

SMITH INSTITUTE

FOR APPLIED RESEARCH

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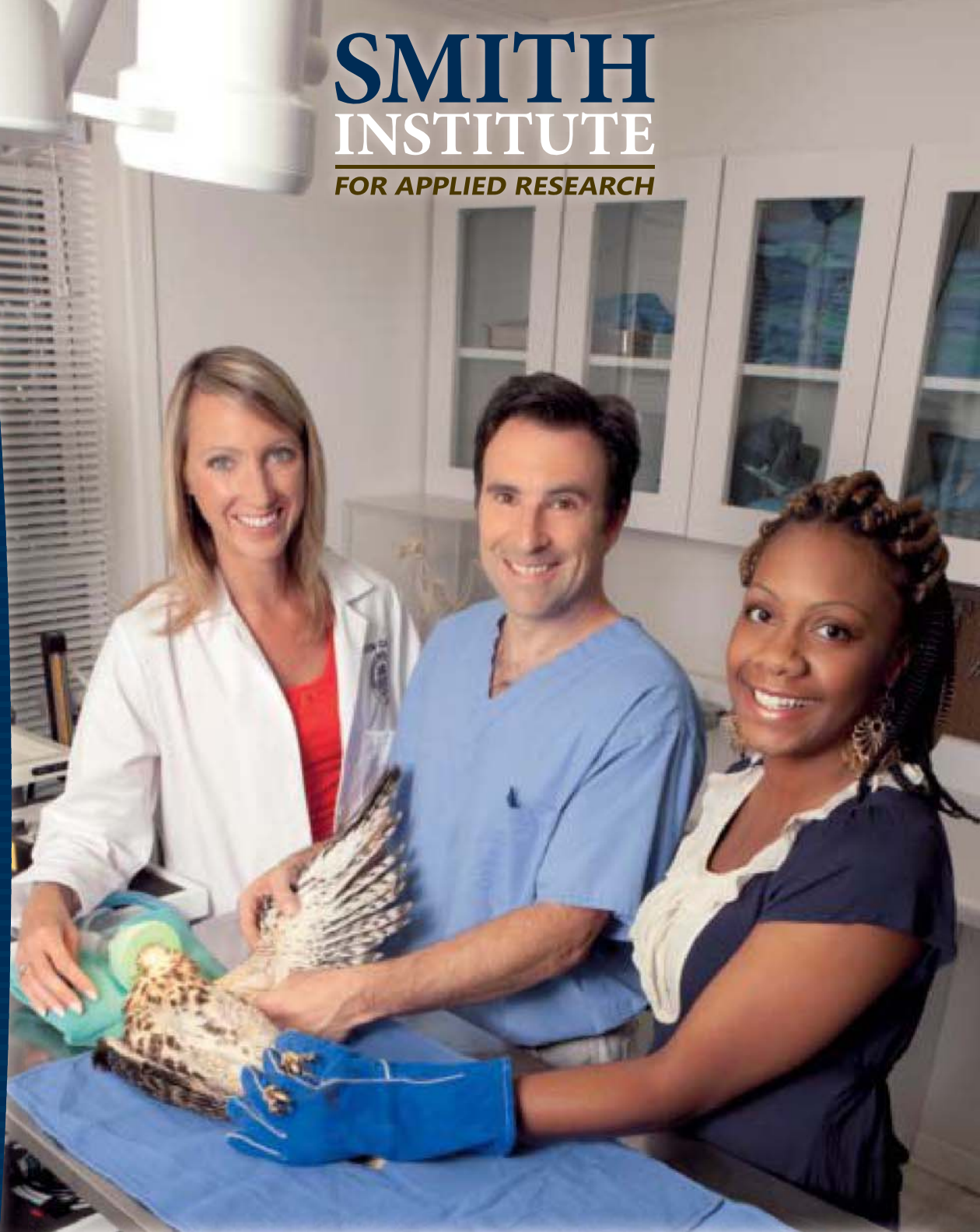
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**Volume One
Number One
Fall 2010**



*Engaging and Empowering
Students, Faculty, and Our Communities*

**Solving Problems
for a Better World**

JOHNSON C. SMITH UNIVERSITY
CHARLOTTE'S PREMIER INDEPENDENT URBAN UNIVERSITY

Smith Institute for Applied Research is Dedicated to:

- *A Vision of undergraduate students, invigorated through applied research experiences, mastering academic excellence to become leaders and problem solvers in the intellectual space and workplace of tomorrow.*
- *A Track Record for awarding pilot funding university-wide, to establish and execute meaningful exploratory research, citations in scholarly publications, and continuing grant support from public funders.*
- *A Mission addressing advances, methods, and new trends in applied research, through faculty and student engagement, aligned with local, national, and international initiatives.*

Collaboration with external partners enhances realization of Smith Institute's direction. These new partners include:

- The Urban Land Institute (ULI), providing leadership in responsible land use for creating and sustaining thriving communities worldwide. Johnson C. Smith works with ULI toward revitalization of Charlotte's Northwest Corridor. Additional collaborators are the City of Charlotte, Johnson & Wales University, Charlotte Center City Partners, Bank of America, and the Urban Land Institute Foundation.
- Santa Fe Institute (SFI), a private, independent, non-profit research center, that engages some of science's greatest intellects in finding creative ways to solve the most compelling problems of our time. SFI nurtures a unique research community; one that freely synthesizes ideas spanning many fields – from math and physics to the social sciences and the humanities. By understanding the theoretical foundations of economic instability, conflict, climate change, ecological well-being, and the human condition, SFI researchers pursue insights that can improve the world. On behalf of SFI, Ginger Richardson, Vice President for Education and Institutional Outreach, brings the Institute's transdisciplinary perspective to the overall development of Smith Institute's applied research agenda.
- National Center for Ecological Analysis and Synthesis (NCEAS) scientists use existing information and computational methods to address important questions in ecology and allied disciplines. At NCEAS, scientists conduct collaborative research on major fundamental and applied problems in ecology. Collaborating partners include Stephanie E. Hampton, Ph.D., Deputy Director, NCEAS, and Mark Schildhauer, Ph.D., Director of Computing.



New Modeling and Simulations (MACMAS) Lab Now Open

Smith Institute opened the Multidisciplinary Applied Computational Modeling and Simulations (MACMAS) Lab to provide students, faculty, and community affiliates with opportunities and experiences utilizing cutting-edge computational methods for building models and simulations that represent or ask “significant research questions.” *Shiflet and Shiflet, 2006.*

(L-r) Magdy Attia, Ph.D., JCSU student, Terrell Devone, Hang Chen, Ph.D., Ms. Keisha Talbot, Ms. Constance Van Brunt, Diane Bowles, Ph.D.



Ronald Carter, Ph.D.

I am excited to share these dynamic and engaging articles from Johnson C. Smith University's Smith Institute for Applied Research.

As Charlotte's premier, independent, urban university, JCSU is on the cutting edge in providing applied research experiences for undergraduates. Led by our expert faculty and key external collaborators, we are equipping our students to become problem-solvers and leaders in academia, in our communities, and in the workplace of tomorrow.

Housed at the vortex of Center City Charlotte, NC, Smith Institute's Centers of Excellence form a hub for applied research in Homeland Security-STEM (Science, Technology, Engineering, and Mathematics); Global Education; Minority Health, Lifestyle, Culture, and Wellness; and in Diversity, Workforce and Small Business Development.

