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## EDUCATION

<b>PhD, Civil Engineering,</b> Transportation Engineering Clemson University, Clemson, South Carolina	<b>August 2016</b>
<b>M.S., Civil Engineering,</b> Transportation Engineering University of Connecticut, Storrs, Connecticut	<b>August 2010</b>
<b>B.Sc., Civil Engineering,</b> Kwame Nkrumah University of Science and Technology, Kumasi, Ghana	<b>May 2006</b>

## PROFESSIONAL EXPERIENCE (ACADEMIA)

<b>Assistant Professor</b> Department of Civil and Environmental Engineering The Citadel, The Military College of South Carolina	<b>August 2016 - Present</b> Charleston, SC
<b>Instructor</b> General Engineering Department Clemson University, Clemson, South Carolina	<b>January 2016 - May 2016</b> Clemson, SC
<b>Research Assistant</b> Glenn Department of Civil Engineering Clemson University, Clemson, South Carolina	<b>January 2012 - August 2016</b> Clemson, SC
<b>Teaching Assistant</b> Glenn Department of Civil Engineering Clemson University, Clemson, South Carolina	<b>January 2012 - December 2015</b> Clemson, SC
<b>Research Assistant</b> Civil & Environmental Engineering Department University of Connecticut, Storrs, Connecticut	<b>August 2008 - November 2011</b> Storrs, CT
<b>Teaching Assistant</b> Civil & Environmental Engineering Department University of Connecticut, Storrs, Connecticut	<b>August 2008 - May 2009</b> Storrs, CT
<b>Teaching Assistant</b> Civil & Environmental Engineering Department Kwame Nkrumah University of Science and Technology	<b>August 2006 - May 2007</b> Kumasi, Ghana

**TEACHING AWARDS**

South Carolina ASCE Educator of the Year

**July 2020****PROFESSIONAL REGISTRATION****Professional Engineering (P.E.) License****October 2020**

South Carolina Board of Engineers &amp; Surveyors

Registration #: 38384

**PROFESSIONAL EXPERIENCE (INDUSTRY)****Intern****May 2014 – August 2014**

Civil Engineering Group

Greenville, SC

Milone &amp; MacBroom Inc

**Intern****June 2013 – August 2013**

Transportation and Planning Department

Spartanburg, SC

Spartanburg County Planning

**Intern****June 2010 – August 2010**

Department of Transportation, Traffic and Parking

New Haven, CT

City of New Haven

**Intern****May 2004 – July 2004**

Structural, Surveying and Materials Departments

Accra, Ghana

Twum-Boafo and Partners (Tetteh-Quarshie Interchange Project)

**PROFESSIONAL MEMBERSHIP/LEADERSHIP**

AASHTO GIS-T Student Paper Competition – Vice Chair

**August 2019 - Present**

American Society of Engineering Education (ASEE)

**August 2016 - Present**

Transportation Research Board (TRB)

Geographic Information Science and Applications (ABJ60) Committee

Member

**April 2017 – April 2020**

Transportation Research Board (TRB)

Statewide Transportation Data and Info Systems (ABJ20/AED10) Committee

Member

**April 2017 – April 2021**

Transportation Research Board (TRB)

Statewide Transportation Data and Information Systems (AKD70) Committee

Member

**April 2020 – April 2023**

Chi Epsilon (XE) – Civil Engineering Honor Society, Clemson Chapter

**Spring 2013 – Present**

Institute of Transportation Engineers (ITE)

**2009 – Present**

## JOURNAL PUBLICATIONS

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Iqbal, A., Sarasua, W., **Brown, K.**, Ogle, J., Famili, A., Davis, W. J., Basnet, S., Kumar, D. (2020). Assessment of Crash Location Accuracy in Electronic Crash Reporting Systems. *Transportation Research Record*. <https://doi.org/10.1177/0361198120929183>

Hughey, S.M., Stowe, E.W., Trello, S.K., Bornstein, D., **Brown, K.**, Davis, J., Kaczynski, A.T. A Multi-Method Study of Patterns and Motivations of Greenway-based Physical Activity. *Translational Journal of the American College of Sports Medicine*.

