

CURRICULUM VITAE

Cleber Costa Ouverney

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Employment

2010- Associate Professor, San José State University, Biology Department
2005-2010 Assistant Professor, San José State University, Biology Department
2000-2005 Post-doc, Stanford Univ. School of Medicine & The Forsyth Institute

Education

1999	Ph.D. Marine Microbiology	Univ. of Southern Calif.,	Los Angeles
1993	M.S. Environmental Sciences	California State University	Hayward
1990	B.S. Biology	Occidental College	Los Angeles

Research Interests

My research interests focus on the characterization of natural complex microbial communities by type and function. We are primarily interested in uncultured *Bacteria* and *Archaea* associated with the human body. Our long-term goal is to establish model organisms from environmental sites to overcome difficulties in determining the mechanisms by which microbes and host organisms are established. We apply modern culture-independent molecular techniques to detect, quantify, and determine the metabolic requirements of those microbes *in situ* at the single cell level. General topics of interest: microbial ecology, pathogenic microbes, emerging eukaryotic pathogens, genome sequencing, environmental models for understanding pathogens, beneficial microbes, modern molecular techniques.

Publications in Peer-Reviewed Journals

Caldwell, A.C., L.C. Fidèles Silva, C.C. da Silva, and C.C. **Ouverney**. 2015. Prokaryotic Diversity in the Rhizosphere of Organic, Intensive, and Transitional Coffee Farms in Brazil. PLoS ONE 10(6): e0106355. doi:[10.1371/journal.pone.0106355](https://doi.org/10.1371/journal.pone.0106355)

Abrams M., D. Barton, E. Vandaei, D. Romero, A. Caldwell and C. **Ouverney**. 2012. Genomic Characteristics of an Environmental Microbial Community Harboring a Novel Human Uncultured TM7 Bacterium Associated with Oral Diseases. Open Access Scientific Reports, 1:276. doi: [10.4172/scientificreports.276](https://doi.org/10.4172/scientificreports.276)

Dinis J.M., D.E. Barton, J. Ghadiri, D. Surendar, K. Reddy, F. Velasquez, C.L. Chaffee, M.S. Lee, H., Gavrilova, H. Ozuna, S.A. Smits, and C.C. **Ouverney**. 2011. In Search of

an Uncultured Human-Associated TM7 Bacterium in the Environment. PLoS ONE 6(6): e21280. doi: [10.1371/journal.pone.0021280](https://doi.org/10.1371/journal.pone.0021280).

Smits S.A. and C.C. **Ouverney**. 2010. Phylometrics: a pipeline for inferring phylogenetic trees from a sequence relationship network perspective. BMC Bioinformatics, 11(Suppl 6):S18. doi:[10.1186/1471-2105-11-S6-S18](https://doi.org/10.1186/1471-2105-11-S6-S18).

Smits S.A. and C.C. **Ouverney**. 2010. jsPhyloSVG: A Javascript Library for Visualizing Interactive and Vector-Based Phylogenetic Trees on the Web. PLoS ONE 5(8): e12267. doi: [10.1371/journal.pone.0012267](https://doi.org/10.1371/journal.pone.0012267)

Marcy, Y., C. **Ouverney**, E.M. Bik, T. Lösekann, N. Ivanova, H.G. Martin, E. Szeto, D. Platt, P. Hugenholtz, D.A. Relman, S.R. Quake. 2007. Dissecting biological “dark matter” with single-cell genetic analysis of rare uncultivated TM7 microbes from the human mouth. [PNAS](https://doi.org/10.1073/pnas.11889-07) 104(29): 11889-94.

Jones, B. W., A. Maruyama, C. C. **Ouverney**, and M. K. Nishiguchi. 2007. Spatial and Temporal Distribution of the *Vibrionaceae* in Coastal Waters of Hawaii, Australia and France. *Microbial Ecology*, 54: pp

Lepp, P. W., M. M. Brinig, C. C. **Ouverney**, K. Palm, G. C. Armitage, and D. A. Relman. 2004. Methanogenic Archaea and human periodontal disease. [PNAS](https://doi.org/10.1073/pnas.16176-04), 101(16): 6176-6181.

Ouverney, C. C., G. C. Armitage, and D. A. Relman. 2003. Single-cell enumeration of an uncultivated TM7 subgroup in the human subgingival crevice. [Applied and Environmental Microbiology](https://doi.org/10.1128/AEM.69.10.6294-6298), 69 (10): 6294-6298.

Maywald, M., A. Herbay, D. N. Fredricks, C. C. **Ouverney**, J. C. Kosek, and D. A. Relman. 2003. Cultivation of *Tropheryma whippelii* from Cerebrospinal Fluid. *J. of Infectious Disease*, 188: 801-888.

