

INNOVATION GROUP FOR THE STUDY OF LANGUAGE VARIATION (SoLV)

Principal Investigator:

Robert A. Fox (fox.2@osu.edu)
Department of Speech and Hearing
Division of Social and Behavioral Sciences
College of Arts and Sciences

Collaborators:

College of Education and Human Ecology

Laura Justice, School of Teaching and Learning
Leslie Moore, School of Teaching and Learning

College of Humanities

Kathryn Campbell-Kibler, Linguistics
Cynthia Clopper, Linguistics
John Grinstead, Spanish and Portuguese
Elizabeth Hume, Linguistics
Shari Speer, Linguistics

College of Medicine

Susan Nittrouer, Otolaryngology

College of Social and Behavioral Sciences

Michelle Bourgeois, Speech and Hearing Science
Rebecca McCauley, Speech and Hearing Science
Mark Pitt, Psychology
Wayne A. Secord, Speech and Hearing Science
Laura Wagner, Psychology

Abstract

Variation in both the form and use of language is a constant, significant and universal aspect of human culture and human communication. Language variation has many natural sources including the differences between human languages, geographical variation within a language (regional dialects), variation associated with socio-economic factors (social dialects) and language change (not only across centuries, but across generations of speakers). Another important source occurs as a function of speech-language disorders across the lifespan. These would include developmental disorders in children, organic disorders (e.g., Down syndrome, autism, dementia) and acquired disorders (e.g., aphasia resulting from stroke and closed head trauma). The conceptual foci of this group includes the development of inter-relationships between basic and applied research and the increased pursuit of translational research that draws upon the talents and synergies available at The Ohio State University; it also seeks to address wider policy issues related to language variation at the local-, state-, and national-level. The research collaborations facilitated by this innovation group include: (1) improvement of language-learning environments in early childhood schools and care-centers; (2) improvement of both assessment and remediation of language disorders; (3) increase in knowledge about and appreciation of both regional and social dialect variations; (4) better understanding of the language problems of the elderly—especially important in the face of the “graying of America;” and (5) the acquisition of English as a second-language (providing support for new immigrant populations in their entry into the workforce and eventual citizenry).

DESCRIPTION OF INNOVATION GROUP FOR THE STUDY OF LANGUAGE VARIATION (SoLV)

A. Description of Foci and Problems to be Addressed

Variation in both the form and use of language is a constant, significant and universal aspect of human culture and human communication. Language variation has many natural sources including the differences between human languages, regional and social dialects, language change over time (and generations) and variation that occurs as a function of speech-language disorders across the lifespan. There are a great many individual researchers at Ohio State in a number of different disciplines who examine language variation from one point of view or another. Although some productive collaborations are currently in place, the creation of an innovation group on Language Variation will help facilitate and expand cross-disciplinary collaborations in this area and provide direction for creation of a transdisciplinary center. The conceptual foci of SoLV includes the development of inter-relationships between basic and applied research and the increased pursuit of translational research that draws upon the talents and synergies available at The Ohio State University; it also seeks to address wider policy issues related to language variation at the local, state, and national levels. The research collaborations to be facilitated by this innovation group will address a range of societal problems and real-world issues including those outlined in the five areas of focus described below.

Focus Area 1. Improvement of Language-Learning Environments. Presently in the United States, about two-thirds of 4-year-olds participate in early education programs (i.e., preschool, day care), and this figure is growing annually in light of many state-level initiatives to expand enrollment or provide universal access to preschool for 4-year-old children. Ensuring access to high-quality early education for young children in the years just prior to formal schooling is viewed by many experts as a primary mechanism through which our nation can improve the academic achievement of children at-risk, including those from low-income households and those with disabilities. Ohio is among the 38 states that allocate state-level funds to support early education; however, it is one of the most poorly ranked in terms of numbers of children having access (33 out of 38, based on analyses conducted by the National Institute for Early Education Research at Rutgers University). The current administration's pledge towards promoting access to early education for young children across the nation suggests that the number of Ohio's children participating in early education will increase in the near future.

Complementing national and local initiatives towards providing access to early education is a strong emphasis on ensuring the *quality* of instruction within early education programs, particularly in the area of language instruction. Recent research findings have consistently shown that the quality of language instruction within early education programs is very poor; for instance, one recent analysis of 135 preschool classrooms found that 75% of classrooms were best characterized as mediocre in the quality of language instruction offered to 4-year-old children. This is an important finding because measurement of the quality of language instruction in early education classrooms is a statistically significant predictor of the magnitude of children's language growth over an academic year; in fact, measurement of language instruction quality is a stronger predictor than such variables as teacher-child ratio, teacher educational background, and teacher years of experience.

