Charles R. Hauser
Associate Professor of Bioinformatics

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Professional Preparation

University of Texas, Austin, TX	1972-1977	Botany
University of Houston, TX	1984-1989	PhD. Biochemistry and Biophysics
Duke University	1989-1995	Post-doctoral fellowship

Appointments

2008 - Associate Professor Bioinformatics, St. Edward's University
2004 - 2008 Assistant Professor Bioinformatics, St. Edward's University
2000 - 2004 Research Scientist: Duke University, Durham NC
1995 - 2000 Research Associate: Duke University, Durham, NC
1989 - 1995 Postdoctoral Associate: Duke University, Durham, NC
1984 - 1989 Graduate Student/Researcher: University of Houston

Awards and Honors

- 2016 St. Edward's School of Natural Sciences Distinguished Research Award, 2015-16.
- 1990 NIH Postdoctoral Fellowship. Department of Botany, Duke University, Durham, NC.
- 1989 Hargitt Fellowship. Department of Zoology, Duke University, Durham, NC.

Grants

2016 Howard Hughes Medical Institute (USE), Inclusive Excellence Grants 2017 Pre-proposal. Research L Kopec (PI), Charles R Hauser (collaborator)

2016 NSF, IUSE, "Integrating Bioinformatics into the Life Sciences—Phase 3" Mark Pauley (U. Nebraska, Omaha), Vince Buonaccorsi (Juniata College), Anya Goodman (California Polytechnic State University), Anne Rosenwald (Georgetown University) and Bill Tapprich (University of Nebraska at Omaha) Co-PIs. Charles Hauser (Advisory Committee Member).

2015 USDA, The Agricultural-STEM Pipeline: Progressive Experiential Learning Linking Three HSI Academic Tiers (Ag-STEM), 3 year ($275,000), Drs. O'Leary (PI), Quinn, Hauser, Deaton (co-PIs)

2015 NIH, "A Genome Browser On Ramp to Engage Biologists with Big Data", Dr. Sarah Elgin, Washington University St. Louis (PI), Hauser (collaborator). Funded

2014 NSF, IUSE, "Integrating Bioinformatics into the Life Sciences—Phase 3" Mark Pauley (U. Nebraska, Omaha), Vince Buonaccorsi (Juniata College), Anya Goodman (California Polytechnic State University), Anne Rosenwald (Georgetown University) and Bill Tapprich (University of Nebraska at Omaha) Co-PIs. Charles Hauser (Advisory Committee Member). Not funded

2014 Lola Wright Foundation, "Strengthening the Bioinformatics Program for Enhanced Student Success". $9000 (PI-Funded)

2014 United States Department of Agriculture-HSI Education Grant, "Agricultural Education Pipeline", Fidelma O'Leary (PI), P. Deaton-Haynes (co-PI), Charles Hauser (co-PI) and William Quinn (co-PI) . $300,000 (not-funded)

2014 Texas Parks and Wildlife Department, "Burn Severity Assessment, Post-Fire Vegetation Recovery, and Development of a Wildfire Risk Model in Bastrop State Park, TX.", Diana Doan-Crider, Jay Angerer, Ed Rhodes, Mort Kothmann, Georgianne Moore, Jim Gan, Jason West, Jim Heilman, William Fox, June Wolfe, David Baltensperger, William Quinn and Charles Hauser. $850,000 (not-funded)