Brinig, M. M. P. W. Lepp, C. C. **Ouverney**, G. C. Armitage and D. A. Relman. 2003. Prevalence of Bacteria of Division TM7 in human subgingival plaque and their association with disease. [Applied and Environmental Microbiology](https://doi.org/10.1128/AEM.69.3.1687-1694), 69(3):1687-1694

Ouverney, C. C. and J. A. Fuhrman. 2000. Marine planktonic Archaea take up amino acids. *Applied and Environmental Microbiology*, 66 (11): 4829-4833.

Ouverney, C. C. and J. A. Fuhrman. 1999. Combined microautoradiography-16S rRNA probe technique for the determination of radioisotope uptake by specific microbial cell types in situ. *Applied and Environmental Microbiology*, 65 (4):1746-1752.

Fuhrman, J. A. and C. C. **Ouverney**. 1998. Marine microbial diversity studied via 16S rRNA sequences: coastal cloning results and counting of native archaea with fluorescent single cell probes. *Aquatic Ecology*, 32: 3-5.

Ouverney, C. C. and J. A. Fuhrman. 1997. Increase in fluorescence intensity of 16S rRNA *in situ* hybridization in natural samples treated with chloramphenicol. *Applied and Environmental Microbiology*, 63(7): 2735-2740.

Book Chapters

Ouverney, C. 2016. Assessment of prokaryotic biological activity at the single cell level by combining microautoradiography and fluorescence *in situ* hybridization (FISH). Editor (John Bell and Suresh Pilay) Manual of Environmental Microbiology, ASM Press. (Book Chapter; *In press*)

Ouverney, C. C., G. C. Armitage, and D. A. Relman. 2004. Use of Cloned Artificial Targets for FISH (catFISH) for the optimization of oligonucleotide probe hybridization conditions with 16S rRNA clones for *in situ* quantification of uncultivated prokaryotic cells. In G. A. Kowalchuk, F. J. de Bruijn, I. M. Head, Akkermans, A.D.L., and J. D. van Elsas, editors. Molecular Microbial Ecology Manual, 2nd edition. Chapter 3.12: 727-742. Kluwer Academic Publishers, Dordrecht, The Netherlands ([Book Chapter](#))

Ouverney, C. C. and J. A. Fuhrman. 2004. Correlating single-cell count with function in mixed natural microbial communities through STARFISH. In G. A. Kowalchuk, F. J. de Bruijn, I. M. Head, Akkermans, A.D.L., and J. D. van Elsas, editors. Molecular Microbial Ecology Manual, 2nd edition. Chapter 8.08: 1689-1710. Kluwer Academic Publishers, Dordrecht, The Netherlands. ([Book Chapter](#))

Large Public Datasets & Databases by the Ouverney lab

Caldwell, Adam Collins, Silva, Livia Carneiro Fidèles, da Silva, Cynthia Canêdo, & Ouverney, Cleber Costa. (2014). 16S rRNA Sequence Data, Brazilian Coffee Soils. ZENODO. <http://doi.org/10.5281/ZENODO.11120>

- *This is an open-source database that can be used as collaborations with other researchers who can either download our raw data or learn about our DNA sequence analysis pipeline.*

Applications and Software for DNA Sequence Analysis

jsPhyloSVG: An Open-Source Javascript Library for Visualizing Interactive and Vector-Based Phylogenetic Trees on the Web

- *This app has been adapted by the ELSEVIER journals as the standard for manuscript submissions that include phylogenetic trees.*

Phylometrics: An Open-Source Pipeline for Inferring Phylogenetic Trees from a Sequence Relationship Network Perspective

16S rRNA gene analysis pipeline: A Step-by-Step Approach to Analyzing Massive 16S rRNA Gene Data Generated by Illumina Sequencing Platform from a Diversity Microbial Community.

Other Publications

Ouverney, C. C. 1999. Dissecting the Marine bacterioplankton “black box” by type and function through FISH and STARFISH, Ph.D. Dissertation, University of Southern California.

Kitting, C. L., C. C. **Ouverney**, and F. Canabal II. 1993. Small fishes concentrated during the first five years outside an experimental wastewater marsh in San Francisco Bay. Selected proceedings of a Society of Wetland Scientists, Western Chapter. U.C. Davis, CA, March 25-27.

