (AppsCUR), Co-founder, Co-chairperson
1999	Committee to Develop Guidelines for Student Development Undergraduate Research Scholarships, Graduate School, Appalachian State University
1998-2004	Appalachian State University Chapter of Psi Chi the National Honor Society in Psychology, Chapter Faculty Advisor (1998-2003), Co-advisor (2004)
1998-2000	Undergraduate Research Day Committee, Committee Co-chairperson, College of Arts and Sciences, Appalachian State University
1998-99	University Research Day Committee, Graduate School, Appalachian State University
1995-2002	Animal Care Training Officer, Appalachian State University
1995-2002	Institutional Animal Care and Use Committee, Appalachian State University
1995-2001	Bookstore Advisory Council, Appalachian State University
1995-96	Welfare of Students Committee, Faculty Senate, Appalachian State University
1994-95	Budget Committee, Faculty Senate, Appalachian State University
1994-96	Faculty Senate, Member (Arts and Sciences, at-large), Appalachian State University

1993-95 Accessibility of Graduate Education to Minorities, Dept. of Psychology
Liason ('93-'95), Dept. of Psychology Faculty Mentor ('93-'94), Dept. of
Biology Faculty Mentor ('95), Summer Program, Graduate School,
Appalachian State University

Department of Psychology, Appalachian State University

2008-present Strategic Planning Committee
2007-present Honors Committee
2001-present Coordinator of Student Research (advocate, “information broker”,
“connection facilitator”, publicist)
2001-present Coordinator of WiSE Student Travel and Research Awards Program
1993-present General-Experimental Graduate Program Advising and Admissions
Committee (General-Experimental Program Head 2000-2003)
2008-2009 Ad Hoc Teaching Evaluation Committee (IDEA), Chairperson
2007-2009 Ad Hoc Undergraduate Assessment Committee
2007-2008 Cognitive Psychologist Search Committee (Ad Hoc)
2006-2007 Ad Hoc Experiential, Mentoring, Cross Disciplinary Committee,
Chairperson
2006-2007 Ad Hoc Distance Learning Committee
2004-2005 Department Personnel Committee
2002-2004 Ad Hoc Lab Feasability Committee, Chairperson
2001-2003 Wiley F. Smith Endowment Committee, Chairperson
2001-2002 Ad Hoc Graduate Programs Evaluation Committee
2000-2003 Ad Hoc Strategic Planning Committee
2000-2002 Ad Hoc Scholarly Mentoring of Students Committee (Chairperson, 2000-
2001)
1999-2000 Quantitative Psychologist Search Committee
1998-2001 Frank Terrant Memorial Scholarship Committee
1998-99 Development Committee
1997-98 Space and Equipment Committee
1994-98 Research Committee
1993-94 Computer Advising Committee
1992-2002 Honors Committee

Department of Psychology, University of South Carolina

1990-91 Operations/Executive Committee
1987-88 Behavioral Neuroscientist Search Committee

Community Service

2007-present Academically/Intellectually Gifted Education Program Advisory Board,
Watauga County Schools, Watauga County (Boone), North Carolina
2004-2005 Treasurer, Mountain Pathways Montessori School, Inc.
2004-2005 Board of Trustees, Mountain Pathways Montessori School, Inc.
2002-2004 Volunteer Science Teacher, Mountain Pathways Montessori School, 9-12
year-old class, Boone, NC
1984-86 Volunteer with Adolescent Chemical Dependence Treatment Program,
Ridgeview Institute, Atlanta, Georgia
1985 Volunteer with Adult Chemical Dependence Treatment Program,
Ridgeview Institute, Atlanta, Georgia
1985 Addiction Resources Center, Committee on Information, Atlanta

1985 Ad Hoc Committee on the Homeless and Mental Illness, Atlanta
1984-85 Co-leader of Men's Therapy Group, Metro Atlanta Recovery Residences,
 Inc.

RESEARCH

My research follows two paths. First, experiments using a rodent model of acquired, reflex epilepsy focused on neural correlates of seizures including plasticity in midbrain structures induced by seizure activity. Second, studies focused on changes in non-seizure behavior (e.g., perception, learning and memory) altered by seizure susceptibility and frequency, and the neural mechanisms for those behavioral changes. This latter direction also includes my interest in midbrain mechanisms of sensory processing and integration that help an animal use single modality and multimodal sensory cues to guide behavior. All of my research involves collaboration with students. In fact, training undergraduate and masters students who are attractive to a variety of professional and/or doctoral programs as well as providing students the opportunity to "do good science" has become a priority in my research program.

Extramural Grants

Subcontract from *Using Electronic Portfolios to Assess Student Learning as a Result of Undergraduate Research*, Senior Personnel for subcontract to Appalachian State University, \$7,000

Grant awarded by National Science Foundation, Division of Undergraduate Education, CCLI-ND Phase 2, Award 0618617 to Indiana Univ. Purdue Univ. Indianapolis, Kathryn Wilson, PD, 9/1/06-8/31/09.

The Inferior Colliculus and Sound-guided Navigation, PI, Small Grant Program (R03), National Institute of Deafness and Other Communicative Disorders, National Institutes of Health, R03 DC02476, 8/1/95-7/31/98, \$64,448.

Extramural Applications Not Funded

Acquisition of Behavioral and Microscopy Equipment for Collaborative Research, PI/PD, Major Research Instrumentation-MRI, National Science Foundation, 1/25/02.

Directional Hearing Plasticity and the Auditory Midbrain, PI, FIRST Award Program (R29), National Institutes of Health, 1 R29 DC03438-1, required submission and revisions 11/1/97, 11/1/98, 11/1/99 ("stipulation" of R03 award, R29 program no longer exists).

Developing Quantitative and Analytic Skills for Research, co-PD, Instrumentation and Laboratory Improvement Grant-IG, National Science Foundation, 11/15/93.

Cell Suspension Grafting into the Inferior Colliculus, PI, ARIG Program, North Carolina Biotechnology Center, Scientific Programs, NCBC #117, 9/29/93.

Competitive Intramural Grants

Small Research Grants, University Research Council, Appalachian State University

Patterns of Pure Tone Elicited Neural Activity in Inferior Colliculus of Juvenile Rats Prone to Sound-induced Seizures, PI, 5/01-9/01, \$1,821.

The Effects of Triap on Central and Peripheral Nervous System Recovery after Severe Injury, co-PI, 11/99-9/00, \$2,375.

Impact of the Therapeutic Environment on Brain-Injured Juvenile Rats, PI, 3/98-9/98, \$1,000.

Cell Suspension Transplants and Audiogenic Seizure Activity, PI, 11/97-9/98, \$2,041.

Neural Grafts and Behavioral Recovery after Midbrain Damage, PI, 11/96-9/97, \$1,311.

Sex Differences in Sound-guided Navigation, PI, 11/95-9/96, \$1,200.

Auditory Attention in Epilepsy Prone Rats, PI, 11/94-9/95, \$900.

Sound-guided Movement and the Inferior Colliculus, PI, 4/94-9/94, \$1,000.

Sound-guided Spatial Navigation, PI, 12/92-9/93, \$1,200.

Other Competitive Intramural Grants

Student Development Undergraduate Research Scholarship Grant, Faculty Co-Mentor (J. Denniston, Mentor), Student Development and Graduate School, Appalachian State University, 9/01-12/01, \$1,000 stipend to W. Werstlein and \$500 supplies and travel.

