

Sulekha (Su) R Coticone, Ph.D.

Curriculum Vitae

Chair and Professor, Department of Chemistry and Physics

Program Coordinator, Forensic Science

College of Arts and Sciences, Florida Gulf Coast University

213 Whitaker Hall, 10501 FGCU Blvd, S, Ft Myers, FL 33965

Email : scoticon@fgcu.edu

CITIZENSHIP: United States of America

EDUCATION

- Ph.D. in Biochemistry 1994. University of Minnesota, Minneapolis, MN
- Master of Science in Chemistry (Honors) Indian Institute of Technology, New Delhi, India.
- Bachelor of Science in Chemistry (Honors) University of Delhi, Delhi, India

Professional Experience

2018- Present Chair, Department of Chemistry and Physics

- Oversee 27+ full-time faculty in addition to 10+ part-time faculty and staff.
- Oversee departmental budget of \$2-3M/year.
- Conduct research in biochemistry, forensic science and professional service.
- Provide strategic direction and leadership to the department, and oversee class scheduling, staffing and resource allocation for undergraduate Chemistry, Biochemistry, Forensic Science and Physics programs. Work on the development of the B.S. in Physics.

2006-Present Assistant, Associate and Full Professor, Department of Chemistry and Physics

- Teach classes that support curricula in chemistry, biochemistry forensic science and general education programs.
- Conduct research in biochemistry, forensic science and professional service

2017- Present Program Coordinator (Forensic Science B.S.)

- Development of the B.S in forensic science program
- Manage course scheduling, staffing of classes as well as program assessment for the forensic science program

2010-2012 Program Leader (B.A. Chemistry)

- Manage course scheduling, staffing of classes as well as program assessment for the Chemistry program

2005-2006 Research Associate (Department of Justice grant), Florida Gulf Coast University

- Research in forensic DNA technology development for extraction of DNA from bones

- 2004-2005** **Director, Forensic Science Program, California State University, Fresno, CA**
- Development of the B.S in forensic science program
- 2003-2005** **Assistant Professor Tenure-track, Forensic Chemistry, Biochemistry, California State University, Fresno, CA.**
- Teach classes that support curricula in chemistry, biochemistry forensic science and general education programs.
 - Conduct research in biochemistry, forensic science and professional service
- 2000- 2003** **Senior Scientist, (R & D): Applied Biosystems (Human Identification) Foster City, CA**
- Development of AmpFℓSTR *SE* filer and AmpFℓSTR Profiler Plus *ID* PCR amplification kits: Forensic kits specifically designed for the German and US market respectively
 - Research & Development (R&D) for multiplex design, optimization, multiplex and software testing and documentation.
 - Supervised project teams in R&D
 - Population validation studies (AmpFℓSTR Identifiler kit and the SGM plus kits)
- 1998-2000** **Scientist (R & D): Applied Biosystems (Human Identification and Science & Technology):**
- Microsatellite analysis in the human genome, colon cancer markers and Fragile X (Improvement in genotyping using mono, di and tetranucleotide repeats by reducing stutter).
 - Owner of 5 United States Patents issued for the development of reduced stutter PCR protocols for forensic kits
- 1995-1998** **Post-Doctoral Research Fellow 1995-1998. University of CA, Berkeley. (Keck foundation) Advisor: Late Prof. Marian Koshland.**
- Research on the mechanisms of regulation of the J chain gene during B cell differentiation. Identification of BMEF-2 and its role in regulating the J chain promoter.
- 1994-1995** **Blackie Floyd Cancer Research Fellow. 1994-1995. Dayton, Ohio**
- Research on the Role of IL-2 receptor in Cancer Metastasis. Demonstration of solid tumor cell origin of *in vivo* soluble Interleukin-2 receptor alpha (IL-2R).

Awards and Fellowships

- Fulbright Specialist Program Candidate (2015-2021).
- Dean's award for best oral presentation by an undergraduate student (FGCU 2016)
- Dean's award for best poster with undergraduate students (FGCU 2015)
- Presidential Award for best Faculty poster. Research day (FGCU 2014)
- Best faculty poster award in the College of Arts and Sciences Research day (FGCU 2013)
- Best faculty poster award Research day (FGCU 2007)
- Best paper award at the Ohio Lake Erie Association of Cancer Research center (OLACC) conference on "Genetics of Cancer and Cancer treatment" (\$1500) November 1995.
- Blackie Floyd Cancer Research Fellow. 1994-1995.
- Keck Foundation fellow, University of California, Berkeley (1995-1997)

- Graduate Research Assistantship, University of Minnesota. 1989-1994.
- Graduate Teaching Assistantship, University of Minnesota. 1988-1989.

