

# Christopher K. Zahm

## Professional Summary

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Business address: The University of Texas at Austin  
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### Professional Preparation

#### Academic Background

Ph.D. Geology, Colorado School of Mines, 2002

M.S. Geology, The University of Texas at Austin, 1998

B.Sc. Geology and Geophysics, University of Wisconsin, 1993

#### Professional Appointments

Present Position: Adjunct Professor, The University of Texas at Austin (January 2009 - Present). Teaching of Petroleum Basin Evaluation, which highlights the fundamentals of developing exploration prospects from tectonics to economics.

Present Position: Research Associate, Bureau of Economic Geology, The University of Texas at Austin (January 2007 - Present). Characterization of fracture and other discrete features (e.g., karst or nonmatrix pores) in analog systems and working to understand how these features influence fluid flow in the subsurface; responsible for conducting innovative research while presenting and publishing results within RCRL consortia and at international forums. Co-Principal Investigator, 2008, CGM Research: Multi-scale flow and transport modeling of large-vug Cretaceous carbonates..

Geologist Intern, Mobil Technology Company, Dallas, Texas. Developed a correlation between fracture core observations, structural geometry and reservoir injection data within a field located in the overthrust belt of southwest Utah.

Present Position: Associate Member of Graduate Faculty, Texas Christian University (November 2011 - 2013). Teaching graduate courses and serving on advisory, thesis, and dissertation committees.

Geologic Advisor, Exploration Decision Board, ConocoPhillips Exploration & Business Development, Houston, Texas (2006 - 2006). My role in this position was to review reservoir characterization efforts in support of large capital expenditure projects (greater than \$25 million) within the ConocoPhillips Exploration & Business Development portfolio. My role was to ensure proper characterization had been performed and provide technical feedback to senior management. In this role, I received training to use two proprietary internal decision and risk analysis software and was a reviewer for play analysis characterization.

Senior Geologist, ConocoPhillips Subsurface Technology, Houston, Texas (2002 - 2006). Providing technical support in structural geology characterization and fractured reservoir characterization to the ConocoPhillips business affiliates. I worked a diverse portfolio across the globe including South Sumatra, Northwest Shelf Australia, Mackenzie Delta, Alaska North Slope, Norwegian North Sea, West Shetlands, Nigeria, North Africa, and the Middle East.

Principal Investigator and Manager of the Fractured Reservoir Flow Characterization

Technology Development Program. My role involved identifying critical technology gaps within industry and ConocoPhillips to prescribe a yearly path forward direction to address these gaps. As the PI for this effort I monitored several industry and academic consortia, maintained software development related to fracture reservoir modeling and managed a yearly budget.

Instructor on several corporate trainings that focused on structural interpretation and modeling of faulted and fractured reservoirs.

Geoscientist, iReservoir.com, Greenwood Village, Colorado (2000 - 2003). Use of integrated data including 3D seismic, petrophysics, reservoir engineering and geologic characterization of outcrop and core to build 3D reservoir models for characterization and simulation. My responsibilities included fracture core and outcrop characterization along with limited structural attribute modeling using gOCad.

Adjunct Professor, Colorado School of Mines, Golden, Colorado (2001 - 2001). Responsible for course development, including both lecture and laboratory portions of the undergraduate course, 'Structural Geology and Tectonics.' I also supervised the teaching assistant for the course and I developed a two-day fieldtrip with exercises to central Wyoming and northern Colorado.

Structure Geology Consultant, YPF Maxux, SE Asia Division, Golden, Colorado (2000 - 2000). Used earth stress data, 2D and 3D seismic interpretation, sedimentary channel patterns, fault traces, and regional tectonics to restore fields within the Asri and Sunda basins to an undeformed geometry during time of deposition. This allowed for better understanding of basin history, including fluid migration timing and trap development.

Teaching Assistant, Colorado School of Mines, Golden, Colorado (1998 - 2000). Responsible for the development and instruction of the laboratory portion of two undergraduate course, 'Structural Geology and Tectonics' and 'Applied Structural Geology'.

Contributing Editor, U.S. Geological Survey, Bureau of Indian Affairs, Denver, Colorado (1998 - 1998). Updated oil and gas reserves assessments for the Pueblo Indian Reservation of New Mexico. This atlas focused on hydrocarbon potential of the Albuquerque & Raton basins.

Geologist Intern, Texaco EP Technology Development, Houston, Colorado (1998 - 1998). Developed a worldwide database of seals and traps, which was used by the Risk Assessment team to determine relative risk associated with different trap and seal types. Lithology, thickness, and age were used to categorize the seals.

Teaching Assistant, The University of Texas at Austin (1996 - 1997). Assisted in the teaching of Advanced Hydrology Field Methods for 20 graduate students. This course teaches graduate students how to conduct field-based studies in hydrology, hydrogeology and geochemistry assessment skills. I also taught introductory geology labs for engineering students.