2014 National Science Foundation's S-STEM, "Rewarding Achievement in Mathematics and Sciences (RAMS) Scholarships." DUE-1356496. $607,830 (co-PI, Funded)
2014 National Science Foundation IUSE. Genomics Education Partnership, Sarah Elgin (PI) (collaborator, pending)
2013 USDA-NIFA, Higher Education Multicultural Scholars Program, "Integrating Quantitative and Analytical Skills into the Natural Resources Science Curriculum" William Quinn (PI), Charles Hauser (co-PI). $200,000 (not-funded).
2013 United States Department of Agriculture-HSI Education Grant, "Agricultural Education Pipeline", Fidelma O'Leary (PI), Charles Hauser (co-PI) and William Quinn (co-PI) (not-funded)
2012 WM Keck Foundation, Undergraduate Education Phase I Proposal, "The Wild Basin Wilderness Preserve Digital Database". $200,000 (co-PI, Funded)
2012 HHMI SEA-PHAGES Associate membership. Charles R Hauser, Michael Kart, Carol Gee. (PI, Accepted)
2012 Joint Genome Institute (JGI) Community Sequencing Project. "Metagenomics of Karst Soil Microbial Systems and their Role(s) in Carbon Cycling and Native Plant Restoration". Monica Swartz, Charles R Hauser. (PI, White Paper approved, Full funding denied)
2010 NSF-STEP #0969153, Community for Achievement in Science, Academics, and Research L Kopec, Charles R Hauser, Eamonn F Healy, Peter J King, Michael P Saclolo. (co-PI, Funded)
2009 Br. Daniel Lynch Student Research Fund Award Constructing Protein Chaperone Networks. Zane Goodwin, Charles Hauser.
2008 National Science Foundation #0824469 Genetic, Genomic, and Biochemical Approaches to Elucidate Control of Sulfur Deprivation Responses, A.R. Grossman (Summer research funding for SEU bioinformatic students at Stanford)
2008 Educational Advancement Foundation (EAF) – Development of Mathematical Biology Course Eamonn Healy, Jean McKemie, Peter King, Charles Hauser
2007 W. M. Keck Foundation, Collaborative Research – A Novel Experiential Pedagogy Eamonn Healy, Jean McKemie, Peter King, Charles Hauser
2008 NSF-funded, Genome Consortium for Active Teaching (GCAT) microarray workshop instructor, 2008-2009.
2006 Advisory Board Member, Genome Consortium for Active Teaching (GCAT), 2006-2009.
2006 Howard Hughes Medical Institute (HHMI). Genomics Education Partnership Grant. PI, Dr Sarah Elgin Washington University, St. Louis. Collaborator.
2006 Presidential Excellence Grant. Characterization of genome rearrangements generated in response to growth under anaerobic, sulfur-depleted conditions in Chlamydomonas using Comparative Genome Hybridization (CGH).
2005 Presidential Excellence Grant. BLAST algorithm implementation: bioinformatics research and teaching.
1990 NIH Postdoctoral Fellowship. Department of Botany, Duke University, Durham, NC.
1989 Hargitt Fellowship. Department of Zoology, Duke University, Durham, NC.

Publications

1. Callejon, A.C., Douglas, D., Fox, D.J., Harper, M., Hyde, N.V., Lerma, J.F., Parsons, S.C., Suarez, C., Walsh, M.A., Kart, M., **Hauser**, C.R., Hughes, L.E., Bradley, K.W., Asai, D.J., Bowman, C.A., Russell, D.A., Pope, W.H., Jacobs-Sera, D., Hendrix, R.W. and Hatfull, G.F., Mycobacterium phage LadyBird, complete genome. GenBank Accession Number KT588442
2. Leung, W, **Hauser**, CR,... Elgin, SCR (2015) "The Drosophila Muller F elements maintain a distinct set of genomic properties over 40 million years of evolution." G3 March 4, 2015, doi: 10.1534/g3.114.015966. [Total 940 student co-authors, 74 faculty co-authors.]
3. Cote, D., Daigle, Z., Borges, K.M., Adams, S.D., Alvey, R.M., Barekzi, N., Beal, Z.N., Briggs, L.A., Brown, T., Coomans, R.J., D'Elia, T., Doss, J.H., Ellsworth, J.A., Ettinger, W.F., Fox, D.J.,

Gauthier, D.T., Andriolo, J.M., Grubb, S., Gugssa, A.H., **Hauser**, C.R., Hull, A.K., Jackson, N., Kart, M.U., Korey, C.A., Makemson, J., McKinney, A.L., Nelson, P.R., Newman, R.H., Powell, G., Rodriguez-Lanetty, M., Royer, D., Sabila, M.H., Sadana, R., Saha, S., Sangster, N., Slowan-Pomeroy, T., Urbinati, C.R., Ward, R.E., Warner, M., Williamson, B., Biederman, B., Cresawn, S.G., Bowman, C.A., Russell, D.A., Pope, W.H., Jacobs-Sera, D., Hendrix, R.W. and Hatfull, G.H., Mycobacterium phage Sheen, complete genome} GenBank Accession Number KP273225