Research Grants & Other Funding Sources

Competitive Grants during the RTP Review Period (2010-Current)

- NIH IRACDA Grant (Co-PI), 9/1/10 to 08/31/15, \$776,384
- NIH RISE Program (Coordinator), 4/01/13 to 3/31/16, \$1,331,293
- CSUPERB (Co-PI), 2015-2016, \$15,000
- NIH MBRS SCORE Grant (PI), 2012-2014, \$213,121
- SJSU RSCA (PI), Summer 2012, \$9,967

Grants initially Awarded prior to this RTP Review Period, but continued being funded through a Non-Competitive Renewal Process during this RTP Review Period

- NIH MBRS SCORE Grant (PI), 2008-2011, \$441,704
- NIH ARRA Grant (PI), 10/01/09 – 09/30/11, \$139,607
- NSF Minority Undergraduate Research “RUMBA” Grant, (Co-PI), 2010- 2013, \$322,750
- Howard Hughes Medical Institute Grant (Co-PI), 09/16/08 – 09/16/12, \$1,300,000

Grants that ended prior the RTP Review Period

- NSF Minority Undergraduate Research “RUMBA” Grant, (Co-PI), 2007- 2010, \$214,260
- Junior Faculty Career Development Grant – Spring 2006 – SJSU (PI) \$3,976
- Professional Development (Lottery) Grant – Spring 2006 & Fall 2005 – SJSU (PI) \$2,000
- SJSU Biology Start-Up Funds – Fall 2005 \$25,000

Prior to Joining SJSU

- Stanford Dean’s Postdoctoral Fellowship - July 1, 2000- for one year.
- NIH Postdoctoral training grant - Jan. 17, 2000 - for two years.
- SeaGrant Traineeship - May 1998-Nov. 1999.
- National Academy of Sciences National Research Council - Travel Grant IUMS'99.
- Poster Award at ASLO'98 - San Diego.
- Alice Tyler Environmental Fellowship Award - Fall '97.
- Student Travel Awards to ASLO '97 and to ASM '97.
- TA Awards: BIO 310L - Spr '97; BIO 210 - Spr '96; BIO 210 - Fall '96.
- Trojan League Awards - Sum '96 and Sum '98.
- Thomas J. Watson Fellowship - National - 1990-91
- Richter Fellowship - Occidental College - Summer'89

- Ford Fellowship - Fall 1989

Teaching Experience

Instructor

- Bacterial Diversity (MICR122 and MICR122L) Spr'11, Spr'12, Spr'13, Spr'14, Spr'15
- Graduate Studies in Biology (BIOL202), Fall '10, Fall'14, Fall'15
- An Amazonian Adventure (BIOL190 & BIOL255E), Brazil, Summer 2008, 2010
- General Microbiology (MICR101), SJSU, Spring '06, Fall '08, Spring '09
- Food Microbiology (MICR123), SJSU, Spring '07, Spring '09
- General Bacteriology (MICR20), SJSU, Fall '05, Fall '06, Fall '07, Fall'14
- Foundations of Biodiversity (BIOL1A): Fall'10 (1A activity):
- Foundations of Cell Biology & Physiology (BIOL1B, lab or activity): Fall'15, Spr'15, Spr'11

Laboratory Coordinator

- BIOL1B labs: Spring 2015 (10 labs), Fall 2015 (7 labs)
- MICR20 labs: Fall 2005, Fall 2006, Fall 2007, Fall 2008, Spr 2014

The duties of a lab coordinator at SJSU are crucial for the success of the course, from the planning stages of the content of individual lab experiments, to the selection and training of TAs, and helps TAs manage student grievance issues. The coordinator is also in charge of communicating to the supporting staff serving the lab about the materials and reagents needs for each and every lab. Finally, the coordinator organizes and leads weekly run-through meetings with the lab TAs to go over the experiments of the subsequent labs, prepares and disseminates PPT slides and handouts to support each lab. After each graded assignment, the coordinator transfers the scores into the main Canvas shell of the lecture. Twice per semester the coordinator analyzes the summary score data for any discrepancies in grading methods among the various TAs. Results from such analysis are shared with TAs and the lecture professor and any discrepancies identified are dealt with in a timely manner.

Invited Lectures, Seminars, Conference Talks, and Workshop

Ouverney, CC. 2015. Characterization of low-abundance uncultured bacteria from environmental sites, including humans: Single cell isolation, genomic sequencing, and metabolism. UC Davis Biology Department Lecture Series, Feb. 25 – Invited Speaker

Ouverney, C. 2014. XIV Encontro Nacional de Microbiologia Ambiental (ENAMA), João Pessoa, PR, Brazil, Oct. 22-24 – Invited speaker. International Conference.

Ouverney, C. 2014. A Sludgy Human Mouth. SJSU Biology Department Seminar Series, April 4th. Talk.