Student Development Undergraduate Research Scholarship Grant, Faculty Mentor, Student Development and Graduate School, Appalachian State University, 1/00-5/00, \$1,000 stipend to J. Dale and \$510 supplies and travel.

Student Development Undergraduate Research Scholarship Grant, Faculty Mentor, Student Development and Graduate School, Appalachian State University, 8/00-12/00, \$1,000 stipend to J. Dale and \$1,080 supplies and travel.

Development of Ability to Localize Sound, PI, University Research Council, Appalachian State University, Graduate School May-June Grantwriting Competition, 5/93-9/93, \$2,000.

Recovery of Behavioral Function after Two-stage Cortical Lesions, Georgia State University Alumni Association Research Grant, 1/86-6/86, \$500.

BIBLIOGRAPHY

Invited Presentations

Zrull, M., Sufka, K., and Baker, S. (February, 2004) Pre-conference workshop B: (Te)ACHING and (Re)SEARCHING: "Best practices" for student-faculty research as a teaching opportunity. At the 16th Southeastern Conference on the Teaching of Psychology, Atlanta, GA.

Singer, J.K. and Zrull, M.C. (December, 2003) Building and sustaining faculty/student research. Plenary session VII at the 10th 2003 Project Kaleidoscope Assembly, Building Vital Undergraduate STEM Departments and Programs, Agnes Scott College, Decatur, GA.

Zrull, M.C. (October, 2003) Supporting FMs, Ug STEM, even Ug AH, and certainly URPs: CUR, PKAL, NCUR, etc. Sigma Xi Meeting, Appalachian State University, Boone, NC.

Zrull, M.C. (September, 2002) Doing the student research thing. At the 1st Kulynych/Cline Teaching Festival, Department of Psychology, Appalachian State University, Boone, NC.

Zrull, M.C. with Baker, S. and Brewer, C. (June, 2002) Assessment: End meets beginning - beginning meets end. In Workshop Cluster II: Undergraduate Psychology Programs: Current 'Best Practices' & the Future, Project Kaleidoscope 2002 Summer Institute, Williamsburg, VA.

- Zrull, M.C. (February, 2002) Roads less traveled: Hidden opportunities for advancing your teaching & scholarship. At the 14th Southeastern Conference on the Teaching of Psychology, Atlanta, GA.
- Baker, S. and Zrull, M.C. (July, 2001). Thinking outside the "Laboratory" box: Approaches to integrating research experiences across the psychology curriculum. In Workshop Series D: Quality Undergraduate Psychology Programs, Project Kaleidoscope 2001 Summer Institute, Snowbird, UT.
- Zrull, M.C. (July, 2000). Session 1. Exemplars of introductory psychology. In Workshop Series B: Introductory Psychology: An Interdisciplinary Science Course for All Students, Project Kaleidoscope 2000 Summer Institute, Keystone, CO.
- Zrull, M.C. and Sufka, K.J. (September, 1998) Active behavioral neuroscience research programs in two settings: 1. Connections with students are essential to a program of neuroscience research at a primarily "teaching" university: A case study; and, 2. The pains of a pain researcher: Overcoming obstacles to create meaningful undergraduate research experiences. Project Kaleidoscope Faculty for the 21st Century National Assembly, Chicago, IL.
- Zrull, M.C. (April, 1998) Wired for thought: Focusing on brain development in young children. Nurturing Growing Minds: 3rd Annual Early Childhood Conference, Caldwell Community College and Technical Institute and Communities in Schools/Smart Start, Hudson, NC.
- Zrull, M.C., (April, 1998) Promoting recovery after midbrain damage. The Appalachian Humanities Program's Social Forum Series, Appalachian State University, Boone, NC.
- Zrull, M.C. (March, 1997) Hearing and... sex? Sex differences in sound cued navigation. Appalachian State University Sigma Xi Chapter Spring Lecture, Boone, NC.
- Zrull, M.C. (March, 1992) Some functional aspects of inferior colliculus grafts. Alcohol and Substance Abuse Program Colloquium, V.A. Medical Center, Charleston, SC.
- Zrull, M.C. (December, 1991) Neural transplants, the midbrain and hearing sounds in space. Department of Psychology Colloquium, Northern Illinois University, DeKalb, IL.
- Zrull, M.C. (May, 1986) Recovery from non-sensory neglect after brain damage in the rat. Psychological Sciences Program Colloquium Series, Georgia State University, Atlanta, GA.

Presentations with Published Abstracts

40. Morgan, A.M., Brown, C.F., Shepherd, Z.C., Fuller, A.A., Batiansila, D.A. and Zrull, M.C. (2009) Environmental enrichment mitigates effects of repeated sound induced seizures on novel object and location preference but not exploration. *2009 Society for Neuroscience Abstracts*, 735.3 [available online]. Poster presented at the 39th Annual Meeting of the Society for Neuroscience, Chicago, IL.
39. Richardson, D., Adams, M.R., Glenn, E.A. and Zrull, M.C. (2009) Neuron loss in the dorsal nucleus of the lateral lemniscus after audiogenic seizures in young rats. *2009 Society for Neuroscience Abstracts*, 735.4 [available online]. Poster presented at the 39th Annual Meeting of the Society for Neuroscience, Chicago, IL.
38. Adams, M.R., Glenn, E.A., Richardson, D. and Zrull, M.C. (2008) Brief episodes of seizure inducing noise exposure alter neuron densities in dorsal nucleus of lateral lemniscus. *2008 Society for Neuroscience Abstracts*, 449.6 [available online]. Poster presented at the 38th Annual Meeting of the Society for Neuroscience, Washington, DC.

