**Douglas A. Stuart**

**A. Professional Preparation**

**INSTITUTION DISCIPLINE DEGREE YEAR**

Wabash College Chemistry, English, and Philosophy A.B. 1996

University of Aberdeen, Scotland English M.Litt. 2001

Indiana University, Bloomington Analytical Chemistry/Biochemistry Ph.D. 2003

Northwestern University, Evanston Postdoctoral Fellow 2003-7

**B. Appointments**

**POSITION INSTITUTION PERIOD**

Assistant Professor of Chemistry University of West Georgia 2007-Present

**C. Publications**

(i) Relevant to the proposed work:

1. Brett Kimbrell, Chritopher M. Crittenden, Walter J. Steward, Farooq A. Khan, Anne C. Gaquere-Parker and **Douglas A. Stuart** “Analysis of mixtures of C60 and C70 by a portable Raman spectrometer” *Nanoscience Methods* Volume 3 (2014) , pp 40-46

2. William Livernois, Christopher M. Crittenden, J. Brett Kimbrell, Farooq A. Khan, Anne C. Gaquere-Parker, **Douglas A. Stuart** “Raman spectroscopy of allotropes of carbon: An undergraduate laboratory” *The Chemical Educator*. Volume 19 (2014) pp 223-228 DOI 10.1007/s00897132537a

3. J. A. Dieringer, O. Lyandres, A. D. McFarland, N. C. Shah, **D. A. Stuart**, A. V. Whitney, C. R. Yonzon, M. A. Young, J. Yuen, X. Zhang, and R. P. Van Duyne. "Surface-enhanced Raman Spectroscopy: New materials, concepts, characterization tools, and applications." *Faraday Discussions* 132, 9-26 (2006).

4. **Douglas A. Stuart,** Chanda R. Yonzon, Xiaoyu Zhang, Adam D. McFarland, Christie L. Haynes, and Richard P. Van Duyne. “Towards advanced chemical and biological nanosensors -- An overview," *Talanta,* 63 (3) 438-448 (2005).

5. Dominic O. Ansari, **Douglas A. Stuart**, and Shuming Nie “Surface-enhanced Raman spectroscopic detection of cancer biomarkers in intact cellular specimens.” *Proc. SPIE Int. Soc. Opt. Eng*. 5699, 82 (2005).

(ii) Other significant publications:

1. Obie Okponyia, Brent M. Williams, Kellie Patton, and **Douglas A. Stuart** “Fundamental Studies of Surface-enhanced Raman Scattering (SERS) using Aersolized Substrates.” In *Advanced Environmental, Chemical, and Biological Sensing Technologies IX*. Edited by Tuan Vo-Dinh, Robert A. Lieberman, Günter Gauglitz, Proceedings of SPIE Vol. 8366 (SPIE, Bellingham, WA, 2012). 8366 0J. (2012).

2. David E., Ashkenaz, W. Paige. Hall, Christie L. Haynes, Erin M. Hicks, Adam D. McFarland, Leif J. Sherry, **Douglas A. Stuart**, Korin E. Wheeler, Chanda R. Yonzon, Jing Zhao, Hillary A. Godwin, and Richard P. Van Duyne “Coffee Cup Atomic Force Microscopy,” *Journal of Chemical Education*, 87 (3), 306-7 (2010)

3. **Douglas A. Stuart,** Jonathan M. Yuen, Nilam C. Shah, Olga Lyandres, Chanda R. Yonzon, Matthew R. Glucksberg, Joseph T. Walsh, and Richard P. Van Duyne. “*In Vivo* Glucose Measurement by Surface-Enhanced Raman Spectroscopy.” *Analytical Chemistry*, 78 (20) 7211-7215. (2007)

4. Xiaoyu. Zhang, Chanda R. Yonzon, Matthew A. Young, **Douglas A. Stuart** and Richard P. Van Duyne “Biological applications of surface-enhanced Raman spectroscopy,” *IEE Proc.-Nanobiotechnol*., 152, 195-206 (2005)

5. Matthew A. Young, **Douglas A. Stuart**, Adam D. McFarland, Olga Lyandres, Matthew R. Glucksburg, and Richard P. Van Duyne. "Surface-Enhanced Raman Spectroscopy with a Laser Pointer Light Source and Miniature Spectrometer," *Can. J. Chem. (Donald Irish Special Issue),* 82, 1435-1441 (2004).

6. **Douglas A. Stuart**, Amanda Haes, Adam McFarland, Shuming Nie, and Richard Van Duyne. “Using Solution Phase, Surface-Confined Arrays, and Single Noble Metal Nanoparticles as Biological Sensing Platforms.” *Journal of Fluorescence*, 14 (4): 355-267 (2004).

**D. Synergistic Activities**

1. Undergraduate Research Mentor (1998-2000, 2002-3, 2006-present), RET Mentor (2004) and REST Mentor (2005), GEMS (summer 2008) student research mentor. The GEMS program seeks to introduce gifted high school students to higher level research and education and promote mathematics and science. Two projects were explored one on the separation of dyestuffs from markers, and subsequent UV Vis and Raman analysis, the other on the Raman analysis of rocks and mineral samples found in a standard earth science class.

2. K-12 outreach: Mole Day (2006-present) demonstration lecturer. IMPACT Saturday/ summer sessions, leader and demonstrator for a) nanotechnology, b) Science at Hogwarts, c) Shocking Science, and d) Spooky Science, Liaison with two local high-schools.

3. Sigma Xi (2008) Judge for student Math and Science Competition.

4. Reviewer for several RSC journals, including The Analyst, and Chemical Communications. Reviews are conducted on an approximately fortnightly frequency.

5. Co-designed and co-teaches CHEM4183, Selected Topics in Materials Science, which grounds students in the fundamentals of MatSci, but also involves extensive visits to and by local industries (SouthWire, OFS (optical fiber solutions), DecoStar, Yamaha),

**E. Collaborators & Other Affiliations**

**(i) Collaborators:** Professors Sharmistha Basu-Dutt, Anne Gaqueree-Parker, John Hansen, Farooq Khan (College of Arts and Sciences, University of West Georgia).

**(ii) Graduate Advisor and Postdoctoral Sponsors**

Graduate Advisor: Shuming Nie (Emory University/ GA Tech.)

Postdoctoral Sponsor: Richard P. Van Duyne (Northwestern University)

**(iii) Thesis Advisor and Postgraduate-Scholar Sponsor:** Not Applicable