Ouverney C. 2013. Metagenomics of human-associated uncultured bacteria and environmental models. Stanford University, Jan. 17th, Invited by Dr. David Relman, Professor Stanford Medical School. Talk.

Ouverney, C. 2013. The Uncultured Bacteria Majority, from 16S rDNA to Genomes. CSU Fullerton Biology Seminar, March 13th. Talk.

Ouverney, C. 2013. A sludgy human mouth: how environmental uncultured bacteria may serve as model organisms for studying human diseases. CSU Northridge Biology Seminar, March 15th. Talk.
CSU Northridge Biology Seminar, Talk

Ouverney, C. 2013. Bactérias ambientais não-cultiváveis para o estudo de doenças humanas. Federal University of Viçosa, Minas Gerais, Brazil – Invited speaker (in Portuguese)

Ouverney, C. 2013. Workshop on the Fluorescence *In Situ* Hybridization (FISH) Technique for the Identification of Bacteria in Mixed Microbial Communities. Federal University of Viçosa, Minas Gerais, Brazil, Dec. 16-18

Ouverney, C. 2012. Novel human-associated uncultured bacterial pathogens, environmental models, and what metagenomics data tell us. International Conference on Metabolomics and Systems Biology, San Francisco, CA, Feb 20-22. Talk.
I also chaired one session for this meeting.

Ouverney, C. 2012. Novel Human-Associated Uncultured Bacterial Pathogens, Environmental Models, and Metagenomics. UCSC Biology Seminar, Feb. 24. Talk

Ouverney C. 2010. A sludgy human mouth. Genetics of Industrial Microorganisms, Melbourne, Australia, June 28 – July 1. Talk.

Selected Poster Presentations and Conferences

(Presenter's name is underlined)

*Grant-supported student †Student funded with travel award.

2015

Brown, Cecelia*†, F. Ghadiri*, B. Lee, M. Rangel*, H. Cross, A. Caldwell, C. **Ouverney**. 2015. Investigation of a Novel Lactase Associated with the Uncultivated Bacteria TM7. SACNAS, Oct. 29-31, 2015, Washington, D.C., Oct. 29-31, 2015

Palmieri, Gabriel*†, M. Rangel, C. **Ouverney**. 2015. Lipase Expression on Uncultured Bacteria. SACNAS, Washington, D.C., Oct. 29-31, 2015

Other posters by Students: SJSU College of Science Research Day; ABRCMS, Seattle, Washington Nov 11-14, 2015.

2014

Romero, D.K*†, M. Rangel*, A. Caldwell, E. Vandaei, B. Lee, S. Webber, M. Abrams*, C. **Ouverney**. 2014. From Genome to Protein Activity *In Vitro* of an Unculture

Bacterium Associated with Human Microbiomes. American Society for Microbiology, Boston, MA, May 17-20. Poster

Serquina, A*†, D. Romero, C Brown, N Azizi, and C **Ouverney**. 2014. Novel gene expression of uncultivated TM7 bacteria. SACNAS, Los Angeles, CA, Oct 16-18. Poster

Rangel, M*†. B Lee, D Romero, A Caldwell, E Vandaei, M Abrams, and C **Ouverney**. 2014. *In vitro* characterization of UDP-glucose 6-dehydrogenase found in an uncultivated bacterium. ABRCMS, San Antonio, TX, Nov. 12-15. Poster

Other Posters by Students: CSUPERB (2 Posters, Jan 9-11); SJSU College of Science Day (Poster, May 5th), STEM Summer Program (2 Posters, Gavilan College, Aug. 8th)

2013

Rangel M*, S Nystrom*, A Lindsey, A Caldwell*, S Ghotra, and C **Ouverney**. 2013. Investigating Sulfur River (SR1) Bacteria in Sulfur-Rich and Host-Associated Environments. CSUPERB, Jan. 3. Poster.

Lee B, A Caldwell*, S Lopez*, M Rangel*, S Ghotra, F Ghadiri*, and C **Ouverney**. 2013. ABRCMS, Nashville, TN, Nov. 13-16. Poster.

Ghadiri F*, J Ghadiri*, S Garcia, A Caldwell*, I Vinnichenko, and C **Ouverney**. 2013. Deep Sequencing of a Bacterium Recently Found in the Human Oral Cavity. ABRCMS, Nashville, TN, Nov. 13-16. Poster.

Rangel M*, A Caldwell, D Romero, E Vandaei, M Abrams, and C **Ouverney**. 2013. Gene Expression in a Recently Discovered Uncultured Bacterium Associated with Human Oral and Skin Microbiome. ABRCMS, Nashville, TN, Nov. 13-16. Poster.