37. Waddell, M.L., Lemmerman, S., Lawrence, J., Cosgrove, C.K., Adams, M.R. and Zrull, M.C. (2008) Neither acoustic activation nor desensitization reduce audiogenic responses in a model of acquired reflex epilepsy. *2008 Society for Neuroscience Abstracts*, 449.5 [available online]. Poster presented at the 38th Annual Meeting of the Society for Neuroscience, Washington, DC.
36. Glenn, E.A., Ostertag, M.F., Adams, M.R., Hodgin, E.L. and Zrull, M.C. (2007) Acquired audiogenic seizures increase the proportion of GABAergic neurons in the dorsal nucleus of lateral lemniscus. *2007 Society for Neuroscience Abstracts*, 375.15 [online & CD-ROM], Washington, DC: Society for Neuroscience. Poster presented at the 37th Annual Meeting of the Society for Neuroscience, San Diego, CA.
35. Waddell, M.L., Jones, W.S., Glenn, E.A., Snyder, J.L., Hazel, O. and Zrull, M.C. (2007) Sound-induced seizures in adult but not juvenile or adolescent rats affect delayed alternation learning and memory. *2007 Society for Neuroscience Abstracts*, 375.16 [online & CD-ROM], Washington, DC: Society for Neuroscience. Poster presented at the 37th Annual Meeting of the Society for Neuroscience, San Diego, CA.
34. Hodgin, E.L., Ostertag, M., Glenn, E., Jones, W., Waddell, M., Price, V. and Zrull, M.C. (2006) Juvenile audiogenic seizures affect location preference and working memory. *2006 Society for Neuroscience Abstracts*, 82.12 [online & CD-ROM], Washington, DC: Society for Neuroscience. Poster presented at the 36th Annual Meeting of the Society for Neuroscience.
33. Zrull, M.C., Hodgin, E.L., Ostertag, M., Muenzer, K., Will, E., and Price, V. (2006) The effects of age and seizure frequency on sound-induced seizure severity. *2006 Society for Neuroscience Abstracts*, 82.11 [online & CD-ROM], Washington, DC: Society for Neuroscience. Poster presented at the 36th Annual Meeting of the Society for Neuroscience.
32. Durkee, A.O., Hodgin, E.L., Hester, J.R., Ostertag, M., Farrell, M., Muenzer, K., and Zrull, M.C. (2005) Neural activity in rat superior colliculus after light, sound or light and sound stimulation: A c-fos study. *2005 Society for Neuroscience Abstracts*, 505.3 [online & CD-ROM], Washington, DC: Society for Neuroscience. Poster presented at the 35th Annual Meeting of the Society for Neuroscience.
31. Hodgin, E.L., Ostertag, M., Howe, W.M., and Zrull, M.C. (2005) Evoked activity in auditory brain stem nuclei after multiple audiogenic seizures. *2005 Society for Neuroscience Abstracts*, 1016.6 [online & CD-ROM], Washington, DC: Society for Neuroscience. Poster presented at the 35th Annual Meeting of the Society for Neuroscience.
30. Bowman, R.E., Diaz, S., Zrull, M.C. and Luine, V.N. (2004) Sex-dependent cognitive alterations following chronic restraint stress in aged rats. *2004 Society for Neuroscience Abstracts*, 996.5 [online & CD-ROM], Washington, DC: Society for Neuroscience. Poster presented at the 34th Annual Meeting of the Society for Neuroscience.
29. Henson, S.A., Dravland, M., Durkee, A., Gravinese, K., Hester, J., Hodgin, E.L., Kightlinger, B., Navarro, A., and Zrull, M.C. (2004) Localization of light+sound, light and sound sources after unilateral superior colliculus lesions. *2004 Society for Neuroscience Abstracts*, 528.8 [online & CD-ROM], Washington, DC: Society for Neuroscience. Poster presented at the 34th Annual Meeting of the Society for Neuroscience.
28. Zrull, M.C., Hagen, J.L., Hodgin E.L., and Sedivec, M.J. (2004) Inferior colliculus D-glucose injections mitigate audiogenic seizure severity. *2004 Society for Neuroscience Abstracts*, 680.13 [online & CD-ROM], Washington, DC: Society for Neuroscience. Poster presented at the 34th Annual Meeting of the Society for Neuroscience.

27. Henson, S.A., Moore, H., Howe, W.M., and Zrull, M.C. (2003) Sound-evoked neural activity and auditory superior colliculus afferents of rats prone to sound-induced seizures. *2003 Society for Neuroscience Abstracts*, 487.5 [online & CD-ROM], Washington, DC: Society for Neuroscience. Poster presented at the 33rd Annual Meeting of the Society for Neuroscience.
26. Zrull, M.C., Haulter, H.E., Howe, W.M., and Zucker, J.K. (2003) Evoked activity in auditory brain stem nuclei of rats developmentally primed for sound-induced seizures. *2003 Society for Neuroscience Abstracts*, 387.16 [online & CD-ROM], Washington, DC: Society for Neuroscience. Poster presented at the 33rd Annual Meeting of the Society for Neuroscience.
25. Zrull, M.C., Oransky, N.A., Donovan, D., McCune, M., and the 9-12 MPS Class. (2003) Our rats and the sisters: doing an enrichment experiment in a 9 to 12 year - old classroom. *2003 Society for Neuroscience Abstracts*, 26.10 [online & CD-ROM], Washington, DC: Society for Neuroscience. Poster presented at the 33rd Annual Meeting of the Society for Neuroscience.
24. Wheeling, J.C., Jenkins, D.P., Sedivec, M.J., and Zrull, M.C. (2002) Learning deficits following cholinergic basal forebrain lesions are not mitigated by 1,1,3-tricyano-2-amino-1-propene (Triap). *Southeastern Biology*, 49, 131. Poster presented at the 63rd Meeting of the Association of Southeastern Biologists, Boone, NC.
23. Zrull, M.C., Garrett, C.B., and Haulter, H. (2002) Midbrain afferents in rats primed for audiogenic responses. *Society for Neuroscience Abstracts*, 28, 600.2 [CD-ROM], Washington, DC: Society for Neuroscience. Poster presented at the 32nd Annual Meeting of the Society for Neuroscience.
22. Zrull, M.C., Oransky, N.A., and Donovan, D. (2002) Play is fun and it's good for you, too: A plan for teaching science and brain science in a 9 to 12 year-old classroom. *Society for Neuroscience Abstracts*, 28, 22.41 [CD-ROM], Washington, DC: Society for Neuroscience. Poster presented at the 32nd Annual Meeting of the Society for Neuroscience.
21. Zrull, M.C., Garrett, C.B., and Hill, M.F. (2001) Sources of afferents to central nucleus of the inferior colliculus in primed rats after one audiogenic seizure. *Society for Neuroscience Abstracts*, 27, 554.13 [CD-ROM], Washington, DC: Society for Neuroscience. Poster presented at the 31st Annual Meeting of the Society for Neuroscience.
20. Waddell, J., Deni, K.A., Garrett, C., and Zrull, M.C. (2000) Effects of the post-injury environment on behavior of juvenile rats. *Society for Neuroscience Abstracts*, 26, 2296. Poster presented at the 30th Annual Meeting of the Society for Neuroscience.
19. Zrull, M.C., Davison, R.C., Dale, J.L., Garrett, C., and Sedivec, M.J. (2000) Superior colliculus lesions alter performance of a stimulus-guided maze task. *Society for Neuroscience Abstracts*, 26, 1700. Poster presented at the 30th Annual Meeting of the Society for Neuroscience.
18. Goodrich, L., Davison, R.C., and Zrull, M.C. (1999) Superior colliculus lesions affect behavior guided by intermittent distal sound cues. *Society for Neuroscience Abstracts*, 25, 1939. Poster presented at the 29th Annual Meeting of the Society for Neuroscience.
17. Zrull, M.C., Mengle, K.E., Hall, M.M., Hairston, W.D., and Sedivec, M.J. (1999) The external cortex of the inferior colliculus in primed, audiogenic seizure-prone rats. *Society for Neuroscience Abstracts*, 25, 1113. Poster presented at the 29th Annual Meeting of the Society for Neuroscience.