Smith Institute offers diverse opportunities for meaningful interaction through applied research. Whether you are a potential student; an academic with developed applied research interests; civic agency; faith-based organization; or small business exploring and seeking answers for the penetrating problems of our time, I invite you to engage with us.

*Ronald Carter, Ph.D.
President, Johnson C. Smith University*



Diane Bowles, Ph.D.

Leading the development of Smith Institute for Applied Research is rewarding.

In just two short years, our Institute has had a significant impact, providing pilot study funding that astute faculty leverage to produce grant support from key federal agencies, as well as from the United States Congress.

From my perspective, working to implement the University's vision has provided many excellent opportunities to grow a culture of applied undergraduate research within Johnson C. Smith and in the external academic community as well. Johnson C. Smith is moving swiftly to a position of leadership and recognition for our dedication, expertise, and innovation in undergraduate research. The Faculty Liaisons for the four Smith Institute Centers of Excellence have produced outstanding, highly creditable results. Our JCSU students have literally travelled worldwide to varied applied research venues. And as we enter our third and fourth years of activity, renowned, leading-edge research institutions are collaborating on behalf of our students.

As the world continues to explore environmental change, the evolution of technology, health, wellness, and societal needs such as employment, it is our hope that Smith Institute for Applied Research and its Centers of Excellence will nurture students who can lead by forging valid and reliable solutions; undergraduates who will matriculate to graduate level applied research and become leaders who solve problems in the workplace of our communities, cities, and nation.

*Diane Bowles, Ph.D.
Director, Smith Institute for Applied Research
Vice President, Government Sponsored Programs
and Title III Director*

Impact of Smith Institute for Applied Research *Supported and Strengthened through Exploratory Research*

The Center of Excellence in Diversity, Workforce and Small Business Development

The Center of Excellence in Diversity, Workforce and Small Business Development addresses objectives identified through a seminal exploratory assessment conducted in 2008-2009. JCSU President Ronald Carter and Smith Institute Director Dr. Diane Bowles commissioned Afina Solutions Alliance, Inc. to conduct focused inquiry and analysis of the perspectives, core values, and predicted response to the Vision of Johnson C. Smith as “*Charlotte’s Premier Independent Urban University.*” This comprehensive exploratory assessment involved internal and external stakeholders in discussions, focus groups, and surveys that identified key baseline data for future development of the Vision.

Stated as objectives, the Afina findings included: the need to balance the rich legacy and tradition of JCSU with the dynamics of the Vision for the future; the need to link Diversity with Workforce Development, in an applied context; the need to build and bridge new, critical relationships with local, regional, national, and international communities; and the need to design and develop the necessary infrastructure, leadership, and culture to support transforming the Vision to a new reality. The following articles illustrate the strength of the original exploratory findings, as well as the veracity of the Vision for Johnson C. Smith as “*Charlotte’s Premier Independent Urban University.*”

The Center of Excellence in Diversity, Workforce and Small Business Development

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| ■ JCSU President Ronald Carter: Igniting Voice for the Soul of Charlotte’s Northwest Corridor | featured on page 15 |
| ■ Heritage of Applied Archival Research | featured on page 19 |
| ■ Urban Research Group (URG) Distinguished Tradition for Community-based Action Research | featured on page 17 |
| ■ Opportunities for Applied Policy Research | featured on page 18 |
| ■ New Paths through the Corridor: Building a Bridge for Applied Visual and Performing Arts | featured on page 18 |



“We are often called upon to answer this question: What is applied research? This is what we say in response: ‘That is a good question. There are several valid definitions for applied research. However, each shares a transdisciplinary focus on solving problems that exist in the real world.’

We take great pride in the theoretical debates stimulated by our name: Smith Institute for Applied Research.”

-Diane Bowles, Ph.D.

Antonia Mead, Ph.D.



The Center of Excellence in Minority Health, Lifestyle, Culture, and Wellness

This Center has enriched more than 100 JCSU students, who have produced numerous public service health campaigns, attended lectures, and engaged in participant observer research. Pilot grant projects awarded to JCSU faculty support these research activities:

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| ■ The Original Seat of Activism: the Black Church and Minority Health | featured on page 5 |
| ■ HIV/AIDS Communications and the Black Church | featured on page 5 |
| ■ Theatre in Action: Measuring Awareness of Domestic Violence | featured on page 17 |
| ■ Concept Mapping: Applied Method Builds Consensus for Community Health | featured on page 19 |



Magdy Attia, Ph.D.

The Center of Excellence in Homeland Security-STEM (Science, Technology, Engineering, and Mathematics)

This Center addresses Emergency Management and Preparedness; has developed more than five papers submitted for peer review; 16 student presentations, and \$20,000 in pilot funding awarded by the Smith Institute, which faculty have leveraged into over \$450,000 in major agency grant support.

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| ■ Homeland Security-STEM: Fostering a Stronger Community, a Safer Nation, a Better World | featured on page 7 |
| ■ When Disaster Strikes: Student Researchers Prepared for Management Response | featured on page 11 |
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Adelheid Eubanks, Ph.D.



The Center of Excellence in Global Education

This Center has awarded 19 students more than \$15,000 in funding toward applied research while studying abroad in Israel, Egypt, and Italy, since 2009. Global Education initiatives are featured in the selections below:

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| ■ The JCSU Passport Initiative: Everyone Must Go! | featured on page 13 |
| ■ Applied Research on a Global Scale | featured on page 14 |
| ■ A Photo Journal of Global Education Activities and Excursions | featured on page 13 |

A Call to Action - Change Starts with One

Minority Health, Wellness Ministry, and Action Research in the Black Community

JCSU President Ronald Carter's deep conviction is that research undertaken by faculty and students should be grounded in ACTION; solving problems that will make life better at the community, regional, national, or international level.

Dr. Antonia Mead, Faculty Liaison for Smith Institute's Center of Excellence in Minority Health, Lifestyle, Culture, and Wellness, exemplifies this direction. She cultivates collaboration in long-established seats of action in Charlotte's black community: the black Church and the Mecklenburg County Department of Health.

Dr. Mead challenges her students to consider the significant role the church played in assembling activists and organizers; launching and sustaining the Civil Rights Movement. She notes that today's health crisis, throughout varied socioeconomic levels in African-American communities creates a parallel moment. The hypothesis: "The church has a voice in health concerns," Dr. Mead states, "[Churchgoers] will listen to their pastors before they listen to their doctors."

Dr. Mead's students are often participant observers in health and wellness events sponsored by Mecklenburg County Health Department, JCSU, and several local African American congregations. These activities include participating in community walks, screenings, and preconception training, as well as serving in a church soup kitchen. Mead is passionate about equipping her students to educate others on healthy, preventative lifestyles. Her motto and the mantra with which she charges her students is "Change starts with one!"

"This is a way of thinking and researching that must move beyond 'book-sense,' and out into every aspect of community life," she asserts.

Many traditional African-American health campaigns focus on the adult aged 25+ population; however, Dr. Mead's students target young adults, aged 18-24. Her students created 60-second video public service announcements, brochures, and fact sheets. One brochure, *Count Your Blessings*, shares vital health statistics in a church-related context. Students were assigned to develop messages around selected health indices: blood pressure, cholesterol, blood glucose, waist circumference, or body mass index.

Dr. Mead concentrates on college-aged adults, because they are "the next generation of workers and leaders, and they are not focused on primary prevention," she explains. Having faced several health challenges since childhood, Dr. Mead is resolute about the need for her work in applied research. She speaks quietly, but with steely resolve, "I get it. I see it. It drives me."