Ogle, J., Islam, S., **Brown, K.**, Davis, J., Sarasua, W. Impacts of State-Specific Policy and Legislation on Safety Advancement by Departments of Transportation. *Transportation Research Record (TRR): Journal of the Transportation Research Board* <https://doi.org/10.1177/0361198118799038>

Maria Chrysochoou, **Kweku Brown**, Geeta Dahal, Catalina Granda-Carvajal, Kathleen Segerson, Norman Garrick, Amvrossios Bagtzoglou. *A GIS Indexing Scheme to Screen Brownfields for Area-Wide Redevelopment Planning*. *Landscape and Urban Planning* 105 (2012) pg 187-198

Brian Maleck, Wayne Sarasua, Jennifer Ogle, **Kweku Brown**. *A Methodology Using GPS to Inventory University Campus Parking*. *Journal of Transportation of the Institute of Transportation Engineers*; Volume 6 (July 2014), pg 55-70

## CONFERENCE PROCEEDINGS

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**American Society of Engineering Education (ASEE) Zone II, Auburn, AL. March 2020**  
**Presentation:** Students' perception of performance before and after exams In a Surveying Course  
**Presentation:** Adopting ASCE ExCEED Model for Engineering Education: Lessons Learned and Implementation Strategies

**Transportation Research Board (TRB) Annual Meeting, Washington DC January 2020**  
**Poster session:** Assessment of Crash Location Accuracy in Electron Crash Reporting Systems

**American Society of Engineering Education (ASEE) Zone II, Raleigh, NC. March 2019**  
**Presentation:** The Value of the Involvement of Licensed Surveyors in a Surveying Course  
**Presentation:** Study of Prior Exposure to Engineering Economy at a Regional University  
**Presentation:** Perspectives on an Innovative Homework Policy  
**Presentation:** Student Perceptions on how different course types may influence their career

**Active Living Research (ALR) Annual Conference, Charleston SC. February 2019**  
**Presentation:** Holy Spokes Bike Share: Exploring the patterns of use, associations with built environment features, and implications for city planning and transportation in Charleston, SC  
**Presentation:** Evaluating the use and physical activity patterns of three greenways in Charleston, South Carolina

**Transportation Research Board (TRB) Annual Meeting, Washington DC January 2019**  
**Poster session:** Evaluation of Airborne and Mobile Lidar Accuracy In Highway Cross Slope Measurements

**Transportation Research Board (TRB) Annual Meeting, Washington DC January 2018**  
**Presentation:** Impacts of State Specific Policy and Legislation on Safety Advancement by Departments of Transportation.  
**Presentation:** Improving Quantity Estimating for Pavement Rehabilitation and Resurfacing Using Mobile LiDAR.

**American Society of Engineering Education (ASEE) Zone II, Daytona Beach, FL. March 2018**

**Presentation:** Surveying Courses in Civil Engineering

**124<sup>th</sup> American Society of Engineering Education (ASEE) National, Columbus OH June 2017**

**Presentation:** Application of Indirect and Direct Measures for Student Teamwork Outcome Assessment within an Undergraduate Civil Engineering Curriculum

**American Society of Engineering Education (ASEE) Zone II, San Juan, Puerto Rico March 2017**

**Presentation:** Assessment of Undergraduate Student Teamwork across Prerequisite Courses in Transportation Engineering at The Citadel

**Presentation:** Pedagogical Techniques Employed in an Engineering Drawing Course

**Presentation:** Faculty and Student Perceptions of Plickers

**Transportation Research Board (TRB) Annual Meeting, Washington DC January 2017**

**Podium presentation:** Analysis of Right-In, Right-Out Commercial Driveway Safety, Operations and Use of Channelization as Compliance Countermeasure.

**GIS-T (Innovation in Transportation) April 2016**

**Podium presentation:** Too Close To Home? An Investigation into Crash Proximity Relative to Drivers Residences in South Carolina (Author)

**Transportation Research Board (TRB) Annual Meeting, Washington DC January 2016**

**Podium presentation:** Safety Analysis of Driveway Characteristics Along Major Urban Arterial Corridors in South Carolina

**Poster session:** Safety Planning - Analysis of the Socio-Economic and Demographic Characteristics of At-Risk Driver Residential Areas in South Carolina (Author)

**Poster session:** Too Close To Home? An Investigation into Crash Proximity Relative to Drivers Residences in South Carolina (Author)

**Transportation Research Board (TRB) Annual Meeting, Washington DC January 2015**

**Poster session:** Assessment of Crash Location Improvements in Map-Based Geocoding Systems and Subsequent Benefits to Geospatial Crash Analysis (Author)

## **RESEARCH AND DEVELOPMENT GRANT AWARDS**

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“Southeastern Transportation Research, Innovation, Development and Education Center (STRIDE)”, University Transportation Center, USDOT, Office of Research & Technology, University of Florida “Evaluation of Transportation Network Infrastructure, Safety, and Travel Route Characteristics of Bike Share, Electric-Powered Pedal-Assist Bike Share, and Electric Scooter System Operation”, \$94,990 research grant, The Citadel, Georgia Tech, College of Charleston, Dec. 2019

Year-4 Grant, SC “Center for Connected Multimodal Mobility (C2M2)”, University Transportation Center, USDOT, Office of Research & Technology, Clemson University \$95,852 federal grant, June 2019