16. Bowman, R.E., Moseley, E.J., Volker, J.L., Sedivec, M.J., and Zrull, M.C. (1997) Sex differences in a spatial navigation task with intermittent distal sound cues. *Society for Neuroscience Abstracts*, 23, 2123. Poster presented at the 27th Annual Meeting of the Society for Neuroscience.
15. Zrull, M.C., Volker, J.L., and Bowman, R.E. (1997) Chemical lesions of external cortex of inferior colliculus affect sound-guided navigation. *Society for Neuroscience Abstracts*, 23, 185. Poster presented at the 27th Annual Meeting of the Society for Neuroscience.
14. Zrull, M.C., Bowman, R.E., and Trivette, A.J. (1996) Discrete ibotenate lesions of rat inferior colliculus alter performance of a sound-guided navigation task. *Society for Neuroscience Abstracts*, 22, 888. Poster presented at the 26th Annual Meeting of the Society for Neuroscience.
13. Zrull, M.C., Bowman, R.E., and Trivette, A.J. (1996) Teaching neuroscience when there's no formal neuroscience at a comprehensive I university. *Society for Neuroscience Abstracts*, 22, 251. Poster presented at the 26th Annual Meeting of the Society for Neuroscience.
12. Zrull, M.C., Miner, C.L., Parker, C.A., Kluttz, C.L., and Rochelle, J. (1995) Neonatal inferior colliculus lesions affect sound-guided navigation. *Society for Neuroscience Abstracts*, 21, 671. Poster presented at the 25th Annual Meeting of the Society for Neuroscience.
11. Zrull, M.C., Dyche, J., and Bowman, R. (1994) The utility of localized, brief broadband sound in a spatial navigation task. *Society for Neuroscience Abstracts*, 20, 323. Poster presented at the 24th Annual Meeting of the Society for Neuroscience.
10. Zrull, M.C. and Coleman, J.R. (1993) Inferior colliculus lesions and grafts: Deficits and recovery of sound locating ability. *Society for Neuroscience Abstracts*, 19, 1741. Poster presented at the 23rd Annual Meeting of the Society for Neuroscience.
9. Coleman, J.R. and Zrull, M.C. (1992) The inferior colliculus: Structural, immunohistochemical, physiological and behavioral properties following neural grafting. *Restorative Neurology and Neuroscience*, 4, 209. Poster presented at the First Conference on Biological Replacement in Sensory Systems, St. Louis, MO, March, 1991.
8. Zrull, M.C., Coleman, J.R., and Bennett, C. (1991) Tectal grafts promote recovery from behavioral deficits after inferior colliculus lesions. *Society for Neuroscience Abstracts*, 17, 1138. Poster presented at the 21st Annual Meeting of the Society for Neuroscience.
7. Coleman, J.R., Pinek, B., Zrull, M.C., McDonald, A.J., and Baimbridge, K.G. (1990) Calbindin and parvalbumin reactivity in grafted and intact inferior colliculus. *Society for Neuroscience Abstracts*, 16, 722. Poster presented at the 20th Annual Meeting of the Society for Neuroscience.
6. Zrull, M.C. and Coleman, J.R. (1990) Properties of fetal tectum grafted to adult and neonatal rat inferior colliculus. *Society for Neuroscience Abstracts*, 16, 722. Poster presented at the 20th Annual Meeting of the Society for Neuroscience.
5. Coleman, J.R., Clerici, W.J., Maxwell, B., and Zrull, M.C. (1989) Neural growth in the medial geniculate body of the postnatal rat. *Society for Neuroscience Abstracts*, 15, 747. Poster presented at the 19th Annual Meeting of the Society for Neuroscience.
4. Eyerly, M.R., Coleman, J.R., Zrull, M.C., and McDonald, A.J. (1989) Glutamate and aspartate: Localization and colocalization in the rat inferior colliculus. *Society for Neuroscience Abstracts*, 15, 747. Poster presented at the 19th Annual Meeting of the Society for Neuroscience.
3. Zrull, M.C. and Coleman, J.R. (1989) Adult-like structure of fetal tectum grafted to inferior colliculus. *Society for Neuroscience Abstracts*, 15, 747. Poster presented at the 19th Annual Meeting of the Society for Neuroscience.

2. Coleman, J.R. and Zrull, M.C. (1988) Fetal implantation of the rat inferior colliculus: Patterns of graft survival. *Anatomical Record*, 220, 24A. Poster presented at the 101st Annual Meeting of the American Association of Anatomy.
1. Zrull, M.C. and Coleman, J.R. (1987) Transplants of cell suspensions from fetal tectum into adult rat. *Society for Neuroscience Abstracts*, 13, 512. Poster presented at the 17th Annual Meeting of the Society for Neuroscience.

Presentations Concerning Undergraduate Research

Faculty Directed

10. Crowe, M. and Zrull, M.C. (June, 2006) Effective budgeting for a center for undergraduate research. Workshop at the Council on Undergraduate Research 11th National Conference, DePauw University, Greencastle, IN.
9. Zrull, M.C. (June, 2006) Supporting student-faculty research in a department or division WiSEly. Workshop/Interactive session at the Council on Undergraduate Research 11th National Conference, DePauw University, Greencastle, IN.
8. Wilson, K., Crowe, M., Zrull, M., Dimaculangan, D., and Hamilton, S. (April, 2006) An e-portfolio module to provide evidence of learning through undergraduate research. Faculty and Administrator's Network workshop at the 20th National Conference on Undergraduate Research, University of North Carolina-Asheville, Asheville, NC.
7. Crowe, M., Goldsmith, E., Cavitt, J., Helrich, R., Zrull, M., Wilson, K., Dimaculagen, D., Pyles, R., and Sienerth, K. (April, 2005) Developing a network of directors of undergraduate research experiences (NDURE). Faculty and Administrator's Network workshop at the 19th National Conference on Undergraduate Research, Virginia Military Institute and Washington and Lee University, Lexington, VA.
6. Zrull, M.C. and Altman, J. (June, 2004) Raising the bar in student research in psychology: beyond 'mood and music'. Workshop at the 10th National Conference of the Council on Undergraduate Research, University of Wisconsin-LaCrosse, LaCrosse, WI.
5. Zrull, M.C., Aeschleman, S.R. (March, 2003) WiSE departmental support for student research. Undergraduate Research Network, 17th National Conference on Undergraduate Research, University of Utah, Salt Lake City, UT.
4. Levesque, M.J. and Zrull, M.C. (June, 2002) Undergraduate research programs: Different approaches to achieving the same goal. Workshop at the 9th National Conference of the Council on Undergraduate Research, Connecticut College, New London, CT.
3. Zrull, M.C. (October, 2001) Some themes from PKal and aiming for supporting undergraduate research for all students. Poster presented at the Faculty for the 21st Century National Assembly, Project Kaleidoscope, Madison, WI.
2. Zrull, M.C., Williams, L.B. (March, 2001) Sometimes if you ask... a center for undergraduate research. Paper presented at the Undergraduate Research Network, 15th National Conference on Undergraduate Research, University of Kentucky, Lexington, KY.
1. Zrull, M.C., Williams, R.S., Wachs, P.M., Eagle, C.T., Oswalt, C.E., Durden, G., Domer, J.E., Blimling, G.S. (April, 2000) Student development undergraduate research scholarships: supporting collaborative projects at Appalachian State University. Paper presented at the Undergraduate Research Network, 14th National Conference on Undergraduate Research, University of Montana, Missoula, MT.

23rd National Conference on Undergraduate Research (NCUR), University of Wisconsin-La Crosse, La Crosse, WI. (accepted for presentation)

- 55. Batiansila, D.A., Fuller, A.A., Shepherd, Z.C. (Morgan, A.M., Zrull, M.C.) (2009, April). Environmental enrichment does not alter exploratory behavior in seizure-prone rats.
- 54. Brown, C.F., Fuller, A. Batiansila, D., Squires, A. (Zrull, M.C., Morgan, A.M.) (2009, April). Enrichment alters object and location preference in seizure-prone rats.
- 53. Richardson, D.A. (Zrull, M.C.) (2009, April). Sound-induced seizures produce cell death in the auditory midbrain.
- 52. Shepherd, Z.C., Richardson, D.A., Brown, C.F., Batiansila, D., Squires, A. (Morgan, A.M., Zrull, M.C.) (2009, April). Environmental enrichment affects sound-induced seizure activity in developmentally primed rats.

22nd NCUR, Salisbury University, Salisbury, MD.