Moreover, Dr. Mead knows that her work is making a difference for the next generation of researchers, community advocates, and church leaders, explaining "Change starts with one. I'm one person that can make a difference."

HIV/AIDS Communication and the Black Church

What Really Works?

Supporting exploratory research conducted by JCSU faculty is a preeminent Smith Institute goal. Therefore, Dr. Dakysha Moore's proposal for exploring HIV/AIDS communication strategies among church leaders in predominately African-American congregations in North Carolina gained immediate traction. News coverage of an apparent schism in communications on HIV/AIDS among Black religious leaders dominated national and local Charlotte media.*

Dr. Moore recalls questioning what could possibly hold the black church back. A traditional sounding board

for issues of social need in the community was strangely silent about the AIDS epidemic, especially given the highly disproportionate impact on populations of color. Dr. Moore interviewed seven church leaders about disseminating information on HIV/AIDS. Her exploratory research not only generated useful data; it also "got people talking about HIV/AIDS," helping breakdown an apparent stigma.

"I think once you get data from exploratory studies [like this one], we can decide what really works," Dr. Moore says.

**Black Churches Confront HIV-AIDS Crisis, CBS Evening News, Charlotte, NC, August 17, 2008.*

*“Change starts with one.
I’m one person that
can make a difference.”*

- Antonia Mead, Ph.D.

*(L-r) Ms. Domonique Brown,
Dr. Antonia Mead,
Chaplain Harry Burns,
Bishop Wade Ferguson, III,
and Ms. Cheryl Emanuel teamed
up to activate health awareness
and have left a health-conscious
imprint on the church-going
community, pictured here in
JCSU’s Jane M. Smith
Memorial Church.*



Applied Undergraduate Research: Homeland Security - STEM

A Stronger Community, a Safer Nation, a Better World

Dr. Magdy Attia is the Chair of the Council of Deans and Dean of the STEM College. He serves as Faculty Liaison for the Center of Excellence in Homeland Security-STEM and is establishing the Undergraduate Research Center for Electronics and Cyber Security. Dr. Attia received Congressionally Directed grant support for this newest research effort. His Center of Excellence recently received more than \$750,000 in federally funded awards. The Center's faculty includes research specialists who emphasize Homeland Security through a variety of undergraduate research experiences. Specific applied research projects are conducted in robotics, sensor networks, voice and image recognition, and emergency management and preparedness. The Center's faculty also has active research projects in food pollution related to Homeland Security, and emerging problems in parasitology following an attack or natural disaster. In collaboration with Jackson State University, JCSU's faculty and students conduct research that can strengthen communications networks. Recently, Dr. Attia received Congressionally Directed funding of nearly \$400,000 to establish an undergraduate research center for Electronic and Cyber Security.

"The students are excited," Dr. Attia exclaims. "National Security is an important issue, locally and throughout the nation. JCSU students are prepared to become problem-solvers

and leaders in this field. They are passionate about this area of applied research. Our students are aligned for research leadership with national security agencies, including the CIA, FBI, and the US Department of Homeland Security. This is very important," Dr. Attia asserts, adding "I am glad to report that one of JCSU's graduates this year has been hired by the FBI."

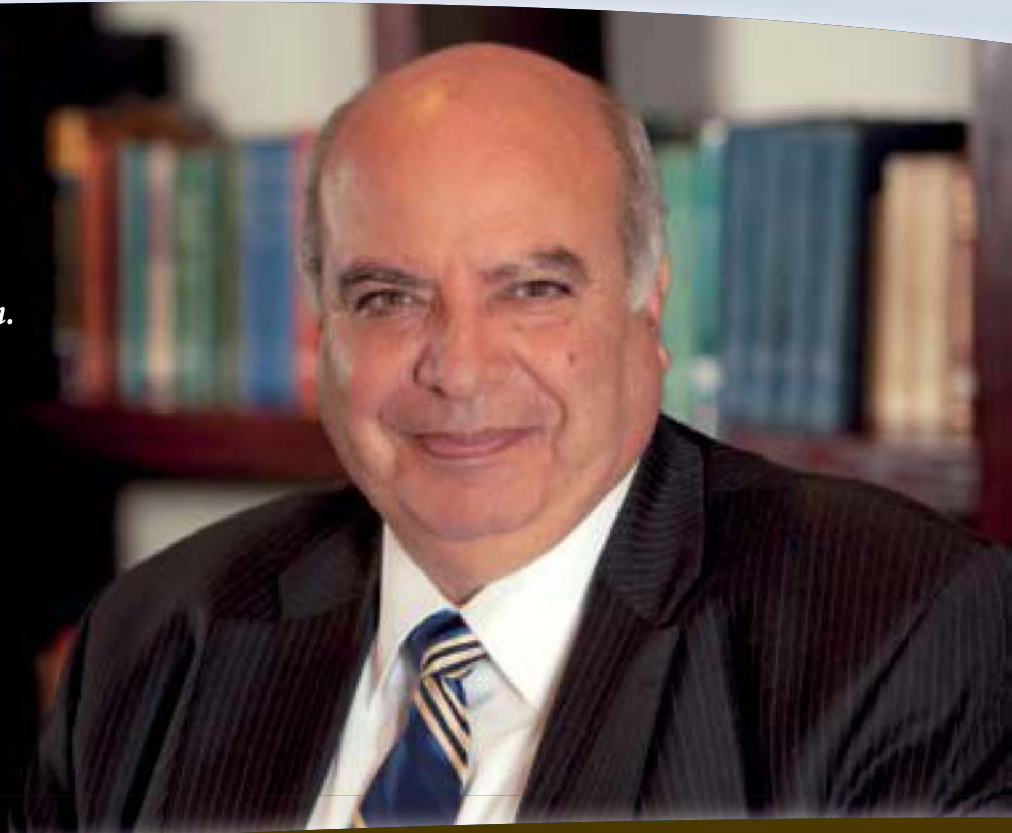
The Congressionally Directed funding will allow Smith Institute to implement community awareness and informational programming. The funding will also support the establishment of a model Electronic and Cyber Security Laboratory which will address Internet security, computer forensics, computer hacking, robotic applications, voice recognition, as well as image restoration and enhancement technologies.

The Congressionally Directed award will help establish a summer internship camp in Electronics and Cyber Security, as well as specialized research opportunities during the academic year. The Center will invite experts from federal and state agencies to collaborate with JCSU faculty as fellows, and develop a minor in Electronics and Cyber Security for JCSU students. The fellows will assure the Center addresses emerging trends in Cyber Security while increasing community awareness of this domain.

"National Security is an important issue locally and throughout the nation. JCSU students are prepared to become problem-solvers and leaders.

I am glad to report that one of our graduates this year has been hired by the FBI."

-Magdy Attia, Ph.D.



*“I am so proud of the faculty and students in this group.
The whole objective is to prepare the pipeline, the student
pipeline, for meeting national needs in Homeland Security,
Science, Technology, Engineering and Mathematics.”*

-Magdy Attia, Ph.D.



*(L-r) Dr. Alexa Rosypal, Dr. Hang Chen,
Dr. Magdy Attia, Dr. Ying Bai,
and Dr. Lijuan Cao, Dr. Stacie Davis
(not pictured), and Dr. Soumia Ichoua
(not pictured), provide Homeland
Security-STEM students with applied
research opportunities.*

“My feeling is that if you don’t end up with more questions by the end of your research, then you didn’t do it right. I’m sure [that] by the end of this project, we will have more questions to address in the future.”