This innovation group is poised to address the important problem of how to effectively improve the quality of language instruction with early education settings, a topic of keen interest today in light of efforts to increase access to early education within Ohio and across the nation. Members of this innovation group presently have over \$10,000,000 in federal funding to support research addressing this problem, to include research studies examining (1) the effectiveness of professional development for improving the knowledge and skills of the early education workforce in the area of language instruction, and (2) the effectiveness of specific instructional practices used within early education classrooms as a means for increasing young children's language achievement in the short- and long-term. This innovation group's activities with respect to this focus area will include increasing this level of sponsored research support through multi-disciplinary collaborative research projects and offering a speaker series focused on language instruction within early education to engage the broader university and local community around these issues.

Focus Area 2. Improvement of Assessment and Remediation of Language Disorders. An estimated 25% of children between the ages of 3 to 21 who are served in public schools under the Individuals with Disabilities Act (IDEA) Part B receive services because of a speech or language disorder. In addition, an even larger percentage

of school children demonstrate language or speech problems secondary to other conditions. Language disorders (even those that are primarily associated with difficulties in speech sound production) are known to increase a child's later risk for literacy and academic difficulties. Consequently, improving the quality of assessment and remediation for this population is integral to improved educational outcomes at both the state and national level.

Improving the quality of assessment and intervention methods for speech and language disorders—and the quality of personnel who use them—will affect children with identified language disorders most directly. In addition, however, it can have positive effects on a much larger percentage of school children. Broader impact is possible because speech-language pathologists are becoming increasingly active in oral and written language instruction in preschool and elementary school classrooms as well as in the assessment and remediation of literacy problems in older children without a history of oral language disorder. These increasing roles and responsibilities, however, occur within a context of critical shortages of MA-level speech-language pathologists due to problems in recruitment and retention in the school setting. Assessment and intervention is especially challenging in the face of children learning English as a second language; and some of the collaborators in this proposed Innovation Group are currently addressing the problem of identifying specific language impairment (SLI) in typically-developing Spanish-English bilinguals so they are not misdiagnosed as language disordered and tracked into special education courses.

Innovation group members are in the midst of conducting and planning research designed to address three areas identified within this focus: improvement of assessment methods for language disorders in preschool- and school-age children (Area 1), improvement of remediation methods for speech and language disorders (Area 2), and identification of factors limiting the recruitment and retention of qualified speech-language pathologists in schools (Area 3). Multidisciplinary collaborations will provide a basis for pursuing funding of group activities for this focus. These activities will include (a) research addressing Areas 1 and 2--initially for a subgroup of language disorders in which group members share expertise (language disorders affecting speech sound production); (b) research concerning speech-language pathologist retention and recruitment, which will extend a current project conducted in Ohio to a national scale; and (c) the development of a lecture series on high-impact methods in language assessment and treatment. The last of these activities will further efforts to expand multidisciplinary collaborations to other institutions, as a means of increasing later funding prospects.

Focus Area 3. Increased Knowledge and Appreciation of Regional/Social Dialects. Linguistic prejudice is a central social justice issue in the US today, restricting opportunities for Americans and non-Americans alike and supporting other forms of bias. Everyday understandings of language stigmatize some linguistic differences as incorrect, ugly or uneducated, whereas others are dismissed as harmless. Information about the fascinating range of linguistic variation and the nature of linguistic bias can counter such prejudice and mitigate its effects in social, economic, clinical and educational contexts. Lay audiences are consistently interested in questions of language variation, making outreach programs in this area particularly popular. Social stigma may be tied to regional varieties and nonnative accents as well as language differences tied to race, age and gender. Ohio's location at the intersection of several large-scale regional dialect boundaries, as well as its increasing immigrant population, provide researchers in Ohio with a close-up view of many forms of language variation and language attitudes. Existing research programs within the University address, among other topics, the integration of linguistic and social information in speech processing, the effect of language variation on social perceptions and the functioning of sociolinguistic skills in young children and in adults with high-functioning autism.

