

# 2014 Barbara Gordon Memorial Lecture and Linguistics Festival

FIU Linguistics Program and the Department of English



You are cordially invited to a two-day event  
celebrating the Barbara Gordon Memorial Lecture Series

Thursday, March 6 — 6:30 p.m.  
Barbara Gordon Memorial Lecture  
Kemp Williams, IBM, Inc.

**FINDING NEMO/NEMEAU/NIMOE: THE CASE FOR ANALYTICAL NAME SCORING**

Friday, March 7 — All Day  
Festival — Linguistics Matters  
Featuring further research by Kemp Williams  
and by faculty members at FIU and from the community

**BOTH EVENTS ARE FREE AND OPEN TO FIU STUDENTS  
OPEN TO THE PUBLIC**

*Sponsored in part by The Barbara Gordon Memorial Lecture Series, FIU's Linguistics Program,  
FIU's Department of English, and FIU's Graduate Linguistics Association and CSO*

**FIU**

**Arts &  
Sciences**

*School of Environment, Arts and Society*

# 2014 Barbara Gordon Memorial Lecture

MARCH 6, 2014 | 6:30 P.M.

COLLEGE OF BUSINESS COMPLEX (CBC) SPECIAL EVENTS CENTER 232-235

## WELCOME

Meredith Newman, Senior Associate Dean, College of Arts & Sciences

James Sutton, Chair, Department of English

## HENRY TRUBY PRIZE FOR GRADUATE STUDIES

Tometro Hopkins, Director, Linguistics Program

## SPEAKER INTRODUCTION

Tometro Hopkins, Director, Linguistics Program

## FEATURED SPEAKER

Kemp Williams, IBM, Inc.

### **Finding Nemo/Nemeau/Nimoe: The Case for Analytical Name Scoring**

Boarding an airplane or opening a bank account inevitably involves having one's name compared against a list, e.g., the Terrorist Screening Center's "No-Fly List", or the Office of Financial Access Control's "Denied Parties List." Names as entered into databases may vary considerably from one environment to another, making it difficult to determine whether a name occurs on a list or in a database. A name may be entered as Rogers, while the search name is Rodgers. A person hears Dayton, while the actual spelling is Deighton. The problem is compounded when a name originates in one writing system and is then transliterated. For example, the same Korean name may be realized as Ryu, Yu, or Lew. These kinds of problems are best solved by a name-matching approach using an analytical name search engine. Alternative approaches, such as key-based systems or name variant expansion, fail to duplicate the efficiency, thoroughness, and accuracy of a system that uses an analytical name scoring approach.

## ABOUT THE SPEAKER



Kemp Williams is a Computational Linguist and Advisory Software Engineer at IBM in Herndon, Virginia. Dr. Williams was formerly a faculty member in the Linguistics Program and in the English Department at FIU and did research and taught as a syntactician and cognitive linguist. He has been working since 2000 as a computational linguist, first with Primus Knowledge Solutions, then with Lockheed Martin and Language Analysis Systems, and currently with IBM, Inc., and has developed several patented systems related to computer language understanding and encoding.

# 2014 Festival — Linguistics Matters

## Schedule of Events

MARCH 7, 2014

COLLEGE OF BUSINESS COMPLEX (CBC) SPECIAL EVENTS CENTER 232-235

### PLENARY TALK

9:30 - 10:30 **Factors in the Automated Cultural Classification of Personal Names**  
Kemp Williams, IBM, Inc. | Chair: Hussain Almalki

### RESEARCH TALKS

10:30 - 11:00 **Looking for Invariance in Articulatory Gestures**  
Philip Gleason, IBM, Inc. | Chair: Tometro Hopkins

11:00 - 11:30 **Long Association Fiber Pathways for Speech and Language in the Developing Brain**  
Anthony Dick, Department of Psychology, FIU | Chair: Jean-Robert Cadely

11:30 - 12:00 **The Effects of Code-Switching in Bilingual Productions**  
Mehmet Yavaş, Linguistics Program, Department of English, FIU  
Chair: Jake Guyton

12:00 LUNCH BREAK

1:30 - 2:00 **Dual Language Use and Bilingual Development: Studies of Children in South Florida**  
Erika Hoff, Florida Atlantic University | Chair: Erica Verde

2:00 - 2:30 **What Do Bilingual Infants Know about Agreement Morphology?**  
Ana C. Gouvea, Department of Communication Sciences and Disorders, FIU  
Chair: Eliane Ramos