Other Posters by students: ASM (Colorado), SJSU CoS Science Day

2012

Abrams M*, E Vandaei, D Romero*, V Nguyen, J Sanjeeviraman, and C **Ouverney**. 2012. Megagenomics of a Unique Microbial Community. CSUPERB, Santa Clara, CA, Jan. 5-6. Poster

Ghotra S, A Caldwell*, A Lindsey, S Nystrom*, and C **Ouverney**. 2012. Novel Bacterial Lineages in the Candidate Division SR1. CSUPERB, Santa Clara, CA, Jan. 5-6. Poster

Ghadiri J, J Dinis, D Barton, S Smits, and C **Ouverney**. 2012. An Uncultured Human-Associated Bacterium. CSUPERB, Santa Clara, CA, Jan. 5-6. Poster

Ghotra S, A Lindsey, A Caldwell*, S Nystrom*, and C **Ouverney**. Host-Associated versus Environmental SR1 Bacteria. 2012. American Society for Microbiologists, San Francisco, CA, June 16-19. Poster

Ghadiri J*, F Ghadiri*, I Vinnichenko, C **Ouverney**. 2012. Prevalence of TM7a in Human Subgingival Plaque. American Society for Microbiologists, San Francisco, CA, June 16-19. Poster

Abrams M*, E Vandaei, D Romero*, V Nguyen, A Caldwell*, and C **Ouverney**. 2012. Metagenomics of an Environmental Microbial Community with Potential Uncultured Human Pathogens. American Society for Microbiologists, San Francisco, CA, June 16-19. Poster

Other Posters by Students: ABRCMS (** Diana received an award), SACNAS (Diana & Farsheed), SJSU Under Grad Research Award (Eamon Vandaei), Gavilan College Research Day (July 26),

2011

Padilla, O and C Ouverney. Bacteria in activated wastewater through culture-independent techniques. SACNAS National Conference, San Jose, CA, Oct 27-30, 2011.

Nystrom, S, A. Caldwell, S. Ghotra, A. Lyndsey, and C Ouverney. SR1 Bacteria: A Fresh Look. Northern California American Society for Microbiologists, Pleasanton, CA, March 11-12, 2011. Poster awarded 1st place in microbiology.

2010

Delapegna, S, T E Ohene-Nyako, A Caldwell, and C Ouverney. Termite gut SR1 bacteria as an environmental model for human oral diseases. SACNAS National Conference, Las Vegas, NV, October 30 – Nov 3, 2010.

Ghadiri, J, J Dinis, and C Ouverney. TM7 an uncultured human-associated pathogen found in the environment. ABRCMS, Charlotte, NC, Nov 10-13, 2010. Best Poster Award in Microbiology

Dinis, J, D Barton, J Ghadiri, S Smits, and C Ouverney. Environmental Based Model for studying Uncultivable Human Associated Microbes. 110th American Society for Microbiology, San Diego, CA May 23-27, 2010. Poster

Smits, S and CC Ouverney. Phylometrics: a web service automating the generation and management of phylogenetic trees. 7th Annual MidSouth Computational Biology and Bioinformatics Society (MCBIOS) Conference, Arkansas State University, Jonesboro, AR, Feb 19-20, 2010. Poster

Ohene-Nyako, T.E., J. Degnan, A. Caldwell, and C.C. Ouverney. An environmental model to study human-associated pathogens. 22nd CSUPERB, Santa Clara, CA, Jan 8-9, 2010. Don Eden Graduate Student Research Award.

2009

Ghadiri, J A, J. Dinis, and C. **Ouverney**. The fine line between humans and sludge microbiomes: A molecular analysis. ABRCMS, Phoenix, Arizona, Nov. 4-7, 2009. *Jamsheed Ghadiri is an undergraduate microbiology major student at SJSU carrying out*

research in my lab and supported by my NIH MBRS grant (PI: Ouverney) the SJSU NIH RISE program (PI: K. Singmaster, Chemistry). Poster

Dinis, J., D. Barton, J. Ghadiri, H. Gavrilova, S. Smits, and C. **Ouverney**. Quantification of a Human-Associated Microbe in the Environment. ABRCMS, Phoenix, Arizona, Nov. 4-7, 2009. *Jorge Dinis is an undergraduate microbiology major student at SJSU carrying out research in my lab and supported by my NIH MBRS grant (PI: Ouverney) and the SJSU NIH MARC program (PI: H. Silber, Chemistry).*