“South Carolina Center for Connected Multimodal Mobility (C2M2),” on Assessing Potential of Bike Share Networks and Active Transportation to Improve Urban Mobility, Physical Activity and Public Health Outcomes in South Carolina

Citadel Budget: \$17,424, total project: \$53,735 December, 2018

“South Carolina Department of Transportation” on Crash Analysis Using Precisely Geocoded Crashes

Citadel Budget: \$25,740, total project: \$197,496 August, 2017

Active Traffic Monitoring through Camera Networks with Automatic Camera Calibration for Pan-Tilt-Zoom Cameras, Clemson Led Project,

Citadel Budget: \$52,779, total project: \$142,000 August, 2017

Assessment of Safety Benefits of Technologies to Reduce Pedestrian Crossing Fatalities at Midblock locations, Clemson Led Project,

Citadel Budget: \$20,406, total project: \$100,000 August, 2017

“Regional UTC (Region 4) on Fast Act Research Priority: Reducing Congestion,” University Transportation Center, USDOT, Office of Research and Technology, Univ. of Florida, Auburn Univ., The Citadel, Florida International, Georgia Tech, Jackson State, Univ., N.C. State Univ., Tennessee Tech, Univ. of Alabama-Birmingham, Univ. of North Carolina

\$500,000 sub agreement of \$14.3m grant award, December 2016

“South Carolina Center for Connected Multimodal Mobility (C2M2),” University Transportation Center, USDOT, Office of Research and Technology, Clemson Univ., The Citadel, Univ. of SC, S.C. State Univ., Benedict College

\$500,000 sub agreement of \$7.8m grant award, December 2016

## TECHNICAL REPORTS

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*“Assessment of Safety Benefits of Technologies to Reduce Pedestrian Crossing Fatalities at Midblock Locations,”* Final Report, Center for Connected Multimodal Mobility (C2M2), University Transportation Center, U.S. Department of Transportation (USDOT), Office of Research and Technology, Authors: Ogle, Jennifer, Islam, Sababa, **Kweku Brown**, Judith Mwakalonge, Dimitra Michalaka, Ronnie Chowdhury, 96p, May 2020.

*Midblock Crash Analysis Using Precisely Geocoded Crashes*, FHWA-SC-20-01, Grant SPR 734, South Carolina Department of Transportation, Office of Material and Research, Federal Highway Administration, Authors: Dr. Wayne Sarasua, Dr. Jennifer Ogle, Department of Civil Engineering, Clemson University, Dr. William J. Davis, **Dr. Kweku Brown**, Department of Civil and Environmental Engineering, The Citadel, 88p, May 2020.

*“12 Educational Outreach and Transportation Workforce Development at The Citadel”*. Southeastern Transportation Research, Innovation, Development and Education Center (STRIDE), University Transportation Center, U.S. Department of Transportation (USDOT), Office of Research and Technology. Authors: Dr. William J. Davis, Dr. Dimitra Michalaka, **Dr. Kweku Brown**, Department of Civil and Environmental Engineering, The Citadel, 57p, Dec 2019.

## RESEARCH AWARDS AND RECOGNITIONS

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**2016 High Value Research, Transportation Excellence Through Research**, “Support for the Development and Implementation of an Access Management Program through Research and Analysis of Collision Data,” FHWA-SC-15-02, American Association of State Highway and Transportation Officials (AASHTO), Standing Committee on Research (SCOR), Research Advisory Committee, pp.167-168.

## NEWSPAPER COLUMNS

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**Charleston City Paper Column by Dustin Waters:** South Carolina’s at-risk drivers linked to disadvantaged communities and schools - **(Behind the wheel, April 12, 2017)**

## MANUALS AND SOFTWARE USED

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HCM, MUTCD, ITE MANUALS, ESRI ArcGIS Pro, Maptitude 6.0, TransCAD 6.0, TSIS/CORSIM 6.1, VISSIM, HCS, PASSER V – 03, AutoCAD 2019, Civil 3D 2019, SAS 9.2, MICROSOFT: Word, Excel, Power Point, Access, Visio

## GRADUATE AWARDS

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2013 Dwight Eisenhower Graduate Fellowship	<b>August 2013 – August 2014</b>
Outstanding Graduate Lab Assistant Award (Glenn Department of Civil Engineering, Clemson University)	<b>Academic Year 2013-2014</b>
Outstanding Graduate Lab Assistant Award (Glenn Department of Civil Engineering, Clemson University)	<b>Academic Year 2014-2015</b>

## TEACHING

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### The Citadel, The Military College of South Carolina