2:30 - 3:00 **Impact of Pre-Kindergarten Educator Language on Children's Early Numeracy and Spatial Skills**  
Shannon Pruden, Department of Psychology, FIU  
Chair: Rebecca Burns, College of Education, USF Sarasota-Manatee

3:00 BREAK

3:20 - 3:50 **Different Words for Different Worlds: Early Language Development in Mandarin and Cantonese**  
Twila Tardif, University of Michigan | Chair: Feryal Yavaş

3:50 - 4:20 **Origins of Language: From the Perspective of Aphasia**  
Alfredo Ardila, Department of Communication Sciences and Disorders, FIU  
Chair: Peter Machonis

4:20 - 4:50 **Is there a Bilingual Advantage for Cognitive Processing in Relation to Executive Function?**  
Virginia C. Mueller Gathercole, Linguistics Program, Department of English, FIU  
Chair: Yaobin Liu

4:50 FINAL DISCUSSION AND CLOSING  
RECEPTION TO FOLLOW

## Abstracts of Talks

### ***Factors in the Automated Cultural Classification of Personal Names***

Kemp Williams, IBM, Inc.

Statistical language identification is largely a solved problem, with accuracy rates approaching 100%. Such accuracy, however, requires more processing text than a personal name affords, making statistical name classification more challenging. Additionally, many features used in statistical language identification, such as the presence of closed-class words, are not applicable to personal names. Other issues, such as cross-cultural similarity of names, also complicate attempts to classify names based on a statistical learning process. This talk describes an automated personal name classification task based on Romanized data from 16 languages, in which the accuracy rates display a large range. Although there is not a strong correlation between accuracy and any one language characteristic, deeper analysis reveals a statistically significant trend involving the training data entropy, the length of names in each language, and a measurement of the similarity among names in the 16 languages.

### ***Looking for Invariance in Articulatory Gestures***

Philip Gleason, IBM Inc.

Speech, as an acoustic signal, is an immensely complex phenomenon which has yielded very slowly to efforts to do automatic speech recognition. The motor theory of speech perception suggests that articulatory gestures may have a simpler and more regular relation to phoneme and word identification than the acoustic signal. This talk presents some examples of invariance in speech gestures across speakers. The movement of the tongue tip, tongue blade, lower lip and jaw were recorded by an Articulograph (Carstens Medizinelektronik GmbH) while five speakers produced phonemically contrasting phrases. Analysis of the articulatory movements reveals some invariance.

### ***Long Association Fiber Pathways for Speech and Language in the Developing Brain***

Anthony Dick, Department of Psychology, FIU

To accomplish a particular cognition or behavior such as language, specialized regions must interact with other specialized regions in the context of a network. In addition to defining the function of individual regions of the network, there has been an emerging interest in mapping their connectivity via bundled fiber pathways in the subcortical white matter. Using diffusion-weighted functional magnetic resonance imaging, we have mapped this connectivity in developing 5-7-year-old emerging readers. In this talk we discuss our findings with particular focus on perisylvian fiber pathways associated with speech and reading, including a newly identified pathway called the frontal aslant tract (FAT).

### ***The Effects of Code-Switching in Bilingual Productions***

Mehmet Yavaş, Linguistics Program, Department of English, FIU

This presentation examines the effects of the language mode (monolingual and code-switched utterances) of the English long-lag stops in the productions of sequential Spanish-English bilinguals. Questions examined include “Does the direction of the code-switch affect the increasing or decreasing of VOT values?” and “Are there within-language differences between VOT values in monolingual versus code-switched sentences?” Results indicate a beginning language effect. Findings also support the universal significance of the place of articulation in the amount of lag.

### ***Dual Language Use and Bilingual Development Studies of Children in South Florida***

Erika Hoff, Florida Atlantic University

This talk presents findings from a longitudinal study of children from Spanish-English bilingual homes and English monolingual homes in South Florida. Language use in the home and language development were measured at multiple time points between the ages of 22 and 48 months. The findings reveal the influence of the quantity and quality of language exposure on bilingual development and identify some of the factors that influence the quantity and quality of children’s language exposure.

### ***What Do Bilingual Infants Know about Agreement Morphology***

Ana C. Gouvea, Department of Communication Sciences and Disorders, FIU

This presentation investigates monolingual and bilingual language development focusing on infants' comprehension of morphosyntactic dependencies (the fact that certain words agree with certain endings: e.g., "el gato" but not "el gatos") in Spanish. The preliminary results suggest that 18- and 21-month-old infants, but not 15-month-old infants, prefer grammatical cases of morphosyntactic dependencies (el gato) than ungrammatical cases of the same dependencies (el gatos) in Spanish. These results suggest that monolingual Spanish and bilingual (Spanish/English) infants develop comprehension of these morphosyntactic dependencies at the same age as monolingual English infants.