Degnan, J., Edith Nyako, Adam Caldwell, and C. **Ouverney**. Characterization of a novel environmental SR1 bacterium strain closely related to a human skin-associated bacterium. ABRCMS, Phoenix, Arizona, Nov. 4-7, 2009. *John Degnan is an undergraduate student at SJSU carrying out research in my lab and supported by my NIH MBRS grant (PI: Ouverney) and the SJSU NIH MARC program (PI: H. Silber, Chemistry).*

Ozuna, Hazel, H. Gavrilova, and C. **Ouverney**. In Search of An Uncultivated Bacterium Model. SACNAS National Conference, Dallas, TX, Oct 15-18, 2009. *Hazel Ozuna was an undergraduate student from the University of Puerto Rico who spent 10 weeks carrying out research in my lab in the summer 2009 and was supported by my NIH MBRS grant and the SJSU NSF RUMBA program (PI: J. Soto, co-PI: Ouverney).*

Smits, Samuel, Sami Khuri, and Cleber **Ouverney**. LABnovo: A novel open-sourced web service for managing laboratory data and protocols. Poster (#14). 8th Annual International Conference on Computational Systems Bioinformatics, Stanford University, CA – August 10-12, 2009. *Presented by SJSU undergraduate student Samuel Smits, supported by my NIH MBRS and the Howard Hughes Medical Institute Grant (co-PI: Ouverney)*

Gavrilova, H., J. Dinis, and C. Ouverney. Validation of a fluorescent probe for visualizing a novel environmental bacterium closely associated with human oral uncultured TM7. 5th SJSU College of Science Student Research Day, San Jose, CA, May 1st, 2009. *Helen Gavrilova is an undergraduate microbiology major student at SJSU working in my lab and supported by the Howard Hughes Medical Institute Grant (Co-PI: Ouverney).*

D. Barton, D. Surendar, K. Reddy, S. Smits, B. Haller, J. Dinis, H. Gavrilova, and C. **Ouverney**. Uncultivated environmental prokaryotic model to study human disease-associated bacteria. Northern California American Society for Microbiologists. San Ramon, March 13-15, 2009. *Oral Presentation by SJSU undergraduate student Deepa Surendar, received award for 2nd place.*

2008

Degnan, J. and C. **Ouverney**. Primer design and validation to better characterize an uncultivable bacterium group recently associated with human disease. ABRCMS Conference, Orlando, FL Nov 5-8, 2008. *John Degnan is a NIH RISE student from the Chemistry Department working in my Lab.*

C. C. **Ouverney**, K. Boddugari, D.E. Barton, D.S. Surendar, T.C. Chien. Uncultivable environmental model to study human associated bacteria ASM Beneficial Microbes, Oct 12-16, 2008. Mrs. K. Boddugari, a senior at the time, received a travel award for this poster. Kavitha is currently pursuing a degree in Clinical Laboratory Science at SJSU.

D.E. Barton, D.S. Surendar, K.R. Boddugari*, and C.C. **Ouverney**. Uncultivated Environmental Prokaryotic Model to Study Human Disease Associated Bacterium. . ASM General Meeting, Boston, M., May 31- June 1, 2008. * *Student travel award*.

D.E. Barton, D.S. Surendar, K.R. Boddugari, and A. O. Kizhakkepad, C.C. **Ouverney**. In Search of a Human-Associated Bacterium in Wastewater. CSUPERB, Oakland, CA Jan 11-13, 2008.

2007

Matt Lee and Cleber C. Ouverney. Environmental Survey for TM7 Bacteria. SACNAS, Kansas City, MO, Oct 11-14, 2007

Carol Chaffee, Fernando Velasquez, Christina A. Penn, and Cleber Ouverney. Environmental Model for Uncultivated Bacteria Associated with the Human Periodontitis. CSUPERB Meeting, Los Angeles, CA Jan 12-14 2007.

Fernando Velasquez, Christina A. Penn, Carol Chaffee, and Cleber Ouverney. Temporal Change of TM7 Bacteroid Phylotypes in the Human Oral Flora. CSUPERB Meeting, Los Angeles, CA Jan 12-14, 2007

2006

Eckburg, P., E. Bik, C. N. Bernstein, E. Purdom, C. C. Ouverney, M. Sargent, and D. A. Relman. Microbial Ecology and Human Illness: The Intestinal Microbiota in Crohn's Disease. 11th ISME (International Society for Microbial Ecology) Meeting – Vienna, Austria, August 20-25, **2006**.

Ouverney C.C., M. Doan, S. Bommaiah, T. Chien, and L. Rezayani. The ecophysiology of environmental uncultivable bacteria close relatives of human-associated emerging pathogens through culture-independent molecular techniques. FEMS (Federation of European Microbiological Societies) Meeting –Madrid, Spain, July 4-8, **2006**.