An understanding of variation in language and its social implications is necessary for making effective and equitable policy in education, as well as appropriately distinguishing real language disorders from non-disordered but stigmatized speech. The creation of this Innovation Group at Ohio State will help to bring existing lines of research together and inspire new projects. Seed funding will aid in developing grants for outreach projects such as museum exhibits and educational programs. Furthermore, workshops will allow linguists, speech-language pathologists and educators to work together to develop and implement strategies for addressing variation and stigma in clinical and classroom settings

Focus Area 4. Increased Understanding of the Language Problems of the Elderly. Advances in the medical and pharmaceutical fields have contributed to the increasing life expectancy of the U.S. population. In 2001, 13% of the population was over 65 years of age but by 2030 this number will increase to 21%. By 2050, the number of persons 85 years and older, the "oldest-old," will approximate 19 million persons. Increasing age is accompanied by increased health risks; Americans over 65 account for half of all doctor visits and hospital stays. The average

75-year old has three chronic health conditions and uses five prescription medications. Normal aging is reflected in changes in vision and hearing, increasing risk for arthritis, hypertension, heart disease, diabetes, and osteoporosis. Cognitive changes include memory retrieval problems and slower speed of information processing, which begin to be evident in late middle age (48-62 years). Fear of becoming old and losing competence can affect one's self-perception, can increase anxiety and thereby affect performance. Perceived changes in language and memory performance by adults who experience normal age related changes in cognition are associated with poorer word recall scores and self-perception ratings. Heightened awareness in the media of diseases of cognition, such as Alzheimer's disease, in the media, has increased the popularity of self-help "memory improvement" programs. Ascribing to the "use it or lose it" philosophy, adults of all ages have incorporated cross word puzzles or Sudoku into their daily routines as a way to prevent dementia. What are the best cognitive "stimulation" approaches for preventing dementia? How can memory enhancing interventions help persons with documented memory disorders (e.g., dementia, traumatic brain injury)?

SoLV Workshops will allow speech language pathologists, linguists and clinicians to (1) to explore the perceptions of middle aged to early old adults (48-75) about their memory and language performance deficits, (2) to document their perceptions and use of self-help strategies, and (3) to improve their self-perceptions and use of supportive strategies through an external memory aid (e.g., electronic and non-electronic planners) intervention.

Focus Area 5. Better Understanding of the Challenges of the Acquisition of English as a Second Language.

An important dimension of second language (L2) instruction is a complete understanding of the constructions which need to be explicitly taught as opposed to those which are acquired without such direct instruction. Recent influential proposals in second language acquisition theory suggest that constructions that lie at the interface between syntax and semantics/pragmatics are particularly difficult to acquire in a second language with native-like levels of proficiency. One such construction is the pragmatically enriched ("some, but not all") use of the existential quantifier *algunos* in Spanish vs. the pure existential ("some and possibly all") use of the existential quantifier *unos*. Child Spanish-speakers demonstrate relatively adult-like understanding of the distinctions between these constructions by 5 years of age. Ongoing collaborative projects at Ohio State between students and faculty in Spanish and Portuguese and the Linguistics Department investigate the ability of adult second language learners of Spanish to comprehend this distinction. Similarly, researchers are studying child English speakers' ability to distinguish both pure existential and pragmatically enriched variants of the quantifier *some* in English, while future projects will address the abilities of L2 learners of English and children with Autism Spectrum Disorders (ASD) to develop the ability to use these constructions in a native-like way. The relevance of this construction to the autistic population is that children with ASD are generally known to have difficulty with linguistic pragmatics, though little has been done to study their understanding of pragmatic implicatures. Whereas children learning a first language seem to acquire these distinctions relatively quickly, it seems less likely that adults learning a second language will be as successful—though it is too early in this research to say definitively. The question of how children on the autism spectrum will appear open, for the moment. Workshops in this area will be directed at both theoretical and practical aspects regarding L2 acquisition (e.g., universal grammatical constraints, language interference and best practices in L2 learning).

Specific Planned Activities of the Group

The activities and efforts of SoLV Innovation Group will be designed to promote increased collaboration among faculty and students at Ohio State (as well as local civic leaders) to address the five areas of focus described above. These activities will include:

Speaker Series. There will be a monthly speaker series in which an individual will be invited to speak on a topic relevant to one or more of the focus areas each quarter of the regular school year (AU/WI/SP). These speakers will include researchers from Ohio State, as well as visitors from other universities and/or institutions (including NIH) as well as local civic leaders. These series will be widely advertised and held in a large public venue (e.g., the Fawcett Center).

Workshops. Each separate area of focus will organize a one-day workshop each school year (for a total of 5 workshops/year). Workshops will address relevant issues and their nature will be flexible (e.g., one anticipated workshop will address language instruction and remediation in the face of change demographics in the State of Ohio—this workshop would include local members of the K-12 Educational Community and members of the Ohio Department of Education).