-Alexa Rosypal, Ph.D.



(L-r) Dr. Alexa Rosypal mentors JCSU students, Samantha Lewis and Shanesha Tripp, in studying parasites. These student interns, along with JCSU students Roderick Hill, and Joy Francis, are co-authors on two of Dr. Rosypal's papers, accepted for publication in the Journal of Parasitology (in press).

When Disaster Strikes

Many Species, One Planet

Predictive Correlation

Excitement and pride ring in the voice of Dr. Alexa Rosypal, as she describes the accomplishments of JCSU students conducting applied research in parasitology. Her specialty is veterinary parasitology, and with her students, she studies organisms that infect both humans and animals. Through performing epidemiological and serological studies of parasitic diseases in dogs, Dr. Rosypal and her students make projections about human infection levels in the same geographic locale.

Dr. Rosypal concentrates on leishmaniasis and Chagas disease, both potentially fatal diseases transmitted by insects. Chagas disease is endemic in the United States, primarily in wildlife and domesticated animals such as dogs. According to Dr. Rosypal, “We only had six cases in humans acquiring that disease by the insect vector here in the United States, but after Hurricane Katrina hit there was a woman diagnosed with it in Louisiana.” Louisiana’s change in ecology coupled with residents living in subpar housing has translated into a higher exposure rate to the insect, a far-reaching implication, which speaks to the timeliness of Dr. Rosypal’s work.

Meaningful Summer Research Internships

Rapidly identifying such diseases in animals is a high priority, following a natural disaster due to the predictive correlation with humans. Rosypal’s students conducted antibody testing on domestic dogs and wild canine species including foxes, coyotes, and wolves from different parts of the country. During the summer of 2010, the student researchers found antibodies to leishmaniasis in a gray fox from North Carolina. Though the disease is endemic in domestic dogs in the United States, this was the first time it has been detected in any wild canine species in the USA. The summer research internship also included validation studies for a new, rapid test for identifying parasitic disease. Funding for this high priority research was initiated by Smith Institute and is now funded through the Department of Homeland Security and HBCU UP, which supports undergraduate research at historically black colleges and universities. The traditional test, utilized by the Centers for Disease Control is complicated and takes several hours to complete. However, Dr. Rosypal explains, the new rapid test is similar to a home pregnancy test in its ease of use and clarity. It takes only ten minutes.

“If it is faster... gives the same results, and is less expensive, then it’s a more useful test,” she says.

JCSU students, Samantha Lewis and Shanesha Tripp, garnered internships with Dr. Rosypal, and became so interested in parasitology that they plan to pursue it in graduate school. Through their research internships with Dr. Rosypal, they have already co-authored two papers accepted for publication in the *Journal of Parasitology*. This outstanding accomplishment for undergraduate researchers also provides a competitive edge for graduate school admission, scholarships, and fellowship success. From looking at antibody levels in wild dogs, and testing a rapid immunochromatographic dipstick test, Dr. Rosypal and her students are moving to new investigations with the North Carolina Raptor Center, nationally recognized for its work with birds of prey.

As for Dr. Rosypal’s future research plans she says, “My feeling is that if you don’t end up with more questions by the end of your research, then you didn’t do it right. I’m sure [that] by the end of this project, we will have more questions to address in the future.”

Considering the impact that Dr. Rosypal and her students have had thus far, great things are certain to come.

*Mattie the Great Horned Owl,
Bubo virginianus
North Carolina Raptor Center*





Hang Chen, Ph.D., Chair of Computer Science and Engineering, advocates hands-on problem solving designs that incorporate today's undergraduate implements, such as social networking.

(L-r) JCSU student, Marcus Stewart and Dr. Hang Chen discuss Robotics and use technology in the classroom. In the background: students Michael D. Nalls, Jr., Corey Jenkins, Jr., Reginald Rashad Gordon, Timothy Prince, Jr., and Taison Williams.

When Disaster Strikes: Students Research Preparedness, Responsiveness, and Logistics

Dr. Soumia Ichoua's research is timely. The United States memorialized the fifth anniversary of Hurricane Katrina; the hemisphere is emerging from the aftermath of the Haitian earthquake; and a man-made disaster wrought profound damage on the Gulf Coast. In each case, the design, operation, and responsiveness of effective relief distribution networks present issues of paramount importance. Managing these challenges is the focus of Dr. Ichoua's research.

Two Critical Phases

Disaster Preparedness, the first phase of Ichoua's disaster management design, involves strategic identification of where supplies will be warehoused and the projected quantities that may be needed. Distribution logistics, not anticipated prior to either Hurricane Katrina or the Haitian earthquake, multiplied the impact of the event.

The second phase of disaster management is Disaster Responsiveness. Dr. Ichoua says creating the humanitarian aid supply chain requires alternative models. As evidenced in Port-Au-Prince after the earthquake, the supplies were present, the people to help were present, but the pressing question became how to deploy the resources to meet high stakes, often life and death needs, in a responsive manner.

Dr. Ichoua offers exciting applied research possibilities for her students. A mathematics major built a model for predicting and identifying optimal distribution and warehousing of critical supplies in case of a Charlotte-Mecklenburg disaster event. Other students in computer science utilize the mathematical model to create algorithms that optimize sequencing of routing distribution. Through working with Dr. Ichoua, JCSU undergraduates gain the skills and experience to solve problems as leaders, when disaster strikes.

When Disaster Strikes: **Sensor Networks Can Save Lives**

Smith Institute strives to provide JCSU faculty and students grant support in cutting-edge problem solving, addressing the pressing issues of our day. Dr. Diane Bowles, Director of Smith Institute, is deeply committed to the Institute's role, and was therefore especially pleased to provide a pilot grant for research conducted by Hang Chen, Ph.D., Chairperson of the Department of Computer Science and Engineering and junior faculty, Lijuan Cao, Ph.D. This research was also supported by Department of Homeland Security Center of Excellence for Natural Disasters, Coastal Infrastructure and Emergency Management (NDCIEM) project at JCSU led by Dr. Magdy Attia. Students involved in this critical research quickly learn that sensor networks can save lives and fortify disaster management.

In Drs. Chen and Cao's projects, sensors are utilized to detect environmental changes. Humidity sensors and light intensity sensors are utilized to form a network of information gathering and signaling devices that sound alarms as conditions deteriorate. Sensor networks can be applied in all kinds of emergency situations—including man-made and natural disasters.

"This year, we are working on the possible applications in oceanographic data collection, pollution monitoring, disaster prevention, and tactical surveillance," Dr. Chen explains.

The students also develop models that combine robots with the sensors, to gather photographic images. If people cannot go to the problem, then robots can be dispatched to relieve the emergency. JCSU student researchers working with the project have the opportunity to engage in research, leading to graduate study and career opportunities, including conference presentations and co-authoring papers. They also have the advantage of engaging in hands-on research, finding real-world solutions that save lives and increase national security. For instance, one aspect of the sensor network research addresses the vulnerability wireless sensor networks experience, because they can be readily jammed. Throughout the summer of 2010, JCSU students conducted research on preventing possible jamming between the sensors and laptops.

"This is the big picture," Dr. Cao says. "We are trying to build and secure a Wireless Sensor Network System."

When Disaster Strikes: **Student Achievement through Robotics Research**

Achieving high levels of student mastery and competency, while creating problem-solvers and leaders, are Smith Institute goals. This theme of educating high achieving student activists is exemplified by the work of Dr. Ying Bai, a widely published author, educator, and industry standard-setter in robot calibration.