Marcy, Y. E. Bik, CC **Ouverney**, DA Relman, and S Quaker. Towards sequencing single uncultivable bacteria: Parallel Single Cell Genome Amplification in a Microfluidic Chip. UC Berkeley, CA Spring **2006**

2005 and Earlier

Ouverney, C C, P. Hugenholtz, P. W. Lepp, G. C. Armitage, and D. A. Relman Visualization and quantification of uncultivated members of the candidate bacterial phyla, TM7 and SR1, in the human subgingival crevice, using oligonucleotide probes optimized

by catFISH. **2003** - Biofilm - ASM - Victoria, British Columbia - November 1-7.

Ouverney, C. C., P. W. Lepp, M. Brinig, and D. A. Relman. "FISH specificity for uncultivated prokaryotes: FISH on plasmid-transformed cells." **2002** - IUMS Xth International Congress of Bacteriology and Applied Microbiology, Paris, July 27th-Aug. 1st. Talk.

Ouverney, C. C. and J. A. Fuhrman. "Archaea as strong competitors for dissolved nutrients in non-extreme environments." **1999** - IUMS - 9th International Union of Microbiological Societies - International Congress of Bacteriology and Applied Microbiology, Mycology, and Virology Divisions. Sydney, Australia. August 16-20. Talk.

Fuhrman, J. and C. C. Ouverney. "Marine bacterioplankton identification and activity assays with 16S rRNA probes and microautoradiography." **1999** - SGM - 143rd Society of General Microbiology Meeting - University of Edinburgh, England. April 12-16. Talk.

Ouverney, C. C. and J. A. Fuhrman. Simultaneous in situ measurements of specific nutrient uptake by specific marine bacterioplankton cells. **1999** - ASLO - American Society of Limnology and Oceanography Santa Fe, NM. February 1-5. Talk.

Fuhrman, J. A. and C. C. Ouverney. Which microbes are active, and what kinds are they? **1999** - ASLO. Talk.

Carr, L. M., Ouverney, C. M., and J. A. Fuhrman. Comparison of bacterial and archaeal concentrations between near-shore and open-ocean depth profiles off Southern California. **1999** - ASLO. Poster.

Ouverney, C. C. and J. A. Fuhrman. Determining *in situ* nutrient uptake by specific prokaryotic group in a mixed marine community. **1998** - ASLO - San Diego, CA. February 9-13. Poster

* *Selected as one of the best posters in my session.*

Ouverney, C. C. and J. A. Fuhrman. Increasing fluorescence of 16S ribosomal RNA *in situ* hybridization with chloramphenicol. **1997** - ASLO - Santa Fe, NM. February 10-14. Poster.

Fuhrman, J., P. Rossi, M. Karner, and C. Ouverney. Depth distribution of microbial taxa by single-cell 16S rRNA fluorescent probes. **1997** - ASLO - Santa Fe, NM. Talk.

Rassoulzadegan, F., U. Christaki, J. Dolan, G. Payet, M. Perez, F. Azam, R. Long, E. Berdalet, C. Marrase, F. Peters, K. Christensen, H. Havskum, M. Maar, O. Enger, T. F. Thingstad, J. Fuhrman, R. Noble, C. Ouverney, A. Hagstrom, B. Riemann, U. Zweifel, S. Jacquet, D. Vaultot, and M. Suzuki. "On the Significance of Insignificant Effects of Glucose Additions to Surface Seawater." **1997** - ASLO - Santa Fe, NM. Talk.

Ouverney, C. C. and J. A. Fuhrman. 16S rRNA Fluorescence *in situ* hybridization analysis of French Riviera major marine microbial groups. 1997- ASM (American Society of Microbiologists) - Miami Beach, FL. May 4-8. Poster.

Scientific Associations

American Society for Microbiologists (ASM)
Northern California ASM
The Federation of European Microbiologists (FEMs)
International Union for Microbiological Societies (IUMS)

Other Associations

SJSU Salzburg Fellow for the Internationalization of Campus Global Issues– Spring 06 for Life
(attended the Salzburg International Workshop with SJSU Fellows in Salzburg, Austria, Summer 2007)

Invited Lecturer

Fall 2015 – Microbiology lecture, course BIOL1A at SJSU (prof. in charge: Dr. S. Lambrecht)

Spring 2015 – Title: Uncultured Environmental Bacteria Model to Understand Human Pathogens - UC Santa Cruz, Department of Biological Sciences, UC Davis.

Spring 2009 – Title: Uncultured Environmental Bacteria Model to Understand Human Pathogens - UC Santa Cruz, Department of Microbiology and Environmental Toxicology. Invited by Dr. Karen Ottemann

Fall 2008 – Title: The Amazon and its Global Significance. SJSU Biodiversity Center, Invited by Elizabeth McGee.