4. Shaffer CD, Alvarez CJ, Bednarski AE, Dunbar D, Goodman AL, Reinke C, Rosenwald AG, Wolyniak MJ, Bailey C, Barnard D, Bazinet C, Beach DL, Bedard JEJ, Bhalla S, Braverman J, Burg M, Chandrasekaran V, Chung HM, Clase K, DeJong RJ, DiAngeloJ, Du C, Eckdahl TT, Eisler H, Emerson JA, Frary A, Frohlich D, Gosser Y, Govind S, Haberman A, Hark AT, **Hauser C**, Hoogewerf A, Hoopes LLM, Howell CE, Johnson D, Jones CJ, Kadlec L, Kaehler M, Key SCS, Kleinschit A, Kokan NP, Kopp O**,** Kuleck G, Leatherman J, Lopilato J, MacKinnon C, Martinez-Cruzad JC, McNeil G, Mel S, Mistry H, Nagengast A, Overvoorde P, Paetkau DW, Parrish S, Peterson CN, Preuss M, Reed LK, Revie D, Robic S, Roecklein-Canfield J, Rubin MR, Saville K, Schroeder S, Sharif K, Shaw M, Skuse G, Smith CD, Smith MA, Smith ST, Spana E, Spratt M, Sreenivasan A, Stamm J, Szauter P, Thompson JS, Wawersik M, Youngblom J, Zhou, L, Mardis ER, Buhler J, Leung W, Lopatt D, Elgin SCR. **2014.** A course-based research experience: How benefits change with increased investment in instructional time. Cell Biology Education - Life Science Education 13: 111-130.
5. Lopatto,D., **Hauser, C**, Jones,C.J., Paetkau, D., Chandrasekaran,V, Dunbar, D., MacKinnon, C., Stamm,J., Alvarez,C., Barnard,D., Bedard, J., Bednarski, A., Braverman, J., Burg, M., Chung, H.-M., DeJong, R., DiAngelo, J.R., Du, C., Eckdahl, T.T., Emerson, J., Frary, A., Frohlich, D.,Goodman, A.L., Gosser, Y., Govind, S., Haberman, A., Hark, A., Hoogewerf, A., Johnson, D., Kadlec, L., Kaehler, M., Silver Key, C., Kokan, N.**,** Kopp, O.R., Kuleck, G.A., Martinez-Cruzado, J.C., McNeil, G., Mel S.,Nagengast, A., Overvoorde, P.J., Parrish, S., Preuss, M., Reed, L., Regisford, E.G., Revie, D., Robic, S., Roecklien-Canfield, J.A., Rosenwald, A.G., Rubin, M., Saville, K., Schroeder, S., Sharif, K.,Shaw, M., Skuse, G., Smith, M., Smith, S., Spana, E.P., Spratt, M., Sreenivasan, A., Thompson, J.S., Wawersik, J., Wolyniak, M., Youngblom, J., Zhou,L., Buhler, J., Mardis, E., Leung, W., Shaffer,C.D.,Threlfall, J., Elgin, S.C.R (accepted for publication) **2014**. A Central Support System Can Facilitate Implementation and Sustainability of a Classroom-Based Undergraduate Research Experience (CURE) in Genomics. Cell Biology Education - Life Science Education.13(4):711-23.
6. Shaffer, CD, … **C Hauser**, ER Mardis, J Buhler, W Leung, DE Lopatto, SCR Elgin (2014) A course-based research experience: How benefits change with increased investment in instructional time. CBE—Life Sciences Education 13, 111–130, Spring 2014
7. Simon, D.F., Domingos, R.F., **Hauser, C**. Hutchins,C.M., Zerges, W. and Wilkinson.K.J. RNA-Seq analysis of the effects of metal nanoparticle exposure on the transcriptome of *Chlamydomonas reinhardtii*. (2013) Applied and Environmental Microbiology 9(16):4774-85
8. Domingos, Rute, Simon, Dana, **Hauser**, Charles, Wilkinson, Kevin (2011) Bioaccumulation and effects of CdTe/CdS quantum dots on *Chlamydomonas reinhardtii* – nanoparticle or the free ion? *Environ. Sci. Technol.*, 2011, 45 (18), 7664–7669
9. Christopher D. Shaffer, Consuelo Alvarez, Cheryl Bailey, Daron Barnard, Satish Bhalla, Chitra Chandrasekaran, Vidya Chandrasekaran, Hui-Min Chung, Douglas R. Dorer, Chunguang Du, Todd T. Eckdahl, Jeff L. Poet, Donald Frohlich, Anya L. Goodman, Yuying Gosser, Charles Hauser, Laura L.M. Hoopes, Diana Johnson, Christopher J. Jones, Marian Kaehler, Nighat Kokan, Olga R. Kopp, Gary A. Kuleck, Gerard McNeil, Robert Moss, Jennifer L. Myka, Alexis Nagengast, Robert Morris, Paul J. Overvoorde, Elizabeth Shoop, Susan Parrish, Kelynne Reed, E. Gloria Regisford, Dennis Revie, Anne G. Rosenwald, Ken Saville, Stephanie Schroeder, Mary Shaw, Gary Skuse, Christopher Smith, Mary Smith, Eric P. Spana, Mary Spratt, Joyce Stamm, Jeff S. Thompson, Matthew Wawersik, Barbara A. Wilson, Jim Youngblom, Wilson Leung, Jeremy Buhler, Elaine R. Mardis, David Lopatto, and Sarah C.R. Elgin The Genomics Education