Dr. Bai is equally fascinated by dreams of high accuracy robot calibration and nurturing high level student mastery of the often abstract mathematics and engineering required for successful robotics careers and graduate study.

After arriving at JCSU in 2001, Dr. Bai built the Robotics Lab, where his students utilize sophisticated robots and conduct hands-on research.

"Students need some real stuff. They need hands-on experiences," Dr. Bai posits, reflecting on the new robots he purchased through receiving nearly \$470,000 in Department of Defense awards.

Dr. Bai hopes to establish a robotics intelligence control center that may benefit the Department of Homeland Security. He is also developing coursework that includes a robotics education curriculum, designed to enhance minority undergraduate success in computer science. With eight professional book titles to his credit, including a Russian translation; numerous peer-reviewed papers, and students who avidly pursue his courses and robotics lab, Dr. Bai's hopes appear well on the way to realization.

Issues without Borders

The Center of Excellence in Global Education

Far-Reaching Implications

Dr. Adelheid Eubanks directs student-level research with literally far-reaching implications. Through the Center of Excellence in Global Education, JCSU students are travelling and conducting applied research in natural settings around the world.

The agenda for the Center of Excellence in Global Education is ambitious. Faculty Liaison Eubanks, President Ronald Carter, and Congressman Mel Watt launched the Passport Initiative in 2008, inviting every Johnson C. Smith University student to take the first step toward becoming an active global citizen by obtaining an official passport. JCSU offers the opportunity through the United States Post Office, which operates an on-campus booth where students may submit their passport applications.

The JCSU Passport Initiative: Everyone Must Go!

A campus-wide *Passport to the World Festival* launches the campaign annually, featuring tastes of culture, including cuisine, costumes, dance, music, literature, and pageantry with a worldwide scope. Students, faculty, JCSU administration, and Charlotte residents from varied national heritages enjoy participating in the Passport to the World fest on the JCSU Quad. From there, the Center of Excellence in Global Education takes off. “One of my top priorities is obtaining grant funding that allows our JCSU students to travel and conduct applied research on site in various global settings, beyond our domestic borders,” explains Smith Institute Director, Dr. Diane Bowles.

Creating Global Citizens

The Passport Initiative supports JCSU President Ronald Carter’s goal of educating global citizens who gain an intimate understanding of the many issues and questions stretching well beyond national boundaries. President Carter would like to send every JCSU student abroad to study at some point in their undergraduate education. A widely travelled speaker of 13 languages, Dr. Eubanks comments that data on African-American students studying abroad, when compared with all others, paint an abysmal picture: roughly 300,000 college students studied abroad in 2008, but only about four percent were African-American. “Global citizens do not arise from armchair research,” Dr. Eubanks asserts as she gestures to the large photographs of JCSU students in Rome that decorate her office walls. “Our first goal is to empower our JCSU students as global citizens.” Dr. Eubanks adds that she takes great joy in JCSU’s newly approved Global Studies Minor.

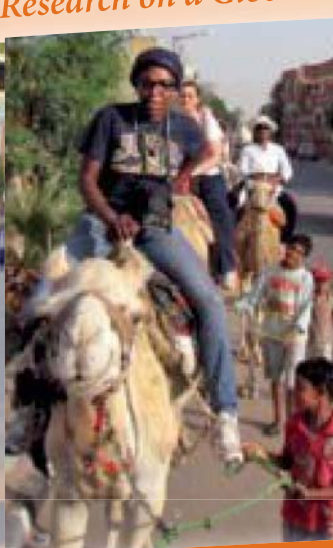
Global Thinking Starts Early

Dr. Eubanks also advocates extending global thinking to students early in their academic lives, making it easier and more natural to produce the appropriate frame of mind. Therefore, in partnership with the National Center for Global Engagement, based in Atlanta, she places JCSU student mentors at local high schools to collaborate in “globalizing” the curriculum. Identifying applied research questions that cross borders and have far-reaching, worldwide implications cannot begin too soon, in her view. Dr. Eubanks challenges

Photo Journal – Applied Research on a Global Scale



JCSU Passport to the World Festival



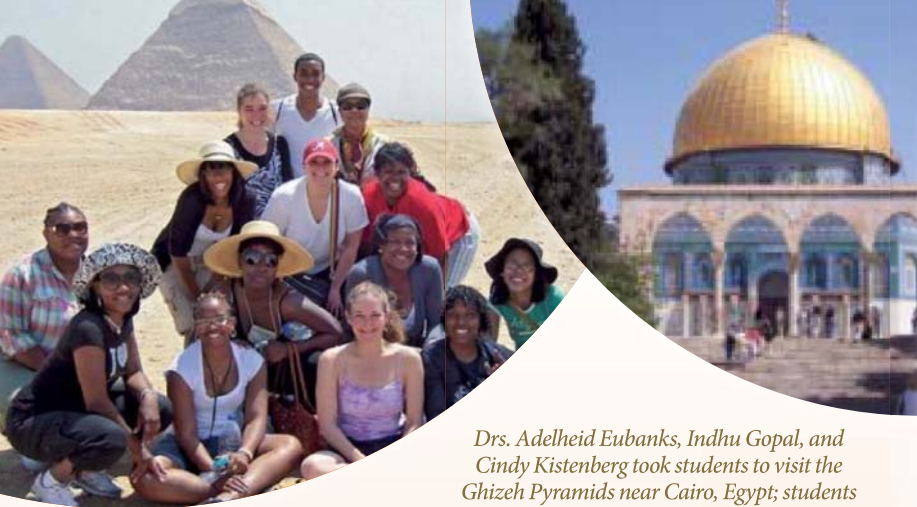
Camel Ride in Egypt



JCSU Passport to the World Festival



Trevi Fountain in Rome, Italy



Drs. Adelheid Eubanks, Indhu Gopal, and Cindy Kistenberg took students to visit the Ghizeh Pyramids near Cairo, Egypt; students also visited the Dome of the Rock, Jerusalem.

her students to move beyond national borders and explore the world outside. With cohorts of JCSU student researchers, she has traveled to Rome, Israel, and Egypt. Evidently, JCSU alumni are also ardent supporters of global citizen scholars, because in some instances, alumni personally provided funding to supplement student travel scholarships.

Linguistic Diversity Required

Next year's applied research sojourns are scheduled for Puerto Rico and Senegal. JCSU students will experience first-hand the benefits of linguistic virtuosity, as the faculty leading the field research expedition, Drs. Eubanks, Kirsten Hemmy, and Aman Nadhiri, are respectively fluent in French, Wolof, and Arabic. Fluency in more than one language is an additional requirement for global citizens. With the added dimension of in-depth linguistic understanding, JCSU's undergraduate applied researchers can anticipate rich applied global learning experiences.

Applied Research on a Global Scale

Smith Institute supports applied research through service learning and field study. JCSU students may participate in global service learning for credit toward the University's graduation requirements. The 2011 Global Learning opportunities include service learning and field study in West Africa, and field study in the Caribbean.

West African History, Politics, Art, and Culture, will be led by Dr. Aman Nadhiri. *Field Studies in a French-Speaking Country* will be led by Dr. Adelheid Eubanks. Dr. Kirsten Hemmy will lead internships in a Senegalese development agency providing unparalleled opportunities for participant observer research on community characteristics, development strategies, and cross-cultural communications. Dr. Hemmy will also conduct a special topics seminar on *Post-Colonialism in West African Literature and Film*.