Fall 2007 – Title: The ecophysiology of marine prokaryotes. Moss Landing Marine Laboratories, Moss Landing, CA. Invited by Benjamin Perlman.

Summer 2007 – Title: The ecophysiology of marine microbes. Occidental College Summer Oceanology Program, Los Angeles, CA.

Spring 2006 – Title: Dissecting Complex Prokaryotic Communities by Type and Function with Culture Independent Molecular Methods. Moss Landing Marine Laboratories, Moss Landing, CA. Invited by Sabine Rech.

Spring 2006 – Title: Dissecting Complex Prokaryotic Communities by Type and Function with Culture Independent Molecular Techniques. Moss Landing Marine Laboratories. SJSU, Moss Landing. Invited by Dr. Sabine Rech.

Fall 2004 – Title: Dissecting Complex Prokaryotic Communities by Type and Function with FISH, STARFISH, and catFISH. University of Vienna, Department of Environmental Sciences, Austria. Invited by Dr. Michael Wagner.

Fall 2004 – Title: The Diversity and Ecophysiology of uncultivated Marine microbes: Who are they and what are they doing there? Marine Biology Seminar Series. Occidental College, Los Angeles.

Winter 2004. Title: Dissecting complex prokaryotic communities at a single-cell level by type and function without cultivation. California State Hayward, Departmental Seminar Series. Invited by Dr. Christopher Kitting, Prof.

Summer 2003. Title: Marine Microbial Ecology: from Nutrient Cycling to Drug Discovery. Dr. Gary Martin. Occidental College, Los Angeles.

Spring 1999. Title: Molecular Techniques in Marine Microbial Ecology. Environmental Microbiology BIO 419. Instructor: Dr. Jed A. Fuhrman. USC

Spring 1998 & Fall 99. Title: Microbial Biodiversity of the Deep Sea, with focus on Hydrothermal vents. Biological Sciences BIO 469L. Instructor: Dr. Randy Olson. USC.

Collaborations

2015. Univers. of Viçosa, Brazil. Research collaborators for processing soil samples from coffee farms in Brazil to study the microbes associated with the coffee rhizosphere.

2014-Current. Collaboration with coffee farmers in Brazil to study the microbiology of coffee plantation soil and investigate potential bacteria as a source for natural fertilization of the coffee farms.

2014. Illumina, Inc., Next-Generation Sequencing Technology. Worked with researchers at Illumina, Inc. (Hayward, CA) to develop a novel approach to analyze DNA sequences to identify microbes in mixed communities.

Laboratory Techniques

- Fluorescence *In Situ* Hybridization - Published a modified protocol to enhance FISH signal to detect slow growing prokaryotic cells in a mixed natural community.
- Combined FISH with microautoradiography - Published the protocol for STARFISH (Substrate Tracking Auto-Radiography Fluorescence *In Situ* Hybridization) and applied it to show for the first time that Marine Archaea are metabolic active in natural marine environments.
- Published the protocol for probe validation for FISH against clones expressing heterologous 16S rRNA called catFISH (cloned artificial targets for FISH) and applied it to validate FISH probes to detect cells from the TM7 phylum with no cultivable strains.

- Implemented a real-time quantitative PCR protocol for attaining higher sensitivity and specificity.
- Microfluidic device for single-cell isolation and genome amplification.
- Transmitted, epifluorescence, and laser scanning confocal microscopy.
- Nucleic acid sequence analysis, ARB, RDP, oligonucleotide probe design, stringency level tests for *in situ* hybridization.
- Molecular phylogeny, phylogenetic tree construction and analysis.
- PCR, gel electrophoresis, cloning, sequencing, and site-directed mutagenesis.
- Expression vector for FISH.
- Cell culture.

Leadership Roles:

- Committees (SJSU)
 - Chair of the Microbiology & Molecular Biology Area, SJSU, Fall 2014-Spring 2015
 - Chair Microbiology Hiring Committee, Tenure-Track Faculty, SJSU, 2014-15
 - RTP, voting member, Biology Department, SJSU, 2014-15
 - Biology Minor Adviser, SJSU, Fall 2014
 - Biology Department Microbiology and Molecular Biology Concentration – 2005 to Current
 - Biology Department Seminar Series – 2005 to current
 - Institutional Animal Care and Use Committee (IACUC) – University - Fall 2008 – Fall 2009
 - University Library Board (ULB) – Fall 2008 to current (voted Chair Fall 2009 for 1 year)
 - Salzburg Fellow – University Level, internationalization of the SJSU campus.