- 51. Adams, M.R., Glenn, E.A., Waddell, M.L., Lemmerman, S., Chatfield, L. (Zrull, M.C.) (2008, April). Sound loud enough to illicit seizure induces plasticity in the auditory midbrain.
- 50. Chatfield, L., Waddell, M.L. Lemmerman, S., Lawrence, J. (Zrull, M.C.) (2008, April). Sound induced seizures affect novel object but not novel location preference.
- 49. Lemmerman, S., Waddell, M.L., Lawrence, J., Adams, M.R. (Zrull, M.C.) (2008, April). The severity of sound induced seizures was not altered by acoustic “rehabilitation”.

21st NCUR, Dominican University of California, San Rafael, CA.

- 48. Adams, M.R., Lindsey V. (Zrull, M.C.) (2007, April) Neural activity in the basolateral amygdala of rats experiencing sound loud enough to evoke seizures.
- 47. Ostertag, M.O., Glenn, E.A., Adams, M.R. (Zrull, M.C.) (2007, April) GABA neuron densities in the dorsal nucleus of the lateral lemniscus of audiogenic seizure-prone and controls rats differ.
- 46. Price, V.A., Glenn, E.A., Waddell, M.L., Adams, M.R. (Zrull, M.C.) (2007, April) Audiogenic seizures affect object preference of adult but not juvenile rats.
- 45. Snyder, J.L., Will, E.A., Jones, W.S., Glenn, E.A. (Zrull, M.C.) (2007, April) Age affects severity but not intensity of sound induced seizures.
- 44. Waddell, M.L., Jones, W.S., Snyder, J.L., Price, V.A. (Zrull, M.C.) (2007, April) Learning and performing a task that requires working memory is affected by sound-induced seizures in adult rats.

20th NCUR, University of North Carolina-Asheville, Asheville, NC.

- 43. Glenn, E.A., Waddell, M.L., Will, E. (Sherwood, K., Zrull, M.C.) (2006, April) Juvenile audiogenic seizures affect location exploration and preference.
- 42. Jones, W.S., Will, E.A., Barnett, J.B., Glenn, E.A. (Sherwood, K., Zrull, M.C.) (2006, April) Learning a delayed alternation task is influenced by seizure susceptibility.
- 41. Muenzer, K., Farrell, M., Ostertag, M.F. (Hodgin, E., Zrull, M.C.) (2006, April) Tonotopic organization of central nucleus of inferior colliculus after one or six audiogenic seizures.
- 40. Waddell, M.L., Glenn, E.A., Jones, W.S. (Zrull, M.C., Hodgin, E.L.) (2006, April) Open field activity is affected by juvenile sound-induced seizures.
- 39. Will, E.A., Jones, W.S., Waddell, M.L., Barnett, J.B. (Hodgin, E.L., Zrull, M.C.) (2006, April) Age and seizure frequency affect severity of sound-induced seizures in juvenile rats.

19th NCUR, Washington & Lee College, Virginia Military Institute, Lexington, VA.

- 38. Clapp, K., Dravland, M. (Hodgin, E.L., Zrull, M.C.) (2005, April) Audiogenic seizure severity in developmentally primed rats using ramped and sudden onset sound stimuli.

37. Durkee, A.O., Hester, J.R., Navarro, A.S., Gravinese, K.R. (Hodgin, E.L., Zrull, M.C.) (April, 2005) Neural activity in the rat superior colliculus evoked by unimodal and multimodal stimulation.
36. Hester, J.R., Durkee, A.O., Navarro, A.S., Gravinese, K.R. (Hodgin, E.L., Zrull, M.C.) (April, 2005) Anatomical evidence for the superior colliculus' role in sensory integration in the rat.

18th NCUR, Indiana University-Purdue University at Indianapolis, IN.

35. Dravland, M., Kightlinger, B., Gravinese, K., & Navarro, A. (Zrull, M.C.) (2004, April). The superior colliculus and responses to lateralized light+sound stimuli.
34. Durkee, A.O., Hester, J., Gravinese, K., & Hodgin, E. (Zrull, M.C.) (2004, April). Superior colliculus lesions alter lateralized responses to multimodal but not unimodal stimuli.
33. Hester, J., Durkee, A.O., Gravinese, K., & Hodgin, E. (Zrull, M.C.). (2004, April). Characteristics of rats' ability to locate compound light-sound cues in the frontal hemifield.
32. Moore, H.E., Howe, W.M., & Hodgin, E. (Zrull, M.C.) (2004, April). Auditory inputs do not explain enhanced sound-evoked activity of superior colliculus neurons in audiogenic seizure-prone rats.
31. Navarro, A., Kightlinger, B., Dravland, M., & Hester, J. (Zrull, M.C.) (2004, April). Unilateral medial frontal cortex lesions affect responses to contralateral light-sound stimuli.

17th NCUR, University of Utah, Salt Lake City, UT.

30. Gilkey, J., Howe, W.M., Zucker, J.K., Hill, M.F. (Zrull, M.C., Haulter, H.E.) (March, 2003) Pure tone-evoked neuron activity in the dorsal cochlear nucleus of audiogenic seizure-prone rats.
29. Howe, W.M., Zucker, J.K., Gilkey, J. (Zrull, M.C., Haulter, H.E.) (March, 2003) Tonotopic organization of the lateral superior olive in audiogenic seizure-prone rats.
28. Moore, H., Howe, W.M., Zucker, J.K. (Zrull, M.C., Haulter, H.E.) (March, 2003) Sound-activated neurons of the superior colliculus in audiogenic seizure-prone rats: A c-fos study.
27. Zucker, J.K., Hill, M.F., Howe, W.M., Moore, H. (Zrull, M.C., Haulter, H.E.) (March, 2003) Tonotopic disorganization in the inferior colliculus of audiogenic seizure prone rats: A c-fos study.

16th NCUR, University of Wisconsin-Whitewater, Whitewater, WI.

26. Elfers, E.M., Henley, M.H., Freidenstein, J.E., Calloway, C. (Zrull, M.C.) (April, 2002) Intracollicular glucose injections lessen sound-induced seizure severity.
25. Hill, M.F., Henley, M.H., Elfers, E.M., Freidenstein, J.E. (Zrull, M.C.) (April, 2002) Neurotoxin lesions of cortical inferior colliculus affect sound-induced seizure severity.

15th NCUR, University of Kentucky, Lexington, KY.

24. Bennett, S.M., Hill, M.F., Kaldor, I. (Zrull, M.C., Garrett, C.B.) (March, 2001) Afferent connections of the cortical inferior colliculus in newly audiogenic seizure prone rats.
23. Hill, M.F., Bennett, S.M., Kaldor, I. (Zrull, M.C., Garrett, C.B.) (March, 2001) Afferents of the central nucleus of the inferior colliculus in animals newly prone to audiogenic seizures.
22. Kaldor, I., Bennett, S.M., Hill, M.F. (Zrull, M.C., Garrett, C.B.) (March, 2001) The superior colliculus and mediation of audiogenic seizures.

14th NCUR, University of Montana, Missoula, MT.

21. Dale, J.L. (Zrull, M.C.) (April, 2000) The superior colliculus and spatial problem-solving: a pre- and post-lesion study.

20. Deal, A.G., Ginader, K.L. (Zrull, M.C.) (April, 2000) The importance of seeing and hearing in problem-solving mazes.
19. Gholston, G.T., Minis, S.R. (Zrull, M.C.) (April, 2000) Effects of 1,1,3 Tricyano-2-amino-1-propene (Triap) on working memory deficits.
18. Ginader, K.L., Deal, A.G. (Zrull, M.C.) (April, 2000) Learning to navigate through unfamiliar environments.
17. Minis, S.R., Gholston, G.T. (Zrull, M.C.) (April, 2000) Why enhancing cholinergic transmission may worsen deficits from basal forebrain lesions.