In Puerto Rico, JCSU students will engage in hands-on research applying the basic principles of forest ecology, collecting samples from a keystone tree, found in Puerto Rico's dry forest. Dr. Alex Sloan, of the University of Puerto Rico-Bayamón and JCSU faculty, Dr. Joseph Fail, will lead *Native Forestry of Puerto Rico*.



JCSU Passport to the World Festival



JCSU Passport to the World Festival



Karnak Temple in Luxor, Egypt



A Voice Capturing and Igniting the Soul of the Northwest Corridor

President Ronald L. Carter utilizes the reasoned tone and powerful implements of applied research, harmonized with grounded data and analysis, creating a new voice for the Soul of Charlotte's Northwest Corridor. This voice resonates with themes of equity and opportunity for economic development.

"We've struggled to enhance opportunity for the residents of our Corridor for years," explains attorney and longtime Charlotte activist, Charles Jones. "Now we are so excited that President Carter has come, and brought along some powerful new allies and sophisticated methods for realizing our dreams!"

Under Carter's direction, JCSU has "emerged as a guiding force in [Northwest Corridor] revitalization," according to Kerry Singe, reporting for the *Charlotte Observer*.*

President Carter has engaged two research consortia, to assure validity and reliability throughout JCSU's direction. One collaborator, Senior Research Fellow Katherine Loflin, Ph.D., is tailoring the Gallup Organization's national Soul of the Community initiative, through the lens of Charlotte's Northwest Corridor residents. Her work will test Gallup's emergent theory on attachment to place as a key variable influencing positive outcome for the Corridor's redevelopment. Dr. Loflin is working with the Gallup Organization, the Knight Foundation, Smith Institute and JCSU's Center for Applied Leadership and Community Development.

Another collaborative launched when JCSU hosted the Washington DC based Urban Land Institute (ULI) for an on-campus symposium. The ULI's mission is "to provide leadership in the responsible use of land for creating and sustaining thriving communities worldwide." Nationally recognized for its independent, objective advice, ULI advocates equitable land use for urban revitalization.

Consortium partners working with ULI and Johnson C. Smith on behalf of the Northwest Corridor include the City of Charlotte; Johnson & Wales University; Charlotte Center City Partners; Bank of America; and the ULI Foundation. According to State Senator and Special Assistant to the President, Malcolm Graham, ULI's experts researched central demographics and trends for igniting equitable redevelopment. Factors identified range from specifying an optimal mix of capital facilities, to assuring local champion participation. Taking advantage of the Corridor's proximity to the Center City, to grow employment, is a core consideration. ULI concluded that Charlotte's Northwest Corridor's rich heritage, diverse and relatively dense



population distribution, and proximity to Uptown, offer numerous advantages over more typical suburban markets.

At its Soul, the Corridor constitutes a locale that is “back-in-demand” across the nation, as aging baby boomer and millennial populations renew interest in livable, walkable urban communities. JCSU is implementing redevelopment initiatives that are complementary to the University’s mission and to Corridor revitalization. JCSU’s Art Factory, Visual and Performing Arts Teaching Facility, elegantly rehabbed in a former Griffin Brother’s garage, demonstrates the institutional commitment that is igniting hopes for commerce and growth among community business leaders. JCSU will also pursue University - Community Partnerships for an off-campus bookstore, coffee shop, and printing facility.

Students of Johnson C. Smith and neighboring Johnson & Wales are catalysts for reigniting the Soul of what was once considered the “Main Street of Black Charlotte.” President Carter envisions the renewed Corridor’s radius expanding through new generations of economically and racially diverse residents and students. This will invite commercial and residential revitalization, which can strengthen the Voice and Soul of the entire City.

** The Charlotte Observer, June 08, 2010, pp. 1B and 3B.*

Theatre in Action: Measuring Awareness of Domestic Violence through Performance Art

Supporting interdisciplinary applied research is one of Smith Institute's paramount goals. Therefore, Institute's Director, Dr. Diane Bowles, was especially pleased with the opportunity to fund a joint proposal from JCSU Departments of English; Social Work; and Visual, Performing, and Communication Arts. This project measured awareness of domestic violence, including audience knowledge and attitudes before and after a performance art presentation by Dr. Glen Hutchinson and Dr. Cindy Kistenberg, of the English and Communications Arts Departments, respectively.

Dr. Dezette Johnson, Chair of the Department of Social Work, worked with students to develop and administer a pre and post survey designed to measure whether the audience changed or gained understanding on issues of domestic violence, from viewing the performance. Grounded in the performance theory of change, the project utilized both quantitative and qualitative methods for addressing a troubling research issue.

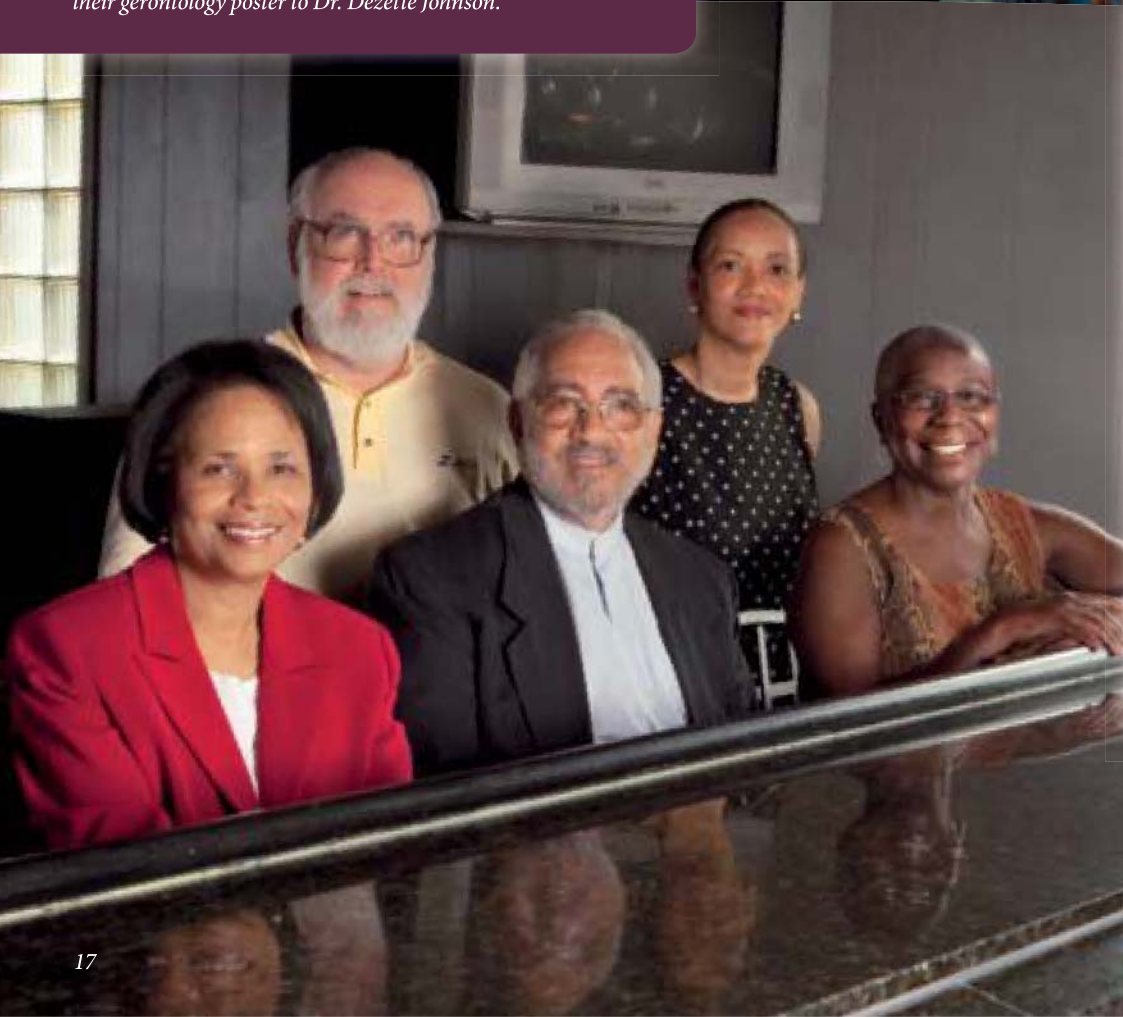
As pictured here, Dr. Johnson is also passionate about gerontology; (l-r) Kandice Turner and Ashley Jennings describe their gerontology poster to Dr. Dezette Johnson.



