William E. Cotham Ph.D.

Associate Director Mass Spectrometry Facility
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Education

1985-1990: **Ph.D.**, Analytical Chemistry, Department of Chemistry, University of South Carolina, Columbia, SC Research Area: Analytical trace organic analysis GPA 4.0 Dissertation Title: **Chemical and Physical Processes Affecting the Transport and Fate of Semivolatile Organic Contaminants in the Environment**

1981-1985: **BS, Summa Cum Laude**, High Point University, High Point, NC Major: Chemistry Minor: Mathematics; GPA 3.89

Professional Experience as a Ph.D.

1990-present: Associate Director Mass Spectrometry Laboratory; Department of Chemistry and Biochemistry, University of South Carolina, Columbia, SC 29208 **Duties**: Responsible, along with the director, for the daily operation, planning and maintenance of the departmental mass spectrometry facility. This includes project planning and consultation with graduate students and faculty, routine and non-routine sample analysis, instrument maintenance and repair, billing, and graduate and undergraduate education. **Experience**: Daily operation of sophisticated mass spectrometers including a Thermo QExactive HFX tandem quadrupole-orbitrap high resolution instrument with electrospray ionization useful for both proteomics and metabolomics projects, a Waters Premier XE triple quadrupole mass spectrometer employing electrospray for performing quantitative LC-MS, a Thermo Velos Pro LTQ-Orbitrap high resolution tandem mass spectrometer for a variety of LCMS workflows among others.

Publications

Hu, Shan; Jongkhumkrong, Jinnawat; Nalcioglu, Oznur Olmez; Yan, Diqi; Sitter, James D.; Liu, Hao; Wijesooriya, Akshani Anjula; Walla, Michael; Cotham, William E.; Vannucci, Aaron K.; et al. Cyclopropanol - a caged dual-functional warhead for selective electrochemical bioconjugation. ChemRxiv (2025), 1-23.

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Unger, Christian A.; Aladhami, Ahmed K.; Hope, Marion C. III; Cotham, William E.; Nettles, Kendall W.; Clegg, Deborah J.; Velazquez, Kandy T.; Enos, Reilly T. Skeletal muscle endogenous estrogen production ameliorates the metabolic consequences of a high-fat diet in male mice. Endocrinology (2023), 164(8), 1-11.

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Kauroo, Shahin; Govinden-Soulange, Joyce; Ranghoo-Sanmukhiya, V. Mala; Miranda, Kathryn; Cotham, William E.; Walla, Michael D.; Nagarkatti, Mitzi; Nagarkatti, Prakash. Extracts of select endemic plants from the Republic of Mauritius exhibiting anti-cancer and immunomodulatory properties. Scientific Reports (2021), 11(1), 4272.

Gao, Feng J.; Hebbar, Sachin; Gao, Xu A.; Alexander, Michael; Pandey, Jai P.; Walla, Michael D.; Cotham, William E.; King, Stephen J.; Smith, Deanna S. GSK-3β Phosphorylation of Cytoplasmic Dynein Reduces Ndel1 Binding to Intermediate Chains and Alters Dynein Motility. Traffic (Oxford, United Kingdom) (2015), 16(9), 941-961.

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Lee, Anthony J.; Sowell, J. Walter; Cotham, William E.; Zhu, Bao Ting. Chemical synthesis of two novel diaryl ether dimers of estradiol-17beta. Steroids (2004), 69(1), 61-65.

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Muhammad, Warees T.; Fox, Karen F.; Fox, Alvin; Cotham, William; Walla, Michael. Electrospray ionization quadrupole time-of-flight mass spectrometry and quadrupole mass spectrometry for genotyping single nucleotide substitutions in intact polymerase chain reaction products in K-ras and p53. Rapid Communications in Mass Spectrometry (2002), 16(24), 2278-2285.

Mendez, Carmen; Kuenzel, Eva; Lipata, Fredilyn; Lombo, Felipe; Cotham, William; Walla, Michael; Bearden, Daniel W.; Brana, Alfredo F.; Salas, Jose A.; Rohr, Juergen. Oviedomycin, an unusual angucyclinone encoded by genes of the oleandomycin-producer Streptomyces antibioticus ATCC 11891. Journal of Natural Products (2002), 65(5), 779-782.

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Cotham, William E., Jr.; Bidleman, Terry F. Degradation of malathion, endosulfan, and fenvalerate in seawater and seawater/sediment microcosms. Journal of Agricultural and Food Chemistry (1989), 37(3), 824-8.