Partnership: Successful Integration of Research into Laboratory Classes at a Diverse Group of Undergraduate Institutions CBE Life Sci Educ 2010: 55–69

10. Healy, Eamonn F, Johnson, Skylar, **Hauser**, Charles R, King, Peter J (2009) Tyrosine Kinase Inhibition: Ligand binding and conformational change in c-Kit and c-Abl FEBS Lett.583, 2899-2906.
11. D. Lopatto, C. Alvarez, D. Barnard, C. Chandrasekaran, H.-M. Chung, C. Du, T. Eckdahl, A. L. Goodman, C. **Hauser**, C. J. Jones, O. R. Kopp, G. A Kuleck, G. McNeil, R. Morris, J. L. Myka, A. Nagengast, P. J. Overvoorde, J. L. Poet, K. Reed, G. Regisford, D. Revie, A. Rosenwald, K. Saville, M. Shaw, G. R. Skuse, C. Smith, M. Smith, M. Spratt, J. Stamm, J. S. Thompson, B. A. Wilson, C. Witkowski, J. Youngblom, W. Leung, C. D. Shaffer, J. Buhler, E. Mardis, S. C. R. Elgin (2008) Undergraduate Research: Genomic Education Partnership, Science 322(5902), 684
12. William Zerges and Charles **Hauser** (2008) Protein Synthesis in the Chloroplast In: The Chlamydomonas Sourcebook Volume II. (E. Harris, D. Stern, G. Witman Eds.) pp 967- 1028 Academic Press
13. Sabeeha Merchant et al. (2007) The Chlamydomonas genome reveals evolutionary insights into key animal and plant functions. Science 2007 318:245-251
14. Monica Jain, Jeff Shrager, Elizabeth Harris, Arthur Grossman, Charles **Hauser** and Olivier Vallon, (2007) EST assembly supported by a draft genome sequence: an analysis of the Chlamydomonas reinhardtii transcriptome. Nucl. Acids Res. 2007 35: 2074-2083.
15. Monica Jain, Hilary Holz, Jeff Shrager, Olivier Vallon, Charles **Hauser**, Arthur Grossman (2006) A Hybrid, Recursive Algorithm for Clustering Expressed Sequence Tags in Chlamydomonas reinhardtii, ICPR, pp. 404-407, 18th International Conference on Pattern Recognition (ICPR'06).
16. Arthur R. Grossman, Elizabeth E. Harris, Charles **Hauser**, Paul A. Lefebvre, Diego Martinez, Dan Rokhsar, Jeffrey Shrager, Carolyn Silflow, David Stern, Olivier Vallon, Zhaoduo Zhang (2003) Chlamydomonas reinhardtii at the crossroads of genomics. Eukaryotic Cell, 2(6),1137-1150,
17. Shrager, J., **Hauser**, C., Chang, C-W, Harris, E., Davies, J., McDermot, J., Tamse, R. and Grossman, A. (2003) Chlamydomonas reinhardtii Genome Project: A guide to the generation and use of the cDNA information. Plant Physiology:131, 401-408.
18. Shrager, J., Chang, C-W, Davies, J., Harris, E., **Hauser**, C., Tamse, R., Surzycki,R., Gurgal, M., Zhang, Z. and Grossman, A. (2001) Chlamydomonas cDNAs; Assembly and potential role in understanding metabolic processes. In: Proceedings of the 12th International Congress on Photosynthesis. Brisbane, Australia.
19. Randolph-Anderson, B, Sato, R., **Hauser**, C.R., Oeda, K., Ishige, F., Johnson, A., Gillham N. W. and Boynton J. E.(1998) Isolation and characterization of a mutant protoporphyrin oxidase gene conferring herbicide resistance from a nuclear genomic library of Chlamydomonas reinhardtii. Plant Mol. Bio: 38, 839-859.
20. **Hauser**, C.R., Gillham N.W, and Boynton, J.E. (1997) Regulation of chloroplast translation. In: Molecular Biology of Chlamydomonas: Chloroplasts and Mitochondria. J.-D. Rochaix, M. Goldschmidt-Clermont and S. Merchant eds. Advances in Photosynthesis, Kluwer Academic Publishers, Dordrecht, 1997.
21. **Hauser**, C.R., Gillham N.W, and Boynton J. E. (1996) Translational regulation of chloroplast genes: Proteins binding to the 5' UTRs of chloroplast mRNAs in Chlamydomonas reinhardtii. J Biol Chem: 271, 1486-1497.
22. **Hauser**, C.R. and Gray, H.B., Jr. (1991) Vectors containing infrequently cleaved restriction sites for use in BAL 31 nuclease-assisted and end-label-mediated analysis of cloned DNA fragments. Genetic Analysis Techniques and Applications: 8(4), 139-147
23. Przykorska, A.K., **Hauser**, C.R. and Gray, H.B., Jr. (1988) Circular intermediates with missing nucleotides in the conversion of supercoiled or nicked circular to linear duplex DNA catalyzed by two species of BAL 31 nuclease. Biochimica et Biophysica Acta: 949, 16-26.