### ***Impact of Pre-Kindergarten Educator Language on Children's Early Numeracy and Spatial Skills***

Shannon Pruden, Department of Psychology, FIU

Children's numeracy/spatial skills are predictive of success in careers related to Science, Technology, Engineering and Mathematics (STEM). Previous research suggests that the amount of numeracy and spatial language used in the home predicts pre-kindergartners' numeracy/spatial skills (Gunderson & Levine, 2011; Pruden, Levine & Huttenlocher, 2011). In this talk, Dr. Pruden will discuss ongoing work that seeks to understand the role of early educators' language use in the classroom on pre-kindergarten children's numeracy/spatial skills.

### ***Different Words for Different Worlds: Early Language Development in Mandarin and Cantonese***

Twila Tardif, University of Michigan

This talk will discuss how different language environments contribute to fundamental differences in early word learning. It presents evidence from a variety of methods on how the tendency to learn nouns vs. verbs in children's early vocabularies is shaped by both cultural and linguistic factors. It also presents experimental findings to suggest both extensions and limits of these findings for a broader set of cognitive processes.

### ***Origins of Language: From the Perspective of Aphasia***

Alfredo Ardila, Department of Communication Sciences and Disorders, FIU

This talk emphasizes that since the very beginning of aphasia history it has been well established that there are two major aphasic syndromes (Wernicke's-type and Broca's-type aphasia); each of them is related with the disturbance at a specific linguistic level (lexical/semantic and grammatical) and associated with a particular brain damage localization (temporal and frontal-subcortical). Further, it is proposed that three stages in language evolution could be distinguished: (a) Primitive communication systems similar to those observed in other animals, including non-human primates; (b) initial communication systems using sound combinations (lexicon) but without relationships among the elements (grammar); (c) advanced communication systems including word-combinations (grammar). It is proposed that grammar probably originated from the internal representation of actions, resulting in the creation of verbs. It is further suggested that grammar is the basic ability for the development of so-called metacognitive executive functions (such as abstracting, problem solving, temporality of behavior).

### ***Is there a Bilingual Advantage for Cognitive Processing in Relation to Executive Function?***

Virginia C. Mueller Gathercole, Linguistics Program, Department of English, FIU

This talk examines the purported bilingual advantage for executive function tasks, with evidence from children through adults from an established population of fully fluent bilinguals, in North Wales. Card sorting, Simon, and a metalinguistic judgment task reveal little support for a bilingual advantage. The lack of evidence for a bilingual advantage in these simultaneous and early sequential bilinguals suggests the need for much closer scrutiny of what type of bilingual might demonstrate the reported effects, under what conditions, and why.

## Speaker Information

**Alfredo Ardila** is a Professor in the Department of Communication Sciences and Disorders, FIU. He has worked on brain organization of language in normal and abnormal conditions, bilingualism and language evolution. He has recently published the paper “Evolution of Human Language: A Neurological Approach,” in *Advances in Neuroscience*.

**Anthony Steven Dick** is Assistant Professor of Psychology at FIU. He studies the neurobiology of language and executive function in the typically and atypically developing brain. He uses functional neuroimaging to map the specialized function of individual brain regions, the anatomical fiber pathways connecting the regions, and the functional interactions among the regions that implement behavior.

**Virginia Mueller Gathercole** is a Professor of Linguistics and Coordinator of the PhD in Linguistics at FIU. She has published extensively on children’s language acquisition, both in monolingual and in bilingual children, focusing especially on Spanish-English and Welsh-English bilinguals. She has recently edited two new volumes, *Issues in the Assessment of Bilinguals* and *Solutions for the Assessment of Bilinguals*, published by *Multilingual Matters*.

**Philip Gleason**, now retired, was employed for seven years at International Business Machines Corp., where he worked on speech synthesis. He has occasionally taught Computational Linguistics at FIU. At I.B.M. he originated or participated in five patents, including improvements to a Klatt type speech synthesizer, and an algorithm for the disambiguation of homographs in English. He also conducted studies to select voices for concatenative speech synthesis, and acoustic comparisons of speech synthesis products.