Annual Symposium on the Study of Language Variation. There will be an annual symposium bringing together members of all SoLV research groups. There will be three speakers from outside the University in addition to presentations by members of the various focus groups, and research posters from both undergraduate and graduate students. As a means of encouraging student research, awards will be presented for the best undergraduate and graduate posters.

Facilitation of Collaborative Research Opportunities for Faculty and Students. The SoLV Group (with the help of its members, a GAA and an undergraduate student worker) will work to identify research opportunities for both undergraduate and graduate students in the area of Language Variation, will manage intergroup communication (and seek to identify and communicate with all individuals at Ohio State doing work in this area), and will maintain a calendar of relevant events.

C. Governance Plan of the Group

The members of the SoLV Innovation Group form a subset of the Buckeye Language Network, a consortium of the more than 60 faculty engaged in language-oriented research at OSU (<http://buckeyelanguagenetwork.osu.edu>). While there will be overlap in the membership of the groups, governance will remain separate. The SoLV Innovation Group will be guided by a Steering Committee and an Advisory Group. The Steering Committee will be made up of the PI, three faculty members selected to represent the varied interests of the group, and three graduate students, one each from Education and Human Ecology, Humanities, and SBS. All Ohio State faculty involved in SoLV will form the membership of Advisory Group. As noted above, the Innovation Group (with the help of its members, a GAA and an undergraduate student worker) will manage the activities of the group.

D. Description of Potential to Grow in to Center for Innovation

Members of the SoLV Group represent only a portion of Ohio State scholars pursuing research relating to language variation. At present, however, there is no mechanism in place to encourage interaction or communication among these individuals; SoLV is intended to do precisely this by facilitating the development of synergies within this larger group of scholars. Such synergies will lead to expanded external funding from a variety of sources including, for example, Federal Sources (e.g., NIH, NSF, Department of Education) and State of Ohio sources (e.g., Ohio Department of Education). The SoLV Group will encourage and facilitate the development and submission of research grants, clinical service grants and student training grants.

E. Metrics for Evaluation

Annual Metrics would include:

1. Number of events sponsored (speakers, workshops, symposia)
2. Attendance at events, this would include the number of attendees, the range of the backgrounds and interests of attendees, the “status” of the attendees (e.g., faculty, research scientists, students, civic leaders)
3. Number of specific projects (and work groups) identified and that, in some documentable way, have been helped by actions of the Innovation Group.
4. Written, documented feedback from attendees regarding the value of the event and its relevance to the areas of focus outlined above.
5. Involvement of graduate and undergraduate students in the SoLV Group and other activities.

3-Year Metrics would include:

1. Number of presentations/publications supported, in part, by the Innovation Group.
2. Number of grants submitted and/or awarded facilitated, in part, by actions of the Innovation Group
3. Written evaluations of performance and success of Innovation Group projects by faculty in research groups, by community leaders, etc.

BUDGET: INNOVATION GROUP FOR THE STUDY OF LANGUAGE VARIATION

Description of Fund Use

1. Annual Symposium Costs	
2 Invited Speakers (honoraria and travel costs @ \$1000 each)	\$2,000
2 Awards for best Student Research Poster (one undergraduate student, one graduate student @ \$250 each)	\$500
Food and facilities costs	\$3,250
2. Workshops, 3/year at \$2,500 for associated costs (includes support for outside speakers—travel and small honorarium, food and facilities costs.	\$7,500
3. 3 Undergraduate Research Awards (not limited to honors students) @ \$1,250 each	\$3,750
4. Administration support (undergraduate hourly worker, at 30 weeks/year @ \$10/hour	\$3,000
<i>TOTAL</i>	<i>\$20,000</i>

Internal Support

We are requesting support (either in cash, GA support, or “in-kind” support, including space) in the amount of \$2,000/year from four different academic units that are heavily involved in the project: Department of Speech and Hearing Science, Department of Psychology (Arts and Sciences/Social and Behavioral Sciences), Department of Linguistics (Arts and Science/Arts and Humanities) and the School of Teaching and Learning (Education and Human Ecology).