3rd Annual Posters on the Hill, Washington, DC.

16. Hall, M.M., Hairston, W.D., and Mengle, K.E. (Sponsor: Mark C. Zrull) (April, 1999) The role of the external cortex of the inferior colliculus in an animal model of acquired epilepsy. 3rd Annual Posters on the Hill, Council on Undergraduate Research, Washington, DC.

13th NCUR, University of Rochester, Rochester, NY.

15. Deni, K., Camp, A.K. (Zrull, M.C.) (April, 1999) Continuous enrichment before, but not after, brain damage reduces problem-solving errors.
14. Goodrich, L. (Zrull, M.C.) (April, 1999) Superior colliculus lesions affect sound-guided navigation by rats. *Proceedings of the National Conference on Undergraduate Research NCUR '99, Vol. II*: 593-597.
13. Hall, M.M., Hairston, W.D., Spriggs, P.K. (Zrull, M.C.) (April, 1999) Bilateral lesions of external cortex of the inferior colliculus reduce seizure severity. *Proceedings of the National Conference on Undergraduate Research NCUR '99, Vol. II*: 588-592.
12. Mengle, K.E. (Zrull, M.C.) (April, 1999) Connections of the external cortex of the inferior colliculus in audiogenic seizure-prone rats.

12th NCUR, Salisbury State University, Salisbury, MD.

11. Davison, R.C., Scoby, A.D. (Zrull, M.C.) (April, 1998) Navigation in blind and sighted rats: When are two senses better than one? *Proceedings of the Twelfth National Conference on Undergraduate Research, Vol. II*: 728-732.
10. Mengle, K.E. (Zrull, M.C.) (April, 1998) Neural cell suspension transplants and reducing seizure severity in rats. *Proceedings of the Twelfth National Conference on Undergraduate Research, Vol. II*: 733-737.
9. Moseley, E.J. (Zrull, M.C.) (April, 1998) Directional hearing changes in aged Fischer 344 X Brown Norway F1 rats.
8. Scoby, A.D., Davison, R.C. (Zrull, M.C.) (April, 1998) The impact of prior experience on sound-guided navigation by blind rats. *Proceedings of the Twelfth National Conference on Undergraduate Research, Vol. II*: 697-701.

11th NCUR, University of Texas, Austin, TX.

7. Harris, K.F. (Zrull, M.C.) (April, 1997) Inferior colliculus lesions and grafts: Effects on sound-guided spatial navigation.
6. Moseley, E.J. (Zrull, M.C.) (April, 1997) Activational effects of testosterone on sound-guided spatial navigation. *Proceedings of the Eleventh National Conference on Undergraduate Research, Vol. II*: 782-786.

10th NCUR, University of North Carolina-Asheville, Asheville, NC.

5. Harris, K.F. (Zrull, M.C.) (April, 1996) The attention level of epilepsy-prone rats on a spatial sound location task. *Proceedings of the Tenth National Conference on Undergraduate Research, Vol. I*: 573-577.

4. Wilson, T.A. (Zrull, M.C.) (April, 1996) Compensation for the lack of auditory and visual information when navigating through familiar and unfamiliar environments. *Proceedings of the Tenth National Conference on Undergraduate Research, Vol. I:* 627-631.

9th NCUR, Union College, Schenectady, NY.

3. Bowman, R.E., Miner, C.L. (Zrull, M.C.) (April, 1995) The use of sound cues during spatial navigation.
2. Kluttz, C.L., Miner, C.L., Parker, C.A. (Zrull, M.C.) (April, 1995) The inferior colliculus and the use of sound cues during spatial navigation.
1. Trivette, A.J. (Zrull, M.C.) (1995) The cats' orienting response to brief sounds in a natural environment. *Proceedings of the Ninth National Conference on Undergraduate Research, Vol. I:* 464-468.

Other Presentations and Reports

50. Pratt, K., Michael, K., Zrull, M., Bonner, M., Hardy, K., and Martz, D.M. (August, 2009). *Psychosocial functioning in a sample of pediatric epilepsy patients*. Poster presented at the 117th Annual Convention of the American Psychological Association, Toronto, Canada.
49. Pratt, K., Michael, K., Bonner, M., Hardy, K., Zrull, M., and Martz, D. (October, 2006). *Predicting intellectual impairment in childhood seizure disorders*. Paper presented at the Kansas Conference in Clinical Child and Adolescent Psychology, Lawrence, KS.
48. Ballard, M.E., Snider, E.L., Curtin, L., and Zrull, M.C. (August, 2003) *Resting arousal, sensation seeking, and responses to preferred music*. Accepted for presentation at the 110th Meeting of the American Psychological Association, Toronto, ON, Canada.
47. Broadwater, K., Curtin, L., Zrull, M., and Martz, D. (March, 2003) *College student drinking: Perception of the norm and behavioral intentions*. Poster presented at the Southeastern Psychological Association Annual Meeting, New Orleans, LA.
46. Keizer, J., Curtin, L., and Zrull, M. (March, 2003) *Perceptions of parenting, early maladaptive schemas, and symptoms of depression*. Poster presented at the Southeastern Psychological Association Annual Meeting, New Orleans, LA.
45. Elfers, E.M., Henley, M.H., Freidenstein, J.E., Calloway, C., and Zrull, M.C. (April, 2002) *D-glucose injections into the central nucleus of the inferior colliculus mitigate audiogenic seizure severity*. Accepted for presentation at the 63rd Meeting of the Association of Southeastern Biologists, Boone, NC.
44. Freidenstein, J.E., Henley, M.H., Elfers, E.M., and Zrull, M.C. (April, 2002) *Effects of electrolytic and neurotoxin lesions of cortical inferior colliculus on audiogenic seizures*. Accepted for presentation at the 63rd Meeting of the Association of Southeastern Biologists, Boone, NC.
43. Hill, M.F., Garrett, C.B., Mengle, K.E., Haulter, H.R., and Zrull, M.C. (April, 2002) *Inferior colliculus afferents in primed, audiogenic seizure prone rats: "Forward moving" neural plasticity*. Poster presented at the 63rd Meeting of the Association of Southeastern Biologists, Boone, NC.
42. Zrull, M.C. (October, 2001) *Some themes from PKal and aiming for supporting undergraduate research for all students*. Poster presented at the Project Kaleidoscope National Assembly, Madison, WI.
41. Garrett, C.B., Bennett, S.M., and Zrull, M.C. (March, 2001) *Abnormal midbrain afferents in newly audiogenic seizure susceptible rats*. Poster presented at the Southeastern Psychological Association Annual Meeting, Atlanta, GA. Winner (C.B. Garrett) SEPA Animal Behavior/Biol. Psych. graduate student research paper competition.