**Ana C. Gouvea** is an Assistant Professor and the director of the Infant Language Development Lab and Psycholinguistics Lab at the Communication Sciences and Disorders (CSD) department at FIU. Her research focuses on monolingual and bilingual language development, psycholinguistics, cognitive neuroscience of language and autism spectrum disorders. Her research on bilingual language development is funded by NICHD.

**Erika Hoff** is Professor of Psychology at Florida Atlantic University. She holds a Ph.D. from the University of Michigan. Dr. Hoff is the author of numerous scientific articles on the factors that shape children’s early language experience and the role of language experience in early monolingual and bilingual development. She is currently Principal Investigator on an NICHD-funded study of early bilingual development in children from Spanish-speaking homes. She is the author of the undergraduate text, *Language Development*, editor of *Research Methods in Child Language: A Practical Guide*, and co-editor of the *Blackwell Handbook of Language Development and Childhood Bilingualism: Research on Infancy through School Age*.

**Shannon Pruden** is an Assistant Professor in Developmental Science at FIU in Miami, Florida. Dr. Pruden’s primary research interests lie at the intersection between developmental psychology, cognitive science, linguistics, and education. Employing a variety of methodologies (e.g., eye-tracking and naturalistic, longitudinal studies of language utilizing novel, innovative language assessment software), and age groups (0-5 years), her research focuses on the development of early language abilities and the growth of children’s language, numeracy and spatial concepts, most recently examining how various cognitive, biological, and environmental factors influence their development.

**Twila Tardif** is a Professor of Psychology and Research Professor in the Center for Human Growth and Development at the University of Michigan. She is a developmental psychologist who does work on language acquisition and emotion regulation in young children, and she has done research on these topics in the United States, China, and Japan, focusing particularly on early word learning in English- and Mandarin-speaking children. Fluent in both Mandarin and Cantonese, she is an author of one book and more than 70 articles. In 2009 she was named a fellow of the American Psychological Society.

**Kemp Williams** is a Computational Linguist and Advisory Software Engineer at IBM in Herndon, Virginia. Dr. Williams was formerly a faculty member in the Linguistics program and in the English Department at FIU and did research and taught as a syntactician and cognitive linguist. He has been working since 2000 as a computational linguist, first with Primus Knowledge Solutions, then with Lockheed Martin and Language Analysis Systems, and currently with IBM, Inc., and has developed several patented systems related to computer language understanding and encoding.

**Mehmet Yavaş** is a Professor of Linguistics at FIU. His work focuses on applied phonology. His latest book, *Applied English Phonology* (Wiley-Blackwell), will have a third edition in 2014. Also forthcoming is his *Unusual Productions in Phonology: Universals and language-specific considerations* (Taylor & Francis).

## About the Barbara Gordon Memorial Lecture Series

The Barbara Gordon Memorial Lecture Series in Linguistics was established at FIU in 1984 by Senator Jack Gordon, former State Senator of Florida, in the memory of his first wife, Barbara



Gordon. Dr. Barbara Gordon received her BA in English and Psychology from the University of Wisconsin in 1948, her MA in Teaching English and Foreign Languages from Columbia University in 1949 and her EdD in Educational Linguistics from Columbia University in 1962. Her areas of specialization were Psycholinguistics, Applied Linguistics, Educational Linguistics, Conversational Interaction, and Ethnosemantics.

Each year, the FIU Linguistics Program and the Barbara Gordon Memorial Endowment bring a major figure in the discipline to campus for a public lecture and a special workshop for linguistics faculty and graduate students.

Recent speakers have included:

- Luna Filipović (U of East Anglia, UK)  
"Language in the Witness Stand: Forensic Linguistic Solutions for Cross-Linguistic Problems in Witness Interviews"
- Fred Genesee (McGill U)  
"Dual Language Learning: Expanding the Mind"
- Norma Mendoza-Denton (U of Arizona)  
"Citizen Rage: Town Hall Meetings and Constitutional Disagreement in American Politics"
- Lise Menn (U of Colorado)  
"Doing Cross-Linguistic Studies on Aphasia"
- Lesley Milroy (U of Michigan)  
"Bilingual Conversations: Code-Switching as Social Action"
- Salikoko S. Mufwene (U of Chicago)  
"Globalization, Colonization and Language Vitality"
- Geoffrey Nunberg (UC Berkeley)  
"The Paradox of Political Language"
- Shana Poplack (U of Ottawa)  
"Contact, Code-switching and (Resistance to) Convergence: The Case of Preposition Stranding in Quebec French"

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