BRIEF CV OF PRINCIPAL INVESTIGATOR

Robert Allen Fox

Department of Speech and Hearing Science, The Ohio State University

ACADEMIC TRAINING:

The University of Chicago, Chicago, Illinois, Ph.D., June 1978
The University of Chicago, Chicago, Illinois, M.A., March 1978
The University of Maryland, College Park, MD, B.A., August 1970

EXPERIENCE:

1995-Present Chair, Department of Speech and Hearing Science, The Ohio State University.
2009-Present Chair, Steering Committee, Buckeye Language Network
2008-Present Adjunct Professor, Center for Advanced Study of Language, University of Maryland..
1998-Present Adjunct Professor, Department of Linguistics, The Ohio State University.
2002-Present Co-Coordinator, American Sign Language Program, The Ohio State University
2002-Present Co-Coordinator, Disabilities Minor Program, The Ohio State University
1992-Present Professor, Department of Speech and Hearing Science, The Ohio State University.

SELECTED RECENT PUBLICATIONS

- Jacewicz, E., Fox, R. A., O'Neill, C., and J. Salmons (to appear, 2009). "Articulation rate across dialect, age, and gender." *Language Variation and Change* 20(2).
- Jacewicz, E., Salmons, J. and R. A. Fox (forthcoming, 2009). "Prosodic conditioning, vowel dynamics and sound change". In: *Variation and Gradience in Phonetics and Phonology*. ed. by Caroline Féry, Jörg Mayer, Frank Kügler & Ruben van de Vijver. Berlin: Mouton de Gruyter.
- Fox, R. A., Jacewicz, E., Eckman, F. R., Iverson, G. K., and Lee, S. (2009). Perception versus production in Korean L2 acquisition of English sibilant fricatives. In *Proceedings of the 18th International Congress of Linguistics*, Seoul, Korea
- Fox, R. A., and E. Jacewicz (2008). Analysis of total vowel space areas in three regional dialects of American English. *Proceedings of Acoustics'08: Joint meeting of the Acoustical Society of America, the European Acoustics Association, and the French Acoustical Society*, pp. 495-500. Paris, France
- Jacewicz, E., and R. A. Fox (2008). The temporal location of rms peak in coarticulated vowels. *Proceedings of Acoustics'08: Joint meeting of the Acoustical Society of America, the European Acoustics Association, and the French Acoustical Society*, pp. 627-632. Paris, France.
- Jacewicz, E. & Fox, R. A. (2008). Amplitude variation in coarticulated vowels. *Journal of the Acoustical Society of America*, **123**: 2750-2768.
- Fox, R. A., Jacewicz, E., and Feth, L. L. (2008). Spectral integration of dynamic cues in the perception of syllable-initial stops. *Phonetica* **65**:19-44.
- Jacewicz, E., Salmons, J. & Fox, R. A. (in press, 2008). Prosodic conditioning, vowel dynamics and sound change. In: *Variation in Phonetics and Phonology*, edited by C. Féry, J. Mayer, F. Kügler and R. van de Vijver. Berlin: Mouton de Gruyter.
- Salmons, J, Jacewicz, E. & Fox, R. A. (2007). Vowel duration in three American English dialects. *American Speech*, **82**: 367-385.
- Fox, R. A., Jacewicz, E., & L. Wackler. (2007). Spectral integration of virtual cues in speech perception. In: *Proceedings of the 19th International Congress on Acoustics*, edited by A. Calvo-Manzano, A. Perez-Lopez, and J. Santiago, pp. 1-6 (CAS-03-033), Madrid, Spain.
- Fox, R. A., Jacewicz, E., & C.-Y. Chang. (2007). Vowel perception with virtual formants. In *Proceedings of the XVIth International Congress of Phonetic Sciences*, edited by J. Trouvain and W.J. Barry, pp. 689-692. Saarbrücken, Germany.
- Jacewicz, E., & R. A. Fox. (2007). Auditory representation of spectral intensity variation in coarticulated vowels. In: *Proceedings of the 19th International Congress on Acoustics*, Madrid, Spain, 2007.
- Keller-Bell, Yolanda D. & Fox, Robert A. (2007). A preliminary study of speech discrimination in youth with Down syndrome," *Clinical Linguistics and Phonetics*, **21**: 305-317.
- Fox, Robert & McGory, Julie (2007). Second language acquisition of a regional dialect of American English by native Japanese speakers. In *Language Experience in Second Language Speech Learning*. Ocke-schwen Bohn and Murray J. Munro (eds). Amsterdam: John Benjamins Press.