40. Davison, R.D., Ginader, K., Deal, A., and Zrull, M.C. (March/April, 2000) *Superior colliculus lesion effects on sensory integration and working memory*. Poster presented at the Southeastern Psychological Association Annual Meeting, New Orleans, LA. Winner (R.C. Davison) SEPA Animal Behavior/Biol. Psych. graduate student research paper competition.
39. Waddell, J., Deni, K., and Zrull, M.C. (March, 1999) *Pre-injury environment affects behavioral deficits after prefrontal cortex lesions*. Poster presented at the Southeastern Psychological Association Annual Meeting, Savannah, GA. Winner (J. Waddell) SEPA Physiological/Comp. Psych. graduate student research paper competition.
38. Sutton, K.A., Hill, R.W., Wilson, D.M., and Zrull, M.C. (May, 1998) *Some perfectionism inversely predicts life satisfaction*. Poster presented at the 1998 American Psychological Society Annual Meeting, Washington, DC.
37. Wilson, D.M., Hill, R.W., Sutton, K., and Zrull, M.C. (May, 1998) *Perfectionism influences affect following success and failure feedback*. Poster presented at the 1998 American Psychological Society Annual Meeting, Washington, DC.
36. Krueger, J.L. and Zrull, M.C. (March, 1998) *The effects of cell suspension grafts on audiogenic seizure activity*. Poster presented at the Southeastern Psychological Association Annual Meeting, Mobile, AL. Winner (J.L. Krueger) SEPA Physiological/Comp. Psych. graduate student research paper competition.
35. Samulski, J. H., Kidder-Ashley, P. and Zrull, M.C. (October, 1997) *How children choose leaders, members, and non-participants*. Poster presented at the North Carolina School Psychology Association Fall Meeting, Charlotte, NC.
34. Hill, R.W., McIntire, K.A., and Zrull, M.C. (August, 1997) *Differences between self and peer ratings of interpersonal problems*. Poster presented at the 1997 American Psychological Association Annual Meeting, Chicago, IL.
33. Bowman, R.E. and Zrull, M.C. (May, 1997) *Neonatal gonadal hormone exposure affects spatial working memory of rats in a sound-guided navigation task*. Poster presented at the American Psychological Society Biology and Behavior Meeting, Washington, DC.
32. Hill, R.W., Turlington, S., and Zrull, M.C. (May, 1997) *A circumplex assessment of interpersonal problems associated with perfectionism*. Poster presented at the 1997 American Psychological Society Annual Meeting, Washington, DC.
31. McIntire, K.A., Hill, R.W., and Zrull, M.C. (May, 1997) *Interpersonal problems associated with perfectionism: Self and peer-reports*. Poster presented at the 1997 American Psychological Society Annual Meeting, Washington, DC.
30. Bowman, R.E., Moseley, E.J., and Zrull, M.C. (April, 1997) *Early gonadal hormone exposure affects sound-guided navigation by rats*. Poster presented at the Southeastern Psychological Association Annual Meeting, Atlanta, GA. Winner (R.E. Bowman) SEPA Physiological/Comp. Psych. graduate student research paper competition.
29. Evans, V., Hill, R.W., and Zrull, M.C. (April, 1997) *Narcissism as a function of age and responsibility*. Poster presented at the Southeastern Psychological Association Annual Meeting, Atlanta, GA.
28. Hill, R.W., Yousey, G., and Zrull, M.C. (April, 1997) *Diffrent levels of narcissim in university faculty versus librarians*. Poster presented at the Southeastern Psychological Association Annual Meeting, Atlanta, GA.
27. McIntire, K.A., Hill, R.W., and Zrull, M.C. (April, 1997) *Perfectionism, the big five, and interpersonal problems*. Poster presented at the Southeastern Psychological Association Annual Meeting, Atlanta, GA.

26. Samulski, J.H., Kidder-Ashley, P., and Zrull, M.C. (April, 1997) *Variables influencing how children choose leaders, members, and non-participants*. Poster presented at the Southeastern Psychological Association Annual Meeting, Atlanta, GA.
25. Trivette, A.J. and Zrull, M.C. (April, 1997) *The cat's acoustic orienting response in two natural environments*. Poster presented at the Southeastern Psychological Association Annual Meeting, Atlanta, GA.
24. Zrull, M.C. and Coleman, J.R. (February, 1997) *Detection and localization of sound before and after lesions of the inferior colliculus in Long-Evans hooded rats*. Poster presented at the 20th Association for Research in Otolaryngology Midwinter Meeting, St. Petersburg Beach, FL. Abstract published in *Abstr. of Nineteenth Midwinter Meeting of Assoc. Res. in Otolaryngol.*
23. Hill, R.W., Temple, E.P., and Zrull, M.C. (June/July, 1996) *Different levels of narcissism in student versus non-student samples*. Poster presented at the 1996 American Psychological Society Annual Meeting, San Francisco, CA.
22. Bradey, C. E., Hill, R.W., and Zrull, M.C. (March, 1996) *A new measure for source of self-esteem*. Poster presented at the Southeastern Psychological Association Annual Meeting, Norfolk, VA.
21. Zrull, M.C., Parker, C.A., Coleman, J.R., and Ross, K.C. (February, 1996) *Observations on the detection of and attention to brief noise and click stimuli by seizure-prone rats*. Poster presented at the 19th Association for Research in Otolaryngology Midwinter Meeting, St. Petersburg Beach, FL. Abstract published in *Abstr. of Nineteenth Midwinter Meeting of Assoc. Res. in Otolaryngol.*
20. Hill, R.W., Zrull, M.C., and Turlington, S. (June/July, 1995) *Perfectionistic traits have interpersonal consequences*. Poster presented at the 1995 American Psychological Society Annual Meeting, New York, NY.
19. Coleman, J.R. and Zrull, M.C. (April, 1995) *Studies of detection and localization of sound following grafting into the rat inferior colliculus*. Poster presented at the 2nd Annual Conference of the American Society for Neural Transplantation, Clearwater, FL.
18. Dyche, J., Bowman, R., Spencer, R., Miner, C. and Zrull, M.C. (March, 1995) *Sound cues and spatial navigation*. Poster presented at the Southeastern Psychological Association Annual Meeting, Savannah, GA.
17. Temple, E.P., Hill, R.W., and Zrull, M.C. (March, 1995) *Narcissistic personality characteristics associated with interpersonal problems*. Poster presented at the Southeastern Psychological Association Annual Meeting, Savannah, GA.
16. Zrull, M.C., Brugge, J.F., Chan, J.C.K., Hind, J.E. and Trivette, A.J. (March, 1995) *Orienting to spatial sound sources: Clicks and zips*. Poster presented at the Southeastern Psychological Association Annual Meeting, Savannah, GA.
15. Coleman, J.R. and Zrull, M.C. (June, 1994) *Recovery of directional hearing following inferior colliculus lesions and grafts*. Poster presented at the 5th International Symposium on Neural Transplantation, Chatenay-Malabry, France.
14. Turlington, S., Hill, R.W. and Zrull M.C. (March, 1994) *The relationship between perfectionism and interpersonal characteristics*. Poster presented at the Southeastern Psychological Association Annual Meeting, New Orleans, LA.
13. Ferguson, A.G., Hadden, S.B. and Zrull, M.C. (October, 1993) *Intellectual achievement responsibility: Self-concept, gender, grade level and region*. Poster presented at the North Carolina School Psychology Association Fall Meeting, Charlotte, NC.
12. Hadden, S.B., Ferguson, A.G. and Zrull, M.C. (October, 1993) *Leading, following and not participating*. Poster presented at the North Carolina School Psychology Association Fall Meeting, Charlotte, NC.