24. **Hauser**, C.R. and Gray, H.B., Jr. (1990) Precursor-product relationship of larger to smaller molecular forms of the BAL 31 nuclease from Alteromonas espejiana: Preferential removal of duplex exonuclease relative to endonuclease activity by proteolysis. Archives of Biochemistry and Biophysics: 276(2), 451-459

Presentations

1. Charles Hauser (2014), "Bioinformatics at an Undergraduate Institution". Network for Integrating Bioinformatics into Life Sciences Education. Omaha, NB April 16-18, 2014.
2. Charles Hauser (2013), RNASeq: From Experimental Design to Differential Expression. Undergraduate Bioinformatics Education Conference (UBEC), St. Vincent's College, Latrobe PA.
3. Charles Hauser, Chris Jones, L. Zhou, Wilson Leung, Chris Shaffer, D Lopatto, S CR Elgin (2012) The Genomics Education Partnership (GEP): Comparative Analysis of the Drosophila Dot Chromosome by Undergraduate Students. Undergraduate Bioinformatics Education Conference (UBEC), St. Vincent's College, Latrobe PA.
4. Charles Hauser, Wilson Leung, Chris Shaffer, D Lopatto, S CR Elgin (2011) The Genomics Education Partnership. Institutional Research and Academic Career Development Award Conference (IRACDA), Baylor College of Medicine, Houston TX
5. Dana F. Simon, Charles Hauser, R. Domingos, C. Hutchins, K. Wilkinson (2011) "RNASeq Analysis of *C. reinhardtii* exposed to nanoparticles of Ag, TiO_2, ZnO and Cd(QDs) reveal modes of action. Chapitre St-Laurent, Montreal, 2011
6. Charles Hauser, C Bailey, S CR Elgin, D Lopatto (2009) The Genomics Education Partnership. Invited Talk, American Society of Biochemistry and Molecular Biology Annual Meeting, New Orleans LA.

Student Research

1. Joe Sosa, Charles Hauser (2016) Network Analysis and Visualization of Phosphate Starved *C. reinhardtii*. NSCI LLCTG Symposium, oral presentation.
2. Kaitlyn Cox, Jacquelyn Turcinovic , Charles Hauser, William Quinn (20116) Adventures in Phosphate Stress: Effects of Phosphorus Deficiency in Two Common Bean (*Phaseolus vulgaris)* Genotypes. NSCI LLCTG Symposium, oral presentation.
3. Alberto Alcocer, Charles Hauser (2016) Bean Plant and Bacterial Response to High CO2 Levels. NSCI LLCTG Symposium, oral presentation.
4. Darren Garcia, Charles Hauser (2016) Biological Network Analyses through Random Matrix Theory. NSCI LLCTG Symposium, poster presentation
5. Andy Barnes, Chris Cormier, Victoria Gore, Thomas Manning, Ashley Moreno, Oliver Sale, Rebecca Edwards, Charles Hauser, Gary Morris, William Quinn, Paul Walter (2016) *Tropospheric Ozone Pollution Projec*t. NSCI LLCTG Symposium, poster presentation
6. Jacquelyn Ileana Turcinovic, Charles Hauser (2016) Network and Community Analyses of Fungal Microbiomes, Texas Academy of Science Oral Presentation
7. Katrina Chuah, Charles Hauser (2016) Analysis of fungal and bacterial root microbiomes of *Juniperus ashei*, Texas Academy of Science Oral Presentation
8. Louise Gaunt, Charles Hauser (2016) Analysis of Fungal and Bacterial Root Microbiomes of *Carex planostachys,* Texas Academy of Science Poster Presentation
9. Margaret Walsh, Charles Hauser (2016) Analysis of Fungal and Bacterial Root Microbiomes of *Muhlenbergia reverchonii* at Wild Basin, Texas Academy of Science Oral Presentation