Geologist, RMT, Corrective Action Group, Austin, Texas (1994 - 1997). Activities within this firm included the characterization of geology and hydrogeology at locations throughout Texas. My responsibilities included field characterization and mapping, modeling of the hydrogeology, supervisor for field operations, report generation, and client interaction based on the needs of our clients.

## Theses

Use of fractures in outcrop to predict regional permeability, Edward aquifer, central Texas

## Dissertations

3D Deformation in Basement-Involved Anticlinal Folds, Wyoming

## Areas of Expertise

### Areas of Expertise

Discrete fracture network modeling and flow characterization

Fault seal characterization and analysis  
Fault-related fracture development modeling  
Fractured reservoir characterization  
Integrated reservoir characterization and modeling  
Mechanical stratigraphy framework characterization  
Seismic interpretation of complex structural styles

## Awards

### Awards and Honorary Societies

Houston Geological Society Legend Award, 2015-Present  
BP-Amoco Field Geologist Fellowship, 2001  
Paul S. Puestmueller Fellowship, Colorado School of Mines, 2001  
Phillips Petroleum Fellowship, 2001  
AAPG Student Chapter President, Colorado School of Mines, 1998 - 2000  
Best Teaching Assistant Award, AEG Student Chapter, 2000  
Gordon I Atwater Fellowship, AAPG Grants-in-Aid, 2000  
Outstanding Research Grant, Rocky Mountain Association of Geologists, 2000  
Student Research Grant, American Association of Petroleum Geologists, 2000  
Union Pacific Resources Field Geologist Fellowship, 2000  
Best Teaching Assistant Award, AEG Student Chapter, 1999  
Duncan A. McNaughton Fellowship, AAPG Grants-in-Aid, 1999  
Harry C. Kent Petroleum Scholarship, Colorado School of Mines, 1999  
J.D. Love Field Research Grant, Wyoming Geological Association, 1999  
Outstanding Student Research Award, GSA, Structural Geology & Tectonics, 1999  
Research Grant, Society of Independent Professional Earth Scientists, 1999  
Student Research Grant, American Association of Petroleum Geologists, 1999  
Student Research Grant, Geological Society of America Research Grants, 1999  
Richard T. Bell-Marathon Oil Company Fellowship, UT-Austin, 1998  
Research Grant, Gulf Coast Association of Geological Societies, 1997  
Student Research Grant, Geological Society of America Research Grants, 1997

## Service

### External Committees Participation

Reviewer, Marine and Petroleum Geology, 2013-Present  
Reviewing Editor, American Association of Petroleum Geologists, 2000 - present  
Technical Vice Chair, AAPG Annual Convention and Exhibition, AAPG, San Antonio, Tex., 2019  
Field Trip Chairperson, Mountjoy Conference, SEPM, Austin, Tex., 2017  
Co-Chair, Reservoir Deformation Research Group, American Association of Petroleum Geologists, 2009 - 2010

Co-Chair, 2010 American Association of Petroleum Geologists Convention, Denver, Colorado, 2009

Co-Chair, Session, Role of Mechanical Stratigraphy in Reservoir Development, 2009 Annual American Association of Petroleum Geologists Convention, Denver, Colorado, 2009

Member, Theme Hire Search Committee, Energy Theme, Jackson School of Geosciences, 2009

Co-Chair, Session, 2008 American Association of Petroleum Geologists Annual Convention, San Antonio, 2008

Co-Convenor, Geologic Occurrence and Hydraulic Significance of Fractures in Reservoirs, 2008 AAPG-SPE-SEG Hedberg Research Conference, 2008

## Proposal Review Panels Participation

Grants-In-Aid, 2010

Grant-In-Aid, 2009

Grant-In-Aid, 2008

Grant-In-Aid, 2007

Grant-In-Aid, 2006

Grant-In-Aid, 2005

Grant-In-Aid, 2004

Grant-In-Aid, 2003

Grant-In-Aid, 2002

## Teaching and Advising

### University Courses Taught

GEO391: Petroleum Basin Analysis: presented to The University of Texas at Austin, Austin, Texas, January 1, 2009-May 15, 2015.

### Continuing Education Courses Taught

Construction of Fractured Reservoir Models for Flow Simulation Incorporating Geology, Geophysics, and Geomechanics: presented to EAGE Interactive Online Short Course, presented at Online, August 23-26, 2022.

Construction of Fractured Reservoir Models for Flow Simulation Incorporating Geology, Geophysics, and Geomechanics: presented to EAGE Interactive Online Short Course, November 9-12, 2021.

Construction of Fractured Reservoir Models for Flow Simulation Incorporating Geology, Geophysics and Geomechanics: presented to PTTC Midcontinent, presented at PTTC Webinar, October 27-November 5, 2020