- Jacewicz, Ewa, Fox, Robert A. & Salmons, Joseph (2006). Prosodic prominence effects on vowels in chain shifts. *Language Variation and Change* **18**:285-316.
- Feth, Lawrence L., Fox, Robert A., Jacewicz, Ewa, & Iyer, Nandini (2006). Dynamic center-of-gravity effects in consonant-vowel transitions. In *Dynamics of Speech Production and Perception*, Pierre Divenyi, Steven Greenberg, and Georg Meyer (eds.). Amsterdam: IOP Press (NATO ASI Series), 5-13.
- Fox, Robert, Jacewicz, Ewa & Salmons, Joseph (2006). Prosodically induced phonetic variations in vowels: A source of language change? In *The Bill Question: Contributions to the Study of Linguistics and Languages in Honor of Bill J. Darden on the Occasion of His Sixty-Sixth Birthday*, Howard Aronson, Donald Dyer, Victor Friedman, Daniela Hristova and Jerrold Sadock (eds.). Bloomington, IN: Slavica Press, 87-110.
- Nissen, Shawn & Fox, Robert A. (2005). Acoustic and spectral characteristics of young children's fricative productions: A developmental perspective. *Journal of the Acoustical Society of America*, **118**:2570-2578.
- Fox, Robert A. & Nissen, Shawn (2005). Sex-related acoustic changes in voiceless English fricatives. *Journal of Speech, Language and Hearing Research*, **48**:753-765.

SELECTED PRESENTATIONS

- Fox, R. A., and Jacewicz, E. (2009). "Cross-generational differences in dynamic formant patterns in vowels." Acoustical Society of America, Portland, OR, May 21.
- Jacewicz, E., and Fox, R. A. (2009). "Generational and dialectal effects on children's vowel identification." Acoustical Society of America, Portland, OR, May 21.
- Eckman, F., Iverson, G., Fox, R., and Jacewicz, E. (2009). "Explicit training and implicit learning of L2 phonemic contrasts." Georgetown University Round Table (GURT), Washington, DC, March 14
- Fox, R. A., Jacewicz, E., O'Neill, C., and Salmons, J. (2008). "Speech rate differences in regional variants of English." American Speech-Language-Hearing Association, Chicago, IL, November 21.
- Jacewicz, E., Fox, R. A., and S. Lyle (2008). "Variation in stop consonant voicing in two regional varieties of American English." Acoustical Society of America, Miami, FL, November 13.
- Fox, R. A. and Jacewicz, E. (2008). "Dialectal differences in dynamic formant patterns in vowels." Acoustical Society of America, Miami, FL, November 10.
- Holt, Y., Fox, R. A., and Jacewicz, E. (2008). "Evidence of Southern Vowel Shift in African American English in western North Carolina." New Ways of Analyzing Variation (NWAV), Houston, TX, November 6-9.
- Fox, R. A., and Jacewicz, E. (2008). "Analysis of total vowel space areas in three regional dialects of American English." Special session on Measurement of Sociophonetic Variation in Speech, Acoustics'08: Joint meeting of the Acoustical Society of America, the European Acoustics Association, and the French Acoustical Society, Paris, France, June 29. *Journal of the Acoustical Society of America*, 123(5): 3068.

SELECTED GRANTS RECEIVED

- Co-investigator on grant NIH NIDCD R01DC006871-01 A1. Award term: July 2005 – June 2010. Title of project: *Cross-generational sound change in American English*. Ewa Jacewicz (PI).
- Co-investigator on grant NIH NIDCD R01DC00679-01A1. Award term: September 2005 – August 2008. Title of project: *Auditory spectral integration: complex sounds and speech*. L. Feth (PI)
- Co-investigator on grant NIH NIDCD R01HD046908-01A2. Title of project: *Markedness and learnability in second language*. F Eckman (PI).
- PI on grant NIH NIDCD F31 DC009105-01A. Award term: 1 May 2008-31 March 2011. Title of project: *Cross-generational comparisons of vowels in African-American English*.