11. Coleman, J.R., Pinek, B., Zrull, M.C., and McDonald, A.J. (February, 1991) *Characterization of parvalbumin, calbindin and tubulin-glutamate containing neurons of the rat inferior colliculus*. Poster presented at the 14th Midwinter Meeting of the Association for Research in Otolaryngology, St. Petersburg Beach, FL. Abstract published in *Abstr. of Fourteenth Midwinter Meeting of Assoc. Res. in Otolaryngol.*
10. Zrull, M.C. and Coleman, J. R. (February, 1991) *Detection of a spatial noise stimulus by normals and rats with lesions of the inferior colliculi*. Poster presented at the 14th Midwinter Meeting of the Association for Research in Otolaryngology, St. Petersburg Beach, FL. Abstract published in *Abstr. of Fourteenth Midwinter Meeting of Assoc. Res. in Otolaryngol.*
9. Coleman, J.R. and Zrull, M.C. (February, 1990) *Structural features of fetal tectum grafted into the adult inferior colliculus*. Poster presented at the 13th Midwinter Meeting of the Association for Research in Otolaryngology, St. Petersburg Beach, FL. Abstract published in *Abstr. of Thirteenth Midwinter Meeting of Assoc. Res. in Otolaryngol.*
8. Coleman, J.R. and Zrull, M.C. (May, 1989) *Neural grafts of the auditory midbrain in the adult rat*. University of South Carolina. Poster presented at the 1989 South Carolina Psychological Association Annual Meeting, Hilton Head, SC.
7. Zrull, M.C. (May, 1989) *Trident area agency on aging needs assessment of Trident's elderly: Projected service needs in 1990*. University of South Carolina, Columbia. Report.
6. Gordon, A. and Zrull, M. (February, 1989) *Social support as a prediction of outcome in inpatient alcoholism treatment*. Poster presented at the Sunbelt IX Social Network Conference, Tampa, FL.
5. Zrull, M.C. (February, 1989) *I. Trident area agency on aging needs assessment of Trident's elderly: Prediction of service needs. II. Trident area agency on aging needs assessment of Trident's elderly: Application of service needs predictions*. University of South Carolina, Columbia. Report.
4. Zrull, M.C. (January, 1989) *Trident area agency on aging needs assessment of Trident's elderly: Initial summary*. University of South Carolina, Columbia. Report.
3. Melton, G.B. and Zrull, M. (November, 1988) *The characteristics of seriously emotionally disturbed youth in Greenville county. Report to the CASSP project*. South Carolina Department of Mental Health, University of Nebraska, University of South Carolina. Report.
2. Zrull, M.C. and Coleman, J.R. (August, 1988) *Survival and organization of fetal implants into rat inferior colliculus*. Poster presented at the 96th Annual American Psychological Association Convention, Atlanta, GA.
1. Zrull, M.C. (December, 1987) *Grafting fetal cell suspensions into the adult rat: marking implanted cells with the fluorescent dye True Blue*. University of South Carolina, Columbia. Report.

Manuscripts of Limited Circulation

3. Zrull, M.C. and the Institutional Animal Care and Use Committee (August, 2000) *Appalachian State University Animal User's Guide* (20 pp., 5 appendices). Appalachian State University, Boone, NC (revision of Dec., 1996 & Aug., 1997 manuscripts). Manuscript used for training of faculty and students conducting research with animals covered by NIH, PHS (OLAW, OPRR), and NSF regulations.
2. Zrull, M.C. (August, 2000) *Basic data processing and analysis. Parts I and II* (98 pp.) Appalachian State University, Boone, NC. Manuscript used in Graduate Research and Quantitative Methods at Appalachian State University (1995-2004; 1st version, August, 1994).

1. Zrull, M.C. (January, 1990) *Data processing and analysis: Basics, anova, regression and path analysis. For psychology 709 and 710 labs* (148 pp.). University of South Carolina, Columbia. Manuscript used in Graduate Quantitative Methods courses at University of South Carolina (1990-1991, 1993-1996; original and separate versions, January and August, 1989).

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20. Wilson, K., Mary Crowe, M., Singh, J., Stamatoplos, A., Rubens, E., Gosney, J., Dimaculangan, D., Levy, F., Zrull, M., and Pyles, R. (2009) Using electronic portfolios to measure student gains from mentored research. *Council on Undergraduate Research Quarterly*, 29, 26-32.
19. Zrull, M.C. (2008) Research in the rat lab: Some thoughts on undergraduates doing behavioral neuroscience research. In R.L. Miller, R.F. Rycek, M. Ware, E. Balcetis, S.T. Barney, B.C. Beins, S.R. Burns, R. Smith and M.E. Ware (Eds.) *Promoting the undergraduate research experience in psychology* (Section 4. pp. 168-172). Washington, DC: Society for the Teaching of Psychology. Available online <http://teachpsych.org/resources/e-books/ur2008/ur2008.pdf>.
18. Bowman, R.E., Maclusky, N.J., Diaz, S., Zrull, M.C., and Luine, V.N. (2006) Aged rats: Sex differences and responses to chronic stress. *Brain Research*, 1126, 156-166.
17. Broadwater, K., Curtin, L., Martz, D.M., and Zrull, M.C. (2006) College student drinking: Perception of the norm and behavioral intentions. *Addictive Behaviors*, 31, 632-640.
16. Dravland, M., Clapp, K., and Zrull, M.C. (2005) Sudden or gradual sound onset differentially affects audiogenic seizure severity in developmentally primed rats. *Impulse 2005*. Available online: http://impulse.schc.sc.edu/Arch_2005.html.
15. Hill, M.F., Garrett, C.B., Mengle, K.E., Haulter, H.R., and Zrull, M.C. (2002) Inferior colliculus afferents in primed, audiogenic seizure prone rats: "Forward moving" neural plasticity. *Proceedings Papers of the 63rd Meeting of the Association of Southeastern Biologists in Southeastern Biology*, 49. [summary paper]
14. Wheeling, J.C., Jenkins, D.P., Sedivec, M.J., and Zrull, M.C. (2002) Learning deficits following cholinergic basal forebrain lesions are not mitigated by 1,1,3-tricyano-2-amino-1-propene (Triap). *Proceedings Papers of the 63rd Meeting of the Association of Southeastern Biologists in Southeastern Biology*, 49. [summary paper]
13. Bowman, R.E., Zrull, M.C., and Luine, V.L. (2001) Chronic restraint stress enhances radial arm maze performance in female rats. *Brain Research*, 904, 279-289.
12. Zrull, M.C. and Coleman, J.R. (1999) Spatial sound detection and the role of the inferior colliculus in the Long-Evans rat. *Acta Oto-laryngologica (Stockholm)*, 119, 326-332.
11. Hill, R.W., Zrull, M.C., and McIntire, K. (1998) Differences between self and peer-ratings of interpersonal problems. *Assessment*, 5, 67-83.
10. Hill, R.W., Zrull, M.C., and Turlington, S. (1997) Interpersonal consequences of perfectionism. *Journal of Personality Assessment*, 69, 81-103.
9. Zrull, M.C. and Coleman, J.R. (1997) Effects of tectal grafts on sound localization deficits induced by inferior colliculus lesions in hooded rats. *Experimental Neurology*, 145, 16-23.

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7. Coleman, J.R., McDonald, A.J., Pinek, B., and Zrull, M.C. (1992) The inferior colliculus: Calbindin and parvalbumin immunoreactivity in neural grafts. *Experimental Neurology*, 115, 142-145.
6. Coleman, J.R. and Zrull, M.C. (1992) The inferior colliculus: Structural, immunohistochemical, physiological and behavioral properties following neural grafting. *Journal of Neural Transplantation and Plasticity*, 295-296.
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