Patents:

- Methods for the reduction of stutter in microsatellite amplification. Coticone, Sulekha R. and Bloch, Will.) Applied Biosystems LLC, Carlsbad CA **United States Patent # United States Patent # 8,785,126 Issued July 22, 2014.**
- Methods for the reduction of stutter in microsatellite amplification. Coticone, Sulekha R. and Bloch, Will.) Applera corp, Foster City CA. **United States Patent # 7211385 Issued May 11, 2007.**
- Methods for the reduction of stutter in microsatellite amplification. Coticone, Sulekha R. and Bloch, Will.) Applera corp, Foster City CA. **United States Patent # 6,841,349 Issued January 11, 2005**
- Method of reducing non-specific amplification in PCR. McLaughlin, Ian J., Coticone, Sulekha R. and Bloch, Will, Applera corp, Foster City CA. **United States Patent # 6,783,940 Issued August 31, 2004**
- Methods for the reduction of stutter in microsatellite amplification. Coticone, Sulekha R. and Bloch, Will.) Applera corp, Foster City CA. **United States Patent # 6,780,588. Issued August 24, 2004.**

Research Grants and Collaborations:

- Scholarship-Research Venture Capital Fund for “Acquisition of a Dark Field Microscope Imaging Technology for Multidisciplinary Nanotechnology and Cancer Research (2018-19) \$27,551 (Co PI)
- Scholarship-Research Venture Capital Fund for “Long term preservation of DNA at ambient temperature under in-orbit environment” (2018-19) \$26,522 (Co PI)
- American Chemical Society Collaborative grant with FSW (2017-18) with Dr. Nin Dingra and Dr. Thep (\$2500)
- Innovative Assignment Design Grant (2016, 2017) Mini Research projects embedded in advanced forensic science courses (\$1500)
- National Science Foundation Major Research Instrumentation grant (NSF MRI) co PI with Arsalan Mirjafari (PI), Scott Michael, Greg McManus, Greg Boyce and Daniel Paul. (2015) \$274,466.00.
- Graduate Faculty Research Assistantship Award, 2013-14: Improving physical evidence storage and efficiency of downstream processing of DNA in forensic DNA analysis Florida Gulf Coast University (\$10,000)
- Acorn Grant (AAFS) 2012-2013: Organic osmolytes as long-term storage preservatives for biological samples in Forensic Analysis (\$350)
- Lucas Grant (AAFS) 2011-2012 Rapid detection of trace evidence containing drugs by portable analytical technologies (\$700)
- Professional Development Awards (Travel to AAFS conferences) 2008, 2010, 2012, 2014, 2016
- “Preservation of saliva samples using osmolytes, Office of Research and Sponsored Program, FGCU, 2008 (\$5000)
- Enhancement of Public Health Preparedness for Dealing with Bioterrorism: New Biocides and Decontaminating Agents for Biodefense, PI: Dr. Jose Barreto, Co PIs: Drs.: Thomas Beatty, Diane Bondehagen, David Brown, Sulekha Coticone, Terry Dubetz,

Michael Parsons, Aswani Volety (grant from the USF center of biodefense, 2007) \$366,000.

- “Differentiation of Biological Fluids on Solid Substrates using Direct Analysis in Real Time (DART) Technology” Forensic Science Foundation Acorn Research Grant for 2006-2007 (\$430)
- “Correlating Forensic Anthropological Findings with DNA profiles obtained from Cold Cases” for 2006-2007 (\$1475). Lucas Grant from Forensic Science Foundation.
- College Minigrants from the College of Science and Mathematics for “Improved Y chromosome short tandem repeat primers for analysis of degraded sexual assault casework samples” (\$2,500)2005
- CSU Research, Scholarship and creative activities award May 2005: awarded 3WTUs of assigned time
- CSU Research, Scholarship and creative activities award May 2004: awarded \$5000 for research
- “Y chromosome based short tandem repeats for forensic DNA typing of sexual assault cases” CSUPERB (2004-2005) with the Department of Justice Crime Laboratory: awarded \$10,000 for 2004-2005
- Instrument grant (\$27,500) for ABI 310 genetic analyzer (2003)