- Instructor: CIVL 103 Introduction to Civil Engineering; Fall 2016 – 2020
- Instructor: CIVL 205 Surveying I & CIVL 235 Surveying I Lab.; Fall 2016 – 2020
- Instructor: CIVL 101 Engineering Drawing; Spring 2017 – 2021
- Instructor: CIVL 208 Geospatial Representation & CIVL 239 Geomatics Lab.; Spring 2017 – 2021
- Instructor: CIVL 239 Geomatics Laboratory; Spring 2017 – 2021
- Instructor: CIVL 314 Engineering Economy; Summer 2017 – 2020
- Instructor: CIVL 412 Engineering Practice and Professional Licensure; Fall 2017
- Instructor: CIVL 432/433 Civil Engineering Design Capstone I & II; Fall 2019 & Spring 2020
- Instructor: CIVL 506 Geographic Information Systems; Summer 2020

### Clemson University, Clemson, South Carolina

- Instructor: ENGR 2100 Engineering Graphics & Machine Design; Spring 2016
- Lab Instructor: CE 2550 Geomatics Laboratory; Spring, 2012 – Fall, 2015

### University of Connecticut, Storrs, Connecticut

- Lab Instructor: Geomatics and Spatial Measurements; Fall 2008 – Spring 2009

## RESEARCH

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### Clemson University, Clemson, South Carolina (January 2012 – August 2016)

**Dissertation:** Using Spatial Analysis to Identify High-Risk Driver Residential Areas in South Carolina

- Investigated demographic and socioeconomic characteristics of drivers involved in crashes using SC crash data and residential 9-digit zip code data of drivers

**August 2013 – August 2016**

**Project Title:** Applying Successfully Proven Measures in Roadway Safety to Reduce Harmful Collisions in South Carolina

- Identify proven safety programs across the nation and evaluate their applications in South Carolina
- Identify potential areas to target safety programs using crash data analysis

**December 2013 – August 2016**

**Project Title:** Support for the Development and Implementation of an Access Management Program

through research and Analysis of Collision Data

- Geocoded and analyze South Carolina crash data
- Identify potential corridors with violations of access management standards

**May 2013 – April 2014**

**Project Title:** South Carolina Lane Width Project – The effects of roadway lane and shoulder widths on roadway operations and safety in South Carolina.

- Developed GIS models to create roadway segments and aggregate crash data to created segments
- Ran driving simulation scenarios to determine driver gap acceptance and effect of lane widths on encroachment

**July 2012 – December 2013**

**University of Connecticut, Storrs, Connecticut (January 2008 – November 2011)**

**Project Title:** Reversing Urban Sprawl - A Reclaimability Index Approach for Reviving Downtown Brownfields

- Developed a visual tool for prioritizing brownfields in Connecticut using GIS as part of an interdisciplinary research team
- Created a smart growth index for the state of Connecticut using GIS tools

**August 2008 – July 2010**

**Project Title:** Nantucket Island Transportation Study

- Conducted transportation survey of residents and vacationers as part of assessment for need of parking structure

**July 2009**

## REFERENCES

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- |                   |   |
|-------------------|---|
| William J. Davis  | D. Graham Copeland Professor of Civil Engineering, The Citadel<br>Head, Civil & Environmental Engineering Department<br>171 Moultrie St, Charleston SC 29409<br>Email: <a href="mailto:davisj7@citadel.edu">davisj7@citadel.edu</a> O: 843-953-7687 C: 843-814-8395 |
| Kevin Bower       | Assistant Provost for Academic Operations and Professor, The Citadel, Civil & Environmental Engineering Department<br>171 Moultrie St, Charleston SC 29409<br>Email: <a href="mailto:bowerk1@citadel.edu">bowerk1@citadel.edu</a> O: 843-953-7683 C: 843-696-0372   |
| Wayne Sarasua     | Associate Professor, Clemson University<br>310B Lowry Hall, Clemson University, SC 29634<br>Email: <a href="mailto:sarasua@clemson.edu">sarasua@clemson.edu</a> O: 864-656-3318 C: 864-650-4983   |
| Jennifer Ogle     | Associate Professor, Clemson University<br>212 Lowry Hall, Clemson University, SC 29634<br>Email: <a href="mailto:ogle@clemson.edu">ogle@clemson.edu</a> O: 864-656-0883 C: 864-633-9638  |
| Mashrur Chowdhury | Associate Professor, Clemson University<br>216 Lowry Hall, Clemson University, SC 29634<br>Email: <a href="mailto:mac@clemson.edu">mac@clemson.edu</a> O: 864-656-3313 C: 864-508-0002  |
| Paul Mills        | Regional Office Engineer<br>Milone & McBroom, 307B Fall St, Greenville, SC 29601<br>Email: <a href="mailto:paulm@miloneandmacbroom.com">paulm@miloneandmacbroom.com</a> C: 864-230-4590   |