10. Isavannah Reyes, Arthur Grossman, Charles Hauser (2015) Comparison of Differential Expression Employing 3' Tag Counting. Gulf Coast Undergraduate Research Symposium, Rice University (oral presentation).
11. J. Dylan Sosa, Samantha McNulty, Bruce Rosa, Peter Fischer, Takeshi Agatsuma, Hiromu Sugiyama, Makedonka Mitreva (2015) Comparative Genomic Analysis of Two Paragonimus Species. Gulf Coast Undergraduate Research Symposium, Rice University (oral presentation)
12. Joe Dylan Sosa, Charles Hauser (2015) Analysis of fungal and bacterial root microbiomes of C. planostachys (Cyperaceae). Texas Academy of Science 2015. **Best poster award**
13. Margaret Walsh and Charles Hauser (2015) Analysis of Bacterial and Fungal Root Microbiomes of *Muhlenbergia reverchonii* at Wild Basin. Texas Academy of Science 2015. **Best poster award**
14. Dylan Fox and Charles Hauser (2015) Analysis of Fungal Community Structure of Wildfire Burned Soils in Bastrop Texas. Texas Academy of Science 2015.
15. Isavannah Reyes, Sharon Freshour, and Charles Hauser (2015) RNA-Seq Analysis of Phosphate-Stressed *C. reinhardtii* Cells. Texas Academy of Science 2015.
16. Isavannah Reyes, Sharon Freshour, Arthur Grossman, Charles Hauser (2014) RNA-Seq Analysis of Phosphate-Stressed C. reinhardtii Cells. ABRCMS poster presentation – **FASEB 'Best poster award**"
17. Samantha Parsons, Andre Hoelz and Ana Correia (2014) Biochemical and Structural Dissection of the Coat Nucleoporin Interactions. ABRCMS Poster presentation - **FASEB 'Best poster award**"
18. Joe D. Sosa, III and Charles Hauser, Ph.D. (2014) Analysis of Fungal and Root Microbiomes of *C. planostachys*. ABRCMS poster presentation.
19. Erik J. Escobar, Olaf Dammann, M.D., and Ryan Durgham (2014) Agent-based Computational Model of the Prevalence of Gonococcal Infection after the Implementation of PrEP Guidelines. ABRCMS poster presentation
20. Erik Escobar, Monica Swartz, and Charles Hauser (2014) Survey for the presence of leishmaniasis in canines and felids in Travis County, Texas. NCUR oral presentation.
21. Dylan Fox, Laurie Cannon, Lisa O'Donnell, Jim O'Donnel, Charles Hauser (2014) Analysis of Archaea Soil Microbiome and the Impact of Black Capped Vireo Habitat Restoration Efforts. Texas Academy of Science oral presentation
22. Cody Ramirez, Samantha Parsons, Lisa O'Donnell, Jim O'Donnell, John Abbott, Monica Swartz[3], Charles Hauser (2014) Impact of Soil-based Habitat Restoration Treatments at the Black Capped Vireo Research Area and Wild Basin Wilderness Preserve on Fungal Microbiomes. Texas Academy of Science oral presentation
23. Laurie Cannon, Dylan Fox, Samantha Parson, Cody Ramirez, , Lisa O'Donnell, Jim O'Donnel, Dr. Charles Hauser (2014) Soil Eubacterial Metagenomics: Implications for Native Plant Restoration at the Black Capped Vireo Research Area and Wild Basin Wilderness Preserve. Texas Academy of Science oral presentation
24. Samantha Parsons, Dylan Fox, Laurie Cannon, Cody Ramirez, Lisa O'Donnell, Jim O'Donnel, Charles Hauser Analysis of Soil Restoration Treatments on Fungal, Eubacterial and Archaea Microbiomes: Implications for Black Capped Vireo Habitat Restoration Efforts
25. Erik Escobar, Monica Swartz, and Charles Hauser (2014) Survey for the presence of leishmaniasis in canines and felids in Travis County, Texas. Texas Academy of Science oral presentation
26. Matthew Wolski, Miguel Angulo, Charles Hauser, Arthur Grossman, RNA-Seq analysis of phosphate-deprived Chlamydomonas cells reveals aspects of acclimation critical for cell survival. Texas Academy of Science oral presentation. **1st Place Oral Presentation Award**.
27. Jesse Farek and Charles Hauser (2013) Homology-based construction of a protein interaction network for *Chlamydomonas reinhardtii*. Texas Academy of Science poster presentation.
28. Chelsey Friedrichs, Jordan Jones, Aaron Luckevich, Charles Hauser (2013) Sulfur-Dependent