PUBLICATIONS

1. Lebrun, B., *Rush, C., *Skyers, N* and **Coticone, S.** (2019) The Collection and Analysis of DNA obtained from fingerprints before and after the use of fingerprint powder on different surfaces. In review (Chemical Educator)
2. **Coticone, S.**, Bailey Van Houten, L. (2020). Incorporating undergraduate mini-research project exercises in advanced forensic science curriculum as a course-based research experience. (in Preparation).
3. Hogan, C., * Bailey Van Houten, L and **Coticone, S.** (2018) Comparison of Quantity and Overall Quality of Trace DNA Evidence Collected from Substrates Found at Crime Scenes. *J Forensic identification*. 68, (3) 341-347.
4. Sinclair, K., * Mirjafari, A., **Coticone, S.** (2018) A tale of two spices: Differential discrimination between the chemical properties of saffron and turmeric in a forensic chemistry laboratory. *The Chemical Educator* 23, 142-144.
5. Cote, J., * Hilbert, L., * and **Coticone, S.** (2016) Differential detection of six unknown compounds using three analytical techniques in a forensic science laboratory. *The Chemical Educator* 21, 115-118.
6. **Coticone, S** and Lora Bailey Van Houten (2015) DNA, Drugs and detectives: An interdisciplinary special topics course for undergraduate students in forensic science. *Journal of College Science Teaching* vol 45 (2) 44-49.
7. Garcia, O., * Keeney, C* and **Coticone, S** (2015) Detection of coumarin in artificially adulterated Vanilla Bean extracts in a forensic science laboratory. *The Chemical Educator* 20, 227-228.

8. Barreto, J., Reilly, J., Frost, L., Brown, D., **Coticone, S.**, Dubetz, T., Beharry, Z., Davis-McGibony, M., Ramoutar, R., Rudd, G, Gurnack, M.E.(2014) “A case study, for teaching quantitative biochemical buffer problems using ‘Khan Style’ videos: ‘Inverting the classroom’ with video lectures assigned as homework, followed by group problem solving during class”, *Journal of College Science Teaching* Vol 44(1) 48-53.
9. **Coticone, S.** (2013) Utility of self-made crossword puzzle as an active learning tool in undergraduate education in biochemistry. *Journal of College Science Teaching*. 42 (4) 33-37.
10. **Coticone, S.**, Barna L*. Teets, M*. (2010) Optimization of a DNA extraction method for nonhuman and human bone. *J Forensic Identification* 60 (4) 431-438.
11. Coates, C., **Coticone, S**, Barreto, P., Cobb, A.*, Cody, R. and J Barreto (2008) Flammable solvent detection directly from common household materials yields differential results: An application of Direct Analysis in Real Time Mass spectrometry. *J Forensic Identification* 58 (6) 624-631.
12. Hill, A.**, Van der Veer de Bondt A., Reeder, D. and **Coticone, S** (2007) Stabilizing blood samples using osmolytes for forensic DNA analysis. *J. Forensic Identification* 57 (4) 530-538.
13. Corazon A De Ungria, M., Roby, R., Tabbada, K.A. **Coticone, S.R.** Music, M. Tan and Hernandez, K.N. (2005) Allele frequencies of 19 STR loci in a Phillipine population generated using AmpFLSTR multiplex and ALF single-probe systems. *Forensic Science International*, 152:281-284.
14. **Coticone, S. R.**, Oldroyd, N., Philips, H* and Foxall, P (2004) Development of the AmpFLSTR® SEfiler™ PCR Amplification Kit: A new multiplex containing the highly discriminating ACTBP2 (SE33) locus. *Intl. J. Legal Medicine* 118:224-234.
15. Budowle, B., Collins, P.J., Dimsoski, P., Ganong, C.* K., Hennessy, L.K., Leibelt, C., **Rao-Coticone, S.**, Shadravan, F. and Dennis J. Reeder. (2001) Population data on the STR loci D2S1338 and D19S433. *Forensic Science Communications*. Vol 3(3)1-4.
16. **Rao-Coticone S.**, Collins P., Dimsoski P., Ganong C.,* Hennessy L., Leibelt C., Shadravan F., Reeder D. *Applications of 5-dye technology in forensic DNA typing and analysis* (2003), 3-4, In Vol. 1239 of International Congress Series, Elsevier B.V. [File DOI Link](#)
17. Wallin, J.J., Rinkenberger, J. L., **Rao, S.**, Gackstetter, E., Koshland, M.E. and Zwollo, P (1999) B cell-specific activator protein prevents two activator factors from binding to the immunoglobulin J chain promoter until the antigen-driven stages of B cell development. *J. Biol. Chem.*, 274, 15959-15965.
18. **Rao, S.**, Karray, S., Gackstetter, E. and Koshland, M.E. (1998) Myocyte Enhancer Factor related B-MEF2 is developmentally expressed in B cells and regulates the immunoglobulin J chain promoter. *J.Biol.Chem.* 273, 26123-26129.

