

Navigating

a Global Environment

RESEARCH
IN LANGUAGE
& CULTURE



UNIVERSITY OF
MARYLAND



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“Our unique capabilities in language sciences and culture, combined with a location near government agencies and policy-makers that can benefit most from our talent, make Maryland one of the top universities anywhere in this critically important arena.”

—Wallace D. Loh, president,
University of Maryland

In today's globalized landscape

that is “flattened” by information technology, an understanding of languages and cultures outside of our own is imperative—particularly as it relates to U.S. national security, diplomacy and economic competitiveness.

The University of Maryland delivers a breadth of research, training and outreach that can assist students, businesses and government officials in navigating our modern world without borders. By integrating faculty from computational linguistics, psychology and political science with other experts both on and off campus, Maryland has established rich, interdisciplinary teams to advance language-related technologies, educate current and future language professionals, and inform and advise government agencies and private industry.



The Center for Advanced Study of Language, or CASL,

conducts rigorous research in language and cognition. Established in 2003 as a Department of Defense University-Affiliated Research Center, CASL uses multidisciplinary teams from the federal government, academia and the private sector on projects that include:

- developing new tools in language identification and mapping for Pashto, Bengali and Urdu, used widely in Afghanistan and Pakistan;
- assessing the level of competency and teaching models for government language experts by creating standards and metrics for less commonly taught languages;
- conducting research in divergent thinking to improve human analytical performance in interpreting texts and other source materials;
- producing machine translation tools and human training methods for interpreting the rapid increase in cyber-communications, such as text messages and blogs worldwide.

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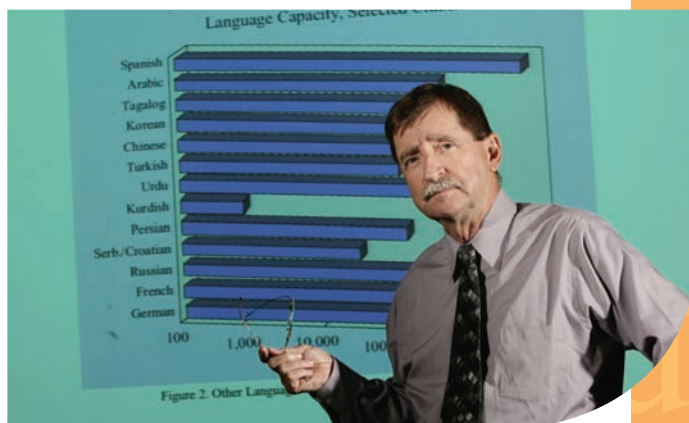
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STRATEGIC PARTNERSHIPS

DEPARTMENT OF DEFENSE
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DEPARTMENT OF HOMELAND SECURITY

www.casl.umd.edu



 **The National Foreign Language Center**, or **NFLC**, promotes a language-competent society through partnerships with government agencies, educational institutions, private businesses and others. The NFLC's portfolio includes:

- creating learning tools for federal agencies to train a significant number of people at a high proficiency level in crucial foreign languages;
- providing opportunities through its STARTALK program for teachers, as well as K–12 students, to study Arabic, Chinese, Dari, Hindi, Persian, Russian, Swahili, Turkish and Urdu;
- developing training programs for the Department of Defense that improve analytical critical-thinking skills used in intelligence matters.

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FEDERAL, STATE AND LOCAL GOVERNMENTS;
BUSINESS; INDUSTRY
K–12 EDUCATIONAL ORGANIZATIONS
U.S. INTELLIGENCE COMMUNITY



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www.nflc.org

 **The National Consortium for the Study of Terrorism and Responses to Terrorism**, or **START**, is committed to the scientific study of the human causes and consequences of terrorism. Established in 2005 as a U.S. Department of Homeland Security Center of Excellence, START is a leading resource for homeland security policymakers and practitioners. Projects include:

- modeling and simulating individual and group decision-making as it relates to the likelihood of using, or justifying the use of, terrorism;
- maintaining several detailed databases that apply advanced statistical methods in identifying trends and patterns related to radicalization, terrorist operations, counterterrorism and the impact of terrorism;
- using computerized text analytic tools for Farsi, Korean, Mandarin and Russian to assess possible behaviors, including personality traits, changes in intent through deception and other psychological responses.



www.start.umd.edu

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Two Language Flagship programs—in Arabic and in Persian—provide intensive language instruction that allows for a superior-level language proficiency and cultural competence. The Persian program is the only Language Flagship in the United States for this critical language.

Administered through the School of Languages, Literatures and Cultures, the programs offer undergraduate- and graduate-level certificates and degrees that employ an innovative, task-based curriculum, which asks students to do meaningful tasks—like calling customer service, making a doctor’s appointment or conducting an interview—using the target language. Students in the Persian program can study topics ranging from modern Iranian culture and politics to comparative international relations and translation. In the Arabic concentration, students can learn both Modern Standard Arabic and the Levantine dialect.

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www.languages.umd.edu



The Integrative Graduate Education and Research Traineeship, or IGERT,

is an interdisciplinary graduate program that spans the spectrum of language sciences, including cognitive, computational, neuroscientific and educational and clinical models.

Funded by the National Science Foundation, IGERT provides two-year fellowships that allow graduate students and research faculty to conduct innovative research that would be impossible within an individual department. Projects include:

- using computational modeling and other tools to study how humans learn language, from infants to older adults learning a second language;
- studying the relationship between perception and action by investigating the cognitive links between doing and observing, speaking and hearing.

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www.languagescience.umd.edu



Psychologist Michelle Gelfand is principal investigator of a **Multi University Research Initiative**, or **MURI**, award that focuses on cultural influences in the Middle East related to conflict, collaboration and negotiation.

One research thrust explores human behavior involving honor, shame, faith, connections and communication, and how these focal concerns vary among demographic and regional groups. The MURI team includes experts in anthropology, behavioral economics, communication, computer science, psychology and political science.

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www.muriculture.com



The Computational Linguistics and Information Processing, or **CLIP**, lab designs algorithms and builds systems that allow computers to effectively and efficiently perform human language-related tasks that involve speech recognition, handwriting and optical character recognition and multilingual text processing.

CLIP is one of the world's premier laboratories engaged in machine translation research, and is exploring other topics that include:

- computational social science, which leverages the capacity to collect and analyze data at a scale that can reveal patterns of individual and group behaviors;
- cross-language information retrieval, using machine translation and information retrieval techniques to find and use information written in languages not familiar to the user.

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<https://wiki.umiacs.umd.edu/clip>





The Laboratory for Computational Cultural Dynamics

uses data mining and other methods to develop behavioral models of terror groups, tribes and socio-cultural-political entities. The research joins computer and social scientists with policymakers to develop useful tools, including interactive simulations that can train the U.S. military to operate more safely in foreign environments.

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DEFENSE ADVANCED RESEARCH PROJECTS AGENCY



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www.umiacs.umd.edu/research/LCCD



In the university's College of Information Studies, Maryland's iSchool, research in the **Human-Computer Interaction Lab** and the **Cloud Computing Center** joins computer scientists and information specialists on projects that include:

- studying social media use to better understand the interaction between online communities and also determine online trust and information assurance;
- exploiting large-scale "cloud computing" methods that can reflect latent aspects of communication such as topic, part of speech, syntax or sentiment.

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