Selenate Accumulation and Toxicity in *Chlamydomonas*. Texas Academy of Science poster presentation

29. Caitlin Cognian*, Joanna Pulido, Erik Escobar, Mohammad Abu-Esba, Monica Swartz, Charles Hauser (2013) "Metagenomic characterization of the karst soil microbial communities characteristic of habitats for black-capped vireos at Wild Basin Wilderness Preserve". Texas Academy of Science oral presentation.
30. Jordan Jones, Charles Hauser (2012) Analysis of the Effects of Sulfur on Selenate Accumulation and Toxicity in *Chlamydomonas*. Senior Seminar
31. Jordan Jones, Charles Hauser (2012) Predicting the Localization of Proteins with Hidden Markov Models. Honors Thesis
32. Andrea Ochoa, Charles Hauser (2011) Whole Genome Transcriptional Profiling of a *Chlamydomonas* Mutant Defective in Chloroplast Protein Synthesis. Senior Seminar
33. Maria-Isabelle Seydoux, Charles Hauser (2011) RNASeq Analysis of *Chlamydomonas* Cells exposed to Metal Nanoparticles Reveals Modes of Action. Senior Seminar
34. Megan Martinez, Charles Hauser (2011) Use of Next-generation Sequencing to Analyze Gene Regulation in *Chlamydomonas* after Exposure to Metals and Nanoparticles. Senior Seminar
35. Zane Goodwin, Charles Hauser (2011) Comparing the Performance, Precision and Accuracy of Next-Generation Genome Assembly Software. Senior Seminar
36. Andrea Ochoa and Charles Hauser (2011) Whole Genome Transcriptional Profiling of a *Chlamydomonas* Mutant Defective in Chloroplast Protein Synthesis. Texas Academy of Science Poster
37. Zane Goodwin[1], Jamison McCorrisson[2], Konstantinos Krampis[2], Indresh Singh[2], Jason Miller[2] and Charles Hauser[1]. [1]Bioinformatics Program, St. Edward's University, [2]Informatics Core Services, J. Craig Venter Institute, Rockville, MD 20850 (2011) Comparing the Performance, Precision and Accuracy of Next-Generation Genome Assembly Software. Texas Academy of Sciences, Poster
38. Anna Unruh*, Zane Goodwin, John Kiley, Eamonn Healy, Peter J. King and Charles Hauser (2010) Transcriptional Response of Macrophages to a heat-shock protein from *Mycobacterium tuberculosis*. Texas Academy of Sciences (oral presentation)
39. Zane Goodwin*, Eamonn Healy, Peter J. King and Charles Hauser (2010) Modeling a Chaperone Interaction Network of *Mycobacterium tuberculosis*: Protein Networks as Graphs. Texas Academy of Sciences (oral presentation)
40. Tariq Abusheikh, Pedro Benitez, Megan Bourland, Samantha Cruz, Sarah Flohr*, John Kiley, Monal Naik, Sunil Rathore, Evangelina Reza and Charles Hauser (2010) The Genomics Education Partenrship: A Comparative Genomics Study of the *Drosophila* Dot Chromosomes. Texas Academy of Sciences (poster presentation)
41. Abusheikh, T. and Hauser, CR Generating Phylogenetic Profiles in Java and R (2009) *RECOMB* Satellite Conference on *Bioinformatics* Education.
42. AL Goodman,SC Bhalla,C Hauser,GA Kuleck ,S. Parrish ,W Leung ,D Lopatto ,SCR Elgin (2009) The Genomics Education Partnership: Integration of DNA Sequence Finishing and Annotation Projects into Undergraduate Curriculum. *RECOMB* Satellite Conference on *Bioinformatics* Education.
43. Abusheikh, T (2009) Analyzing Phylogenetic Profiles in Java. NSCI Senior Seminar
44. Eric Helmreich and Charles Hauser (2009) Implementation of GBrowse: genomic browser for *M. tuberculosis, M. bovis,* and *C. reinhardtii* NSCI Senior Seminar.
45. Eric Helmreich (2009) Search for cis- and trans-NATS (naturally occurring overlapping transcripts) using GBrowse. Summer Research
46. Lauren Riedmueller and Charles Hauser (2008) Analyzing Protein Function by Phylogenetic Profiling in *Chlamydomonas reinhardtii* Texas Academy of Science Annual Meeting (***awarded* 2rd place, poster**)