19. Zwollo, P., **Rao, S.**, Wallin, J.J.*, Gackstetter, E.* and Koshland, M.E. (1998) The transcription factor NF-KB/p50 interacts with the blk gene during B cell activation. *J. Biol.Chem* 273, 18647-18655.
 20. **Rao, S.** and Bodley, J. W. (1996). Expression, purification and characterization of the G domain of *Saccharomyces cerevisiae* Elongation factor 2. *Protein expression and Purification* 8, 91-96.
 21. Veldman S., **Rao, S.** and Bodley, J. W. (1994). Differential transcription of the two genes encoding *Saccharomyces cerevisiae* Elongation factor 2. *Gene* 148, 143-147.
 22. Mishra, S., **Rao, S.** and Deb, J. K. (1989). Isolation and characterization of a mutant of *Trichoderma reesei* showing reduced level of beta-glucosidase. *J. Gen. Microbiol.*135, 3459-3465.
- * Undergraduate student ** Master's student

Invited talks and oral presentations:

Coticone, S (2019) “Incorporating undergraduate mini research project exercises in advanced forensic science curriculum as a course-based research experience” SCI Mix Poster and oral presentation at the ACS national meeting in Orlando, FL March 31-April 4th 2019.

Coticone, S (2016) DNA, Drugs and detectives: Developing a special topics course for undergraduate students in forensic science. Research Day oral Presentation

Coticone, S (2015) DNA, Drugs and detectives: An interdisciplinary special topics course for undergraduate students in forensic science. International Forensic Research Institute Symposium. Florida International University, Miami FL, Feb 2015.

Coticone, S. (2013) Beyond CSI- Interesting applications of chemistry in Forensic Analysis. Ave Maria University, Naples, FL 2013

Coticone, S. Bethany Wolf, Sharda Ramachandran and Alicia Hill **(2008)** Utility of organic osmolytes in the preservation and recovery of DNA from Biological samples. FAME 2008, ACS meeting, Orlando FL, May 8-10, 2008

Coticone, S. (2006) Novel tools and technologies in Forensics. Ave Maria University, Naples, FL 2006.

Rao-Coticone, S, Philips, H., Chan, E., Ganong, C. and Reeder, D. **(2002)**” Development of the AmpF ℓ STR $^{\circledR}$ Profiler Plus $^{\text{TM}}$ *ID* PCR Amplification Kit”. American Association for Forensic Sciences, Atlanta, Georgia, Feb 10-14th, **2002**.

Rao-Coticone, S. Collins, P. Dimsoski, C. Ganong, L. Hennessy, C. Leibelt, F. Shadravan and D. Reeder. **(2001)** “Applications of 5-Dye Technology in Forensic DNA Typing and Analysis.” International Society for Forensic Genetics, Muenster, Germany, Sept 24th-28th **2001**.

Rao, S., Bloch, W and Walsh, S. **(1999)** “Factors affecting stutter in di and tetranucleotide microsatellites in forensic analysis”. International Society of Forensic Hematogenetics meeting abstracts. p 99. San Francisco, Aug 18-23.