Rich Tradition of Applied Action Research

Action research at Johnson C. Smith has a robust history. Social science and business faculty formed the Urban Research Group (URG), which led community-based action research for 23 applied research projects, involving over 400 students in 18 majors, as well as 14 faculties from 12 disciplines.

Pictured here are the JCSU Urban Research Group faculty, Dr. Linette Fox, Dr. Deborah Brown-Quick, and Dr. Tom Priest, along with Attorney Charles Jones and his wife, Jacqueline, both Charlotte community activists, at the historic Excelsior Club. The Club is a designated landmark, where much of Charlotte's historical progress in civil rights, neighborhood development, and community-based needs assessment was shaped.

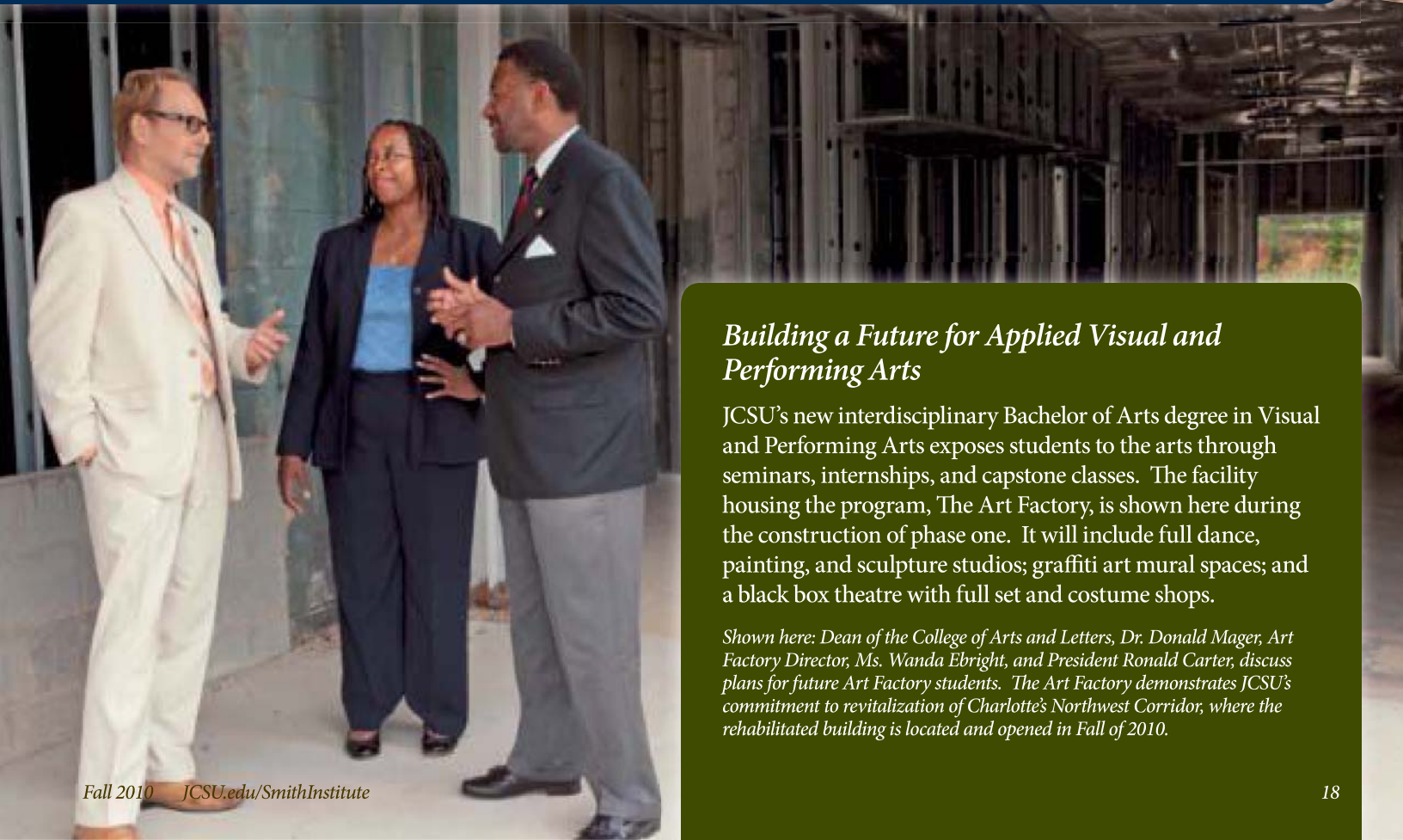




Opportunities for Applied Policy Research

Select JCSU students will participate in 14-month policy research residential internships in Washington DC, through the diligence of Sherrill Hampton, J.D., Special Assistant to the President and Director for Applied Leadership and Community Development.

In conjunction with Charlotte City Councilman James Mitchell, President-elect of the National League of Cities, Hampton structured policy research residency opportunities for JCSU students in each College, whose deans are pictured here: (l-r) Dr. Helen Caldwell, Dean, College of Professional Studies; City Councilman James Mitchell; Dr. Donald Mager, Dean, College of Arts & Letters; Dr. Zenobia Edwards, Dean of Metropolitan College; Dr. Magdy Attia, Chair, Council of Deans and Dean of the STEM College; and Ms. Sherrill Hampton, J.D.



Building a Future for Applied Visual and Performing Arts

JCSU's new interdisciplinary Bachelor of Arts degree in Visual and Performing Arts exposes students to the arts through seminars, internships, and capstone classes. The facility housing the program, The Art Factory, is shown here during the construction of phase one. It will include full dance, painting, and sculpture studios; graffiti art mural spaces; and a black box theatre with full set and costume shops.

Shown here: Dean of the College of Arts and Letters, Dr. Donald Mager, Art Factory Director, Ms. Wanda Ebright, and President Ronald Carter, discuss plans for future Art Factory students. The Art Factory demonstrates JCSU's commitment to revitalization of Charlotte's Northwest Corridor, where the rehabilitated building is located and opened in Fall of 2010.

Culture of Applied Archival Research

Monika Rhue, Director of the Johnson C. Smith University James B. Duke Memorial Library, engages students in research methods that preserve and retain the historic voice of the Institution.

One of her most recent projects, *Saving the Music: the History of Biddle University Quintet*, involved students in archival research keeping JCSU's history alive by retrieving record albums featuring the University's choir from the 1940s and one album from the 1920s, and transferring them into digital audio.

Ms. Rhue is pictured here in front of a mural in the James B. Duke Memorial Library.