47. Samantha Cruz and Charles Hauser (2009) Analysis of Toc75 miRNA knock-down strains in *C. reinhardtii*. McNair Seminar
48. Aliya Jamil and Charles Hauser (2008) Imprint of Evolutionary Conservation and Protein Structure Variation on the Binding of Protein Kinase Inhibitors. Texas Academy of Science Annual Meeting (oral presentation)
49. GiNell Elliott and Charles Hauser (2007) Generating Phylogenetic Profiles for Chlamydomonas using Parallel Blast. Consortium for Computing Sciences in Colleges (CCSC) Annual Meeting – ***(awarded Honorable Mention, poster)***
50. GiNell Elliott and Charles Hauser (2007) Generating Phylogenetic Profiles for Chlamydomonas using Parallel Blast. McNair Seminar
51. Ramin Pouriran and Charles Hauser (2007) Characterization of a Mutant Defective in Chloroplast Protein Synthesis. TG Fellowship Seminar
52. Matthew Sibley and Charles Hauser (2007) Isolation and Characterization of Chloroplast Proteins by 2D - Gel Electrophoretic techniques. Summer Research
53. R. Nicolas Ragland, Meghan Smith and Charles Hauser (2007) Genome Rearrangements upon Reversible Inactivation of Oxygen Evolution in the Green Alga *Chlamydomonas reinhardtii*. Texas Academy of Science Annual Meeting (poster presentation)
54. England Raimey and Charles Hauser (2007) Genome-wide Prediction of *cis* Natural Antisense Transcripts in *C. reinhardtii*. Texas Academy of Science Annual Meeting (poster presentation)
55. Tiffany Dyess (2006) Computational and Molecular Analyses of a Novel Class of Mitotic Spindle – Associated mRNAs. NSCI Senior Seminar
56. Maria Jimenez and Charles Hauser (2006) Exploiting the Co-evolution of Interacting Proteins to Discover Interaction Specificity in *Chlamydomonas*. Summer Research
57. John Knepper, Sharon Weber and Charles Hauser (2005) Implementation of a parallelized version of BLAST, mpiBlast. Summer Research

Professional Associations

Chair, Cell and Molecular Biology Section, Texas Academy of Science (2010-2011).
Vice-Chair, Cell and Molecular Biology Section, Texas Academy of Science (2009-2010).
Member Genetics Society (1993-present)
Genome Consortium for Active Teaching (GCAT) Microarray workshop instructor (2008,2009)
Collaborator on HHMI funded Genomics Education Partnership (GEP). (2006-present)
Genome Consortium for Active Teaching (GCAT) advisory board member (2006-2009)

Intensive Interdisciplenary Workshops

1. Howard Hughes Medical Institute (HHMI) Science Education Alliance In-Situ Phage Workshop. July 20-26, 2015. UMBC/HHMI Science Learning Collaboratory, University of Maryland, Baltimore County, Baltimore MD
2. Howard Hughes Medical Institute (HHMI) Science Education Alliance In-Silico Phage Workshop. Dec. 8-12, 2015. HHMI Headquarters, Howard Hughes Medical Institute, Chevy Chase MD.

Synergistic Activities

Student engagement in development and delivery of pedagogical material

Tariq Abusheikh, Zane Goodwin, John Knepper, Andrea Ochoa and Anna Unruh (2008, 2010) Development and Delivery of 2 week SCIE 2320 bioinformatics module.

Broadening the participation of undergraduates in science

Dr. Hauser has mentored over 25 undergraduate students in his lab during the past six years resulting in student presentations of their research findings at numerous scientific conferences.

Collaborators (past and current)

Dr. S.R. Elgin, Washington University, St. Louis. (2006-present)
Dr. David Lopatto, Ginnell College (2006-present)
Dr. A.R. Grossman, Stanford University Stanford CA (2002-present)
Dr. Michael Kart, St. Edward's Computer Science (2010-present)
Dr. Kevin Wilkinson, Université de Montréal, Montreal Canada (2011-present)
Dr. William Zerges, Concordia University Montreal, Quebec, Canada (2011-present)
Dr. EH Harris, Duke University Durham, NC
Dr. Sharon Heise, Institute for Human and Machine Cognition (2010)
Dr. Eri Hom, Harvard University (2010-2012)
Dr. E. Healy, St. Edward's University Austin TX (2007-2010)
Dr. PJ King, St. Edward's University Austin TX (2007-2010)
Dr. François Lutzoni, Duke University (2010-present)

Graduate and postdoctoral Advisors:

Dr. Horace Gray,	Dept. Biochemistry and Biophysics	University of Houston
Dr. Nicholas W. Gillham	Dept. of Biology	Duke University, Emeritus
Dr. John E. Boynton	Dept. of Biology	Duke University, Emeritus