ABSTRACTS (Conference Selected abstracts) * undergraduate student ** Graduate student

1. Freeman, M. and **Coticone, S.** Determination of fingerprint concentration from different surfaces via Bradford Assay analysis. Florida Undergraduate Research Conference. Florida Gulf Coast University, Feb 21-22.
2. Lebrun, B*. Rush, C.*, Skyers, N.* and **Coticone, S.** The Collection and Analysis of DNA before and after the use of fingerprint powder on different surfaces. Florida Undergraduate Research Conference, University of North Florida Feb 22-23, 2019.
3. Blethen, A* and **Coticone, S.** Differential Degradation of DNA of Saliva Samples from Objects in Different Aqueous Conditions. Florida Undergraduate Research Conference. Eastern Florida State College. Feb 23-24, 2018.
4. Cote, J., *Hilbert, L., * **Coticone, S.** Differential extraction of caffeine using various analytical techniques in a forensic chemistry laboratory. Florida Undergraduate Research Conference, FAU. Feb 24-25, 2017
5. Sinclair, K* and **Coticone,** Differential discrimination of adulterants in saffron using laboratory techniques. Florida Undergraduate Research Conference, FAU, Feb 24-25. 2017.
6. Abrams, N* and **Coticone, S.** Forensic application of high field NMR in the detection of imidazole isomers for drug detection. Florida Undergraduate Research Conference FAU, Feb 24-25, 2017.
7. Chad Hogan* and **Coticone, S.** Comparison of Quantity and Overall Quality of Trace DNA Evidence Collected from Substrates Found at Crime Scenes. FURC Tampa FL (2016) and Research Day, FGCU **Winner: Dean's award for best oral presentation.**
8. Garcia, O., *Keeney, C *and **Coticone, S.** Detection of Coumarin in Vanilla Bean Extracts Using Analytical Techniques in a Forensic Science Laboratory. International Forensic Science Symposium, Miami, FL (May 2015).
9. Garcia, O., *Keeney, C., * **Coticone, S.** Detection of Coumarin in Vanilla Bean Extracts Using Analytical Techniques in a Forensic Science Laboratory. Research Day, Florida Gulf Coast University (April 2015) **Winner: Dean's award for best poster.**
10. Martin, A., * and **Coticone, S.** Evaluation of amino acids for green technology storage and analysis of forensic DNA. Research Day, Florida Gulf Coast University (April 2015)
11. **Coticone, S.,** Stephanie Duque* and Nicholas Forster*. Improving physical evidence storage and efficiency of downstream processing of DNA in forensic DNA analysis. 67th American Academy of Forensic Science, Seattle, (February 2014).
12. Talhadas, R., * Passarello, J* and **Coticone, S:** Developing a forensic chemistry experiment for unknown drugs. Undergraduate Research conference, FIU, Miami, FL. (February 2014).
13. **Coticone, S.,** Passarello, J., Talhadas, R., and Van Houten, L.B. Evaluation of novel osmolytes for green technology storage and analysis of forensic DNA. Research Day, FGCU (April 2014). **Presidential Award for Best Faculty Poster.**