BIOSKETCH PARAGRAPHS FOR EACH COLLABORATOR

College of Education and Human Ecology

Laura Justice is Professor in the College of Education and Human Ecology at The Ohio State University, where she also directs the Preschool Language and Literacy Lab, a research unit within the School of Teaching and Learning. Dr. Justice is a clinical speech-language pathologist and applied researcher in early childhood language and literacy development, communication disorders, and educational interventions. Her research activities have been supported by grants from the American Speech-Language-Hearing Foundation, the International Reading Association, the National Institutes of Health, and the U. S. Department of Education; she is currently principal investigator of more than five federally funded projects. She is a leader on a recently funded grant from the Federal Institute of Education Sciences to The Ohio State University. This 5-year, \$20 million project is one of the largest ever to be awarded to Ohio State. Her research on early language and literacy has received awards from the American Speech-Language-Hearing Association (Editor's Award, American Journal of Speech-Language Pathology), the Council for Exceptional Children (Early Career Publication Award), and U.S. President G. W. Bush (Presidential Early Career Award in Science and Engineering). She has published more than 100 articles and chapters concerning early education and language/literacy intervention and has authored or edited ten books, including *Language Development from Theory to Practice*; *Communication Disorders: A Contemporary Perspective*; and *Scaffolding with Storybooks*. Justice is the Founding Editor of *EBP Briefs*, published by Pearson, and is currently the Editor of the *American Journal of Speech-Language Pathology*.

Leslie C. Moore is an Assistant Professor in the School of Teaching and Learning, a core faculty member of Language, Education, and Society and Foreign, Second, and Multilingual Language Education. Dr. Moore is an applied linguist and a linguistic anthropologist. Her research examines the social and cultural patterning of language and literacy development in communities whose members use multiple languages and participate in multiple schooling traditions. Most recently she began work in the Somali community in Columbus, examining how participation in Qur'anic schooling shapes children as participants in public schooling and as learners of second languages and literacies. Her new research integrates qualitative and quantitative methods from linguistic anthropology, cultural psychology, and psycholinguistics. Dr. Moore's research has been funded by the National Science Foundation, the Ford Foundation, the Spencer Foundation, and Fulbright. The U.S. Department of Education and the Ohio Humanities Council have funded her outreach and engagement work in the Somali community and public schools.

College of Humanities

Kathryn Campbell-Kibler is an Assistant Professor of Linguistics at The Ohio State University. Her research investigates the relationship between linguistic and social processing, particularly with respect to social perceptions of linguistic variation. Her recent work has addressed social perceptions of the English variable (ING) and the relationship between vocalic variation and perceptual dialectology in Ohio.

Cynthia G. Clopper is an Assistant Professor in the Department of Linguistics at the Ohio State University. She received a B.A. in Linguistics and Russian from Duke University in 1999, an M.A. in Linguistics from Indiana University in 2001, and a Ph.D. in Linguistics and Cognitive Science from Indiana University in 2004. She spent one year as a postdoctoral researcher in Psychology at Indiana University and one year as a postdoctoral fellow in Linguistics at Northwestern University, both funded by the National Institutes of Health, before joining the faculty at Ohio State in 2006. Her major areas of expertise are phonetics, speech perception, sociophonetics, and laboratory phonology. Dr. Clopper's current research projects examine the effects of experience on the perceptual classification of regional dialects, the relationship between linguistic variation and speech processing, regional prosodic variation in American English, and the phonetics-semantics interface in Paraguayan Guarani.

John Grinstead is an Assistant Professor in the Department of Spanish and Portuguese. He received his PhD in 1998 from UCLA where he wrote his thesis on syntactic development in monolingual child Spanish-speakers in Los Angeles. Besides studying language development in typical or "normal" children, his research also addresses

atypical language development in children with disorders such as autism spectrum disorder and specific language impairment. His current projects include: Studies of the grammatical characteristics of Spanish-speaking children with the language disorder known as specific language impairment (SLI), studies of the temporal interpretations of Spanish-speaking children in Mexico City, and a study of the abilities of adult second-language learners of Spanish to acquire target-like competence. Dr. Grinstead teaches courses in Spanish linguistics and psycholinguistics and has recently published studies of subject use in child Spanish, Catalan and German and its implications for current conceptions of the interplay among multiple domains of cognition as well as a study of nominal plural marking in child Spanish speakers with SLI.

Elizabeth Hume is a Professor in and Chair of the Department of Linguistics at Ohio State. Dr. Hume is a theoretical linguist. Her research addresses issues pertaining to the cognitive representation of language sound structure. She investigates how this knowledge shapes human behavior as manifested through speech perception, production and processing, and how physiological and other factors shape cognition.

Shari R. Speer is a Professor of Linguistics, and Director of the Ohio State Psycholinguistics Laboratory. Her primary research interests are cross-linguistic, and explore how speakers and listeners use prosody, or the melody in language, to communicate in spontaneous conversation. Primary research methodologies used to study spoken language in the lab include visual-world studies (with head-mounted or table-top eye movement monitoring devices) as well as more traditional reaction-time based methods. Example current projects include "Intonation in unscripted Japanese & English dialogue" with senior researcher Kiwako Ito (NSF, BCS-0617609, NIH, DC007090), "Lexical tone and lexical access in Mandarin," with Ohio State graduate alum Lei Xu, "Prosodic resolution of syntactic ambiguity in Korean," with graduate researcher Jeonghwa Shin, and a new project on children's acquisition of intonationally-marked contrast with Ito, Laura Wagner of OSU Psychology, and undergraduate researcher Sarah Bibyk.