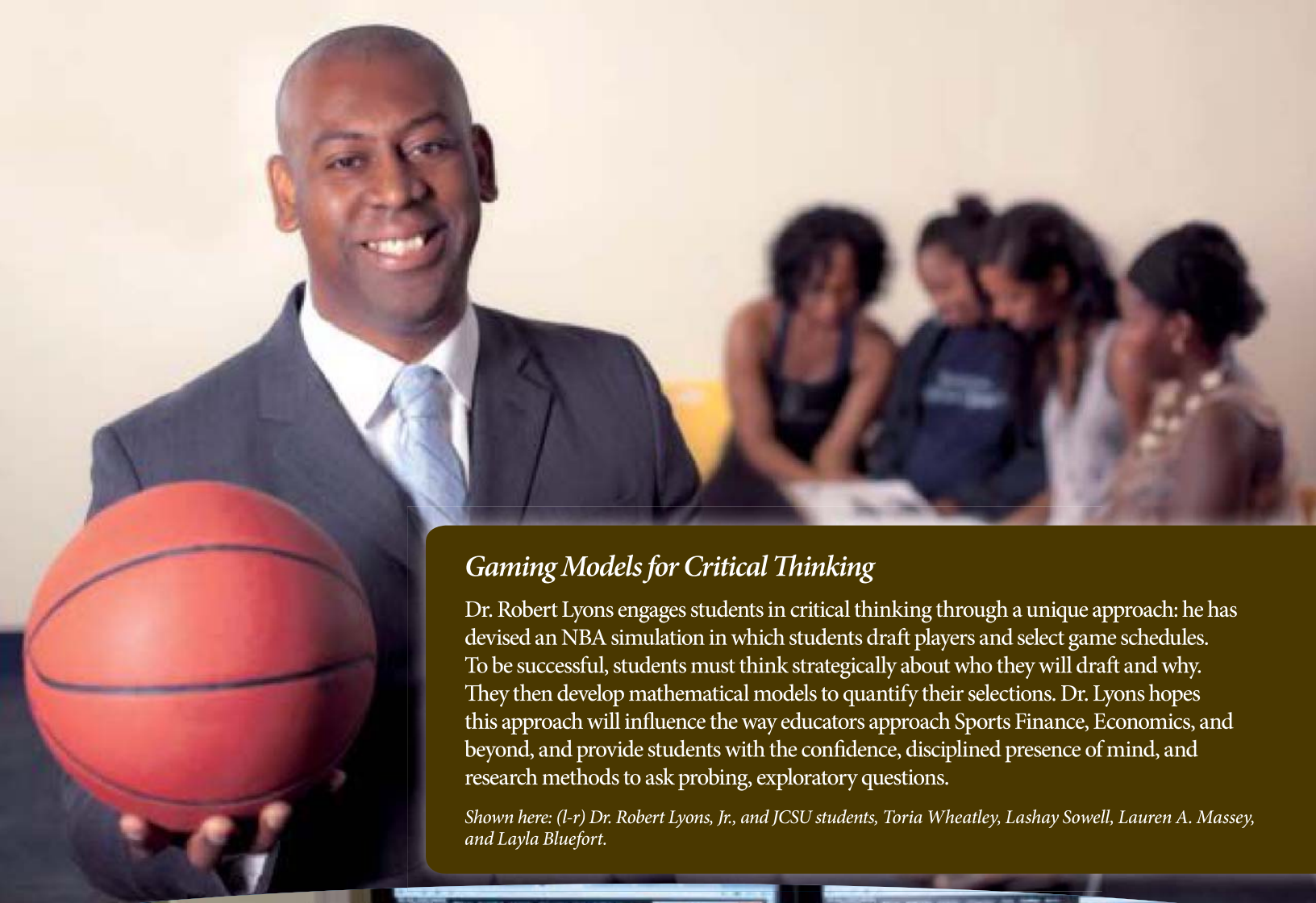
Applied Research Methods: Concept Mapping

Frank Parker utilizes concept mapping to confront complicated real-world research questions. According to Parker, students “discover that trying to get information is not always clean. It’s messy. People don’t show up. Folks are late. You have to repeat things.” However, dedication to achieving valid, reliable results and finding consensus is of paramount importance.

One example of Parker’s research involved 45 agencies determining the most effective treatment model for single mothers suffering from alcoholism. Each agency had its perspective on the best treatment options, but through concept mapping, “an effective and more comprehensive model emerged.” Applied researchers are challenged to understand issues through the eyes of the people who are experiencing the problems. Concept mapping yields emergent theory derived from collaborative problem-solving and team methodologies.

Pictured here: (l-r) Mr. Darius Griffin, Dr. Stacey Sandeford-Lyons, Mr. Frank Parker, and Mr. Donald Powell discuss technology requirements for concept mapping.





Gaming Models for Critical Thinking

Dr. Robert Lyons engages students in critical thinking through a unique approach: he has devised an NBA simulation in which students draft players and select game schedules. To be successful, students must think strategically about who they will draft and why. They then develop mathematical models to quantify their selections. Dr. Lyons hopes this approach will influence the way educators approach Sports Finance, Economics, and beyond, and provide students with the confidence, disciplined presence of mind, and research methods to ask probing, exploratory questions.

Shown here: (l-r) Dr. Robert Lyons, Jr., and JCSU students, Toria Wheatley, Lashay Sowell, Lauren A. Massey, and Layla Bluefort.



College Students and the Recession

Through funding support from Smith Institute for Applied Research, Dr. Haseeb Ahmed conducts exploratory inquiry on the economic impact of the recession on college students.

According to Dr. Ahmed, “economic hardship inflicted on the population by this particular recession cuts across all demographic groups.” However, the driving force behind studying the effect of the recession on this particular demographic is to learn “the impact on the future of higher education and workforce diversity.”

Pictured in a JCSU Smart Classroom: Dr. Haseeb Ahmed, in the background (first row l-r) Robert Johnson, Leticia Harris, Anthony Middlebrooks, Christian Sanders, (second row l-r) Joiy Reid-Davis, Whitney Tipps, Marsha Puryear, Brittane Neely, and Lawyer Montgomery.

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Amber Rozintoski,
and Mattie
the Great Horned Owl,
Bubo virginianus



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HealthPlex Opening at JCSU

Improving health outcomes through wellness, lifestyle, and fitness practices is the objective of JCSU's newly developing HealthPlex Facility. JCSU faculty will be able to perform fitness assessments, conduct focus groups, and offer classes related to their health and wellness research. Members will receive an initial health assessment and will be provided with a swipe card that tracks attendance.

Above, (l-r) JCSU Vice President for Business and Finance, Gerald Hector, President, Ronald Carter, Smith Institute for Applied Research Director and Vice President for Government Sponsored Programs, Diane Bowles, and Personal Trainer, Ashano Johnson discuss plans for the new JCSU HealthPlex Facility.

We Invite You to Join Us!

We invite you to join us! Whether you are a student, faculty member, community organization, or small business, the Smith Institute for Applied Research provides a variety of services for you.

For additional information on how to participate with us, please contact
Smith Institute for Applied Research at 704-330-1332 or online JCSU.edu/SmithInstitute.

On the Cover

JCSU student, Samantha Lewis, examines a red-shouldered hawk with faculty member, Dr. Alexa Rosypal, and David Scott, D.V.M., at the Carolina Raptor Center, to learn how physical therapy is administered to a bird with an injured wing.

Physical therapy is commonly performed for any bird recovering from fractured bones in its wing and is critical to the bird's recovery and eventual release.

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