14. Passarello, J., *Talhadas, R., * and **Coticone, S**: Developing a forensic chemistry experiment for unknown OTC drugs using 3 Analytical techniques. Undergraduate Research conference. FGCU Research Day April 2014.
15. St Firmin, * Rubiano, C.* and **Coticone, S**. Chemistry and Specificity of Cannabinoid detection. Florida – Georgia Louis Stokes Alliance for Minority Participation (FGLSAMP) Jacksonville (February 2014) Winner 3rd prize
16. Rubiano, C., * St Firmin, J* and **Coticone, S**. Chemistry and specificity of Cannabinoid detection. Undergraduate Research conference, Gainesville, FL. (2013)
17. **Coticone, S.**, Stephanie Duque* and Nicholas Forster*. Improving physical evidence storage and efficiency of downstream processing of DNA in forensic DNA analysis. Best Faculty Poster Award at Research Day, Florida Gulf Coast University, Ft Myers, FL (April 2013).
18. Rubiano, C., * St Firmin, J* and **Coticone, S**. Chemistry and specificity of Cannabinoid detection. Undergraduate Research conference, Gainesville, FL. February 2013
19. Rubiano, C., * St Firmin, J* and **Coticone, S**. Chemistry and specificity of Cannabinoid detection. Undergraduate Research conference, FGCU Research Day, April 2013.
20. Barbour, D., * Santiago, D., * and **Coticone, S**. Identification of OTC and prescription drug mixtures using chemistry spot tests in forensic DNA analysis. SERMACS 2013
21. **Coticone, S.**, Ludwigsen, N., and Morgan, Brittany*. Using analytical techniques to distinguish illicit and over- the counter drugs in trace evidence. 65th American Academy of Forensic Science conference, Feb 20-25.2012 Atlanta, GA.
22. Morgan, B., *Ludwigsen, N., and **Coticone, S**. Using analytical techniques to distinguish illicit and over- the counter drugs in trace evidence. FGCU Research Day (April 2011).
23. **Coticone, S.**, Hodges, M.L., * Miranda, I., * Polonitza, A* and Van Houten, L.B. Role of Osmolytes in Forensic DNA analysis. FGCU Research Day (April 2011).
24. **Coticone, S.**, Lora Bailey Van Houten**, Dawn Gant, * Dennis Reeder and Luke Daum. Utility of PrimeStore in the long-term storage of DNA. 63rd American Academy of Forensic Science conference, Feb 21-24.2010 Seattle, WA
25. Hodges, M.L., * Mikiael, J., * Brown, D., Hill, A., ** and **Coticone, S**. Efficacy of osmolytes in the preservation of biological samples in forensic DNA analysis. Annual Research Day (April 23, 2010) FGCU, Ft Myers, FL.
26. Morgan, B., * and **Coticone, S**. Distinguishing illicit drugs from common household materials using TLC and FT-IR. National Collegiate Honors Council conference in Kansas City, October 2010.
27. **Coticone, S**. Hill, A., **Vander Veer de Boondt, A Reeder, D. Stabilizing blood samples using osmolytes for forensic DNA analysis. Annual Research Day (April 18, 2008).
28. Roschek, B and **Coticone, S**. Differentiation of Biological Fluids using Direct Analysis in Real Time (DART) technology. American Academy of Forensic Sciences (AAFS) San Antonio, TX, Feb 20-23, 2007.

29. **Coticone, S** and Walsh-Haney, H. Correlation of Forensic Anthropologic findings with DNA profiles obtained from cold cases. American Academy of Forensic Sciences (AAFS) San Antonio, TX, Feb 20-23, 2007.
30. **Coticone, S** and Walsh-Haney, H. Correlation of Forensic Anthropologic findings with DNA profiles obtained from cold cases. FGCU Research Day 2007. Best Poster award.
31. Barna, L., * Johnson, K.* and **Coticone, S.** A novel method of DNA extraction using bones of nonhuman and human origin Forensic Science Symposium, Ft Lauderdale, FL, Jan 19-20, 2007.
32. Gonzalez, M., * Roschek, W., and **Coticone, S.** Identification of the active ingredient of OTC drugs by DART mass spectrometry. FAME (American Chemical Society, Florida) 2007, Orlando FL 2007.
33. Van Houten, L** and **Coticone, S** Evaluation of YSTR multiplexes for analysis of casework samples. American Academy of Forensic Sciences meeting (AAFS) New Orleans Feb 21-26, 2005.
34. Van Houten, L** and **Coticone, S** Evaluation of YSTR multiplexes for analysis of casework samples. CSUPERB conference 2005.
35. Schoneau, E., * Wander, L.*and **Coticone S.** Reducing stutter artifacts in forensic DNA analysis using polyhydric compounds. AAFS, New Orleans Feb 21-26, 2005.
36. Schoneau, E., * Wander, L.*and **Coticone S.** Reducing stutter artifacts in forensic DNA analysis using polyhydric compounds. American Chemical Society conference 2005.
37. **Rao-Coticone, S.** Philips, H., Chan, E. Ganong, C and Reeder, D. Development of the AmpFISTR® Profiler Plus™ ID PCR Amplification Kit. American Academy of Forensic Science Meeting (AAFS) Atlanta, GA. February 2002.
38. Leibelt, C., Budowle, B., Collins, P., Daoudi, Y., Dimsoski, P., Ganong, C., * Hennessy, L., Moretti, T., Nunn, G., **Rao-Coticone, S.**, Reeder, D., Shradavan, F. and Roby, R. Identification of a D8S1179 Primer Binding Site Mutation and the Validation of a Primer Designed to Recover Null Alleles. Promega's 11th International Symposium on Human Identification. Biloxi, Mississippi Oct 9-12th, 2001.
39. **Rao, S**, Greenfield, L and Bloch, W. "Improved PCR-Genescan genotyping of mononucleotide repeat (BAT) loci. American Society of Human Genetics Oct 3-7th, 2000.
40. Leibelt, C.S, Holt, C.L., **Rao, S.**, Wallin, J.M. and Walsh, P.S. "ABI 377 DNA Sequencer, 96 lanes: Validation with AmpFISTR multiplex kits. Promega's "Tenth International Symposium on Human Identification. Orlando, Florida. Sept 28-Oct 2, 1999.
41. Wallin, J., Holt, C., **Rao, S** and Walsh, P.S. "Advances in DNA typing for forensic casework and high throughput databank laboratories. American Association of Forensic Science meeting (AAFS) Orlando, Florida, February 1999.
42. **Rao, S.**, Karray, S., Gackstetter, E.* and Koshland, M.E. "Recognition and positive regulation of the J chain promoter by MEF-2 (Myocyte Enhancer Factor 2) FASEB abstracts from the Experimental Biology meeting, San Francisco 1998.

43. **Rao, S.** and Barbera-Guillem, E. "Demonstration of solid tumor cell origin of soluble Interleukin-2 receptor alpha (IL-2R). Annual meeting of the Ohio Lake Erie Association of Cancer Centers (OLACC). "Genetics of Cancer and Cancer treatment" abstracts. Toledo, Ohio, Oct. 1995.

44. **Rao, S.** and Barbera-Guillem, E. "Interleukin-2 receptor alpha (IL-2Ra) expression correlates with metastatic potential". (Eighty-sixth Annual Meeting of the American Association for Cancer Research, Toronto, Ontario, Canada) Proceedings of the American Association for Cancer Research Annual Meeting (AACR), v.36, p 462, March 1995.

45. **Rao, S.** and Bodley, J. W. Regulated expression of *Saccharomyces cerevisiae* Elongation factor 2". University of Minnesota student symposium. Lake Itasca, MN (September 1994)

46. **Rao, S.** and Bodley J. W. "Regulated expression of *Saccharomyces cerevisiae* Elongation factor 2". Cold Spring Harbor Symposium on Translational control (CSH) Cold Spring Harbor, NY, p.199, August 24-28, 1994.

Teaching

- Florida Gulf Coast University, Ft Myers, FL
 - CHM 1045C: General Chemistry I with lab
 - CHM 1046C: General Chemistry II lab
 - CHM 2210C: Organic Chemistry I
 - CHM 2210 and CHM 2210L Organic Chemistry I and lab
 - CHM 2211C: Organic Chemistry II
 - CHM 2211 and CHM 2211L Organic Chemistry II and lab
 - CHM 3023C: Biochemistry
 - CHM 4930: Senior capstone, Lead instructor
 - CHS 4533C: Forensic Biochemistry
 - CHS 4544C: Forensic Chemistry
 - CHM 4931: Special Topics, Forensic Chemistry
 - CHM 4905: Directed Independent Study in Chemistry
 - CHM 4140: Senior Project in Chemistry
 - CHM 4141: Senior Project Presentation in Chemistry
 - IDH 4975: Honor's thesis
 - BCH 4033C: Advanced Biochemistry I
 - BCH 4034C: Advanced Biochemistry II
 - BSC 4900: Directed Independent study in Biology
 - BSC 4910C: Senior project research in Biology
 - IDH 3910: Honors directed independent study in biology/chemistry
- International College/Hodges University, Naples, FL
 - CHM 2310: Organic Chemistry I with lab
 - CHM 2311: Organic Chemistry II with lab
- California State University, Fresno: Biochemistry, Forensic Chemistry courses for undergraduate and graduate students:
 - Chem 3B: Introduction to Organic Chemistry and Biochemistry: Structure and behavior of organic and biological compounds, metabolism and regulation
 - Chem 150: General Biochemistry: Chemistry and metabolism of cellular constituents including carbohydrates, lipids, proteins and nucleic acids
 - Biol/Chem 241 A: Graduate level: Current topics in Molecular Biology; Genome structure, recombination, transposition.
 - Biol/Chem 241 B: Forensic DNA typing and analysis, current topics in Molecular Biology; Human genome project and chromosome biology
- University of San Francisco, CA: Foundations of Natural Science II (1997)

- University of Minnesota, Minneapolis, MN: Medical Biochemistry (1992-1993)

Undergraduate Student Mentor (Honors Thesis)

- Brittany Morgan (2011)
- Carlos Rubiano (2013)

Graduate Students Mentor (M.S)

- Lora Bailey-VanHouten (Criminalist, Department of Justice Crime lab, Fresno): Y chromosome Forensic Typing of Sexual Assault Cases (Chair, Master's committee) April 2005.
- Alicia Moe-Hill (Criminalist, Sheriff's office, Fresno): Effect of Trehalose and Sorbitol on stable storage of forensic samples for DNA analysis (**Chair, Master's committee**) **November 2005.**
- Cynthia R. Hall (Criminalist, Santa Clara County Crime laboratory and graduate student at San Jose State University) 2000. Effect of stutter production during amplification of tetranucleotide STR loci. (**M.S. in Forensic Science**). April 2000

Service

Editorial Appointments

- Reviewer
 - Fulbright Specialist Program (Chemistry Education) 2016-2017
 - Program Review for the MS program in Forensic Science (Texas Tech University, Lubbock, TX) March 2015
 - Reviewer for American Academy of Forensic Science Meeting abstracts (2013)
 - Reviewer NSF for Graduate Research Fellowship program (2013, 2014)
 - Reviewer National Defense Science and Engineering Graduate Program (2015-16)
- Editorial work: Book chapter reviews
 - Biochemistry by Appling, Anthony-Cahill and Mathews (2014-15)
 - Biochemistry by McKee and McKee (Oxford University Press, 2014, 2015)
 - Biochemistry by McKee and McKee (Oxford University Press 2012)
 - Fundamentals of Biochemistry by Miesfeld and McEvoy (W.W. Norton Co 2013)
 - Skeleton Keys to Biochemistry (Oxford University Press 2010)
 - Biochemistry by Dr. Ray Ochs (Jones and Bartlett 2010)
 - Math for Chemists by Paul Monk (Oxford University Press, 2009)

Department Committees/ Services

- Chair, Department of Chemistry and Physics (2018-present)
- Coordinator, BS, Forensic Science Program (2017-present)
- Chair, BS, Biochemistry development committee (2012-2014)
- Program Leader, Chemistry (2010-2012)
- Chair Search committee, Instructor (2012-13)
- Chair (BS biochemistry curriculum committee 2012-2013)
- Search committee Member for Asst /Assoc Prof (Chemistry 2013-14)
- Chair Search Committee, Instructor (Chemistry 2010-11)
- Search Committees for three faculty members, Music Department (2010-2012)

- Search Committee for three faculty members in Mathematics (2008-2009)
- **College, University, System-wide Committees/ Service**
 - Senator, elected (2015-2017)
 - College Marshall (fall and spring 2016)
 - Secretary, College Governance Team 2010
 - Member, College Governance Team elected (2009-2011)
 - Alternate Senator: elected (2011-2014)
 - University Planning and Budget Council (2015-16)
 - Strategic Planning and Institutional Effectiveness Committee (2015-16)
 - Graduate Affairs committee (2015-2017)
 - Member, Undergraduate Curriculum Committee, elected (2008-2010)
 - Member, graduate faculty (2006-present)
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- **Community Service Activities**
 - Mathletes forensic science activity coordinator (2016)
 - Senior Research Opportunity chemistry coordinator for middle school students (2013)
 - Chemistry High School competition chemistry chair (2011-13)
 - GEMS: Girls in Engineering Math and Sciences. FGCU 2006-2013
 - Faculty advisor, Cake cause 2012-2013
 - AP Biology course for North Ft Myers High School fall 2008.
 - Forensic Science Educational Conference for middle and High School teachers on the use of scientific method in the investigation of Crime. Lead instructor (Organized by AAFS) May 2006, 2008.
- **Professional Affiliations and Professional Development:**
 - Institute of Academic Leadership training, Chairs workshop, Fall 2018
 - Southern Association of Forensic Scientists (2017-present)
 - Lucas Center New Faculty Academy Mentor (2013, 2014, 2015)
 - Established Career Academy (Spring 2015, 2016)
 - National Science Teachers Association member (2013-present)
 - Seldin Academic Portfolio Mentoring (Dec 2010, May 2011, May 2013, May 2014)
 - American Chemical Society (2003- present)
 - American Academy of Forensic Sciences Fellow (2005-present)
 - Secretary, San Joaquin Valley Section, American Chemical Society (2003-2005)