College of Medicine

Susan Nittrouer is a Professor in and Director of Research in the Department of Otolaryngology, Head & Neck Surgery at The Ohio State University. Dr. Nittrouer's research interests have focused on how children acquire the abilities to recognize the phonetic-level structure of their native language and to produce speech with the gestural organization typical of their native language. She has had a special interest in the speech and language abilities of children with hearing loss. She received a Bachelor's degree from West Chester University in 1974, a Master's degree from Smith College in 1975, and a Ph.D. from the City University of New York in 1985. She has had continuous funding from the NIH since 1988.

College of Social and Behavioral Sciences

Michelle S. Bourgeois, Ph.D., CCC-SLP, is a Professor in the Department of Speech & Hearing Science, Ohio State University. She has received numerous grants from the National Institutes of Aging (NIA) and the Alzheimer's Association to investigate interventions for spousal and nursing home caregivers designed to improve the quality and quantity of communicative interactions with residents with dementia, to evaluate memory aids and interventions for persons with dementia and traumatic brain injury, and to develop training programs for institutional caregivers. A clinical researcher, Dr. Bourgeois has published numerous research articles, training manuals and CDs, and books. She was the recipient of the 2007 Barry Reisberg Award for Non-Pharmacologic Research, Theory, and Clinical Practice.

Rebecca McCauley is Professor of Speech and Hearing Science, a Specialist in Child Language, and fellow of the American Speech-Language-Hearing Association. She has written and spoken widely on the topic of Childhood Apraxia of Speech (CAS) and published numerous articles related to the assessment and treatment of severe speech sound disorders in children. She is author of *Assessment of Language Disorders in Children* (2001) and co-editor, with Marc Fey, of *Treatment of Language Disorders in Children* (2006). Current projects include editing volumes on treatments of stuttering (with Barry Guitar) and on treatments of speech sound disorders (with Lynn Williams and Sharynne McLeod), and collaborating with Edythe Strand on the development of a motor

speech examination for children with severe speech disorders. She is also lead author on a systematic review on nonspeech oral motor exercises and speech outcomes.

Mark A. Pitt is a Professor in the Department of Psychology. The fundamental question his research program addresses is how spoken words are recognized. That is, how does the brain of listener translate the sounds coming out of talker's mouth into the words intended by the talker? Variation in how individuals speak increases the complexity of the problem, and is a primary focus of the research. Dr. Pitt spearheaded the creation of the Buckeye corpus of spontaneous speech, which is used by researchers world-wide. Research is funded by NIDCD and NIMH.

Wayne A. Secord is a Senior Research Scientist in the Department of Speech and Hearing Science. Before returning to Ohio State in 2006, Dr. Secord completed a three-year Distinguished Professorship at the University of Central Florida. Before UCF, he developed and directed the National Center for Speech-Language-Pathology in Schools at the University of Cincinnati, chaired the Department of Communication Disorders at Northern Arizona University, and coordinated the program in School Speech-Language Pathology at Ohio State. He is a Fellow of the Ohio Speech & Hearing Association and the American Speech-Language-Hearing Association, and has received awards for outstanding clinical achievement from a number of universities and professional organizations. He has authored or co-authored publications, tests and intervention programs on assessment and treatment of speech and language disorders, and served as the editor of *Language, Speech, and Hearing Services in Schools*. As a Principal Investigator of funded projects, and developer of new academic programs, he has raised more than 5 million dollars in support of his academic and clinical innovations at the university level.

Laura Wagner is an Assistant Professor in the Department of Psychology. With degrees from both the fields of Psychology and Linguistics, her work is strongly inter-disciplinary and draws on methods and questions from both fields. Her research looks at the connections between the development of children's concepts and the acquisition of semantics in their native language. Much of this work focuses on how children's early event concepts are related to their acquisition of verbs and verbal morphology; in addition, she is also examining how social and intentional concepts interact with language acquisition. Dr. Wagner's work has been funded by the NIH, as well as by OSU internal grants,. In recent outreach work, she has established a satellite lab at the Columbus Center of Science and Industry, where she conducts her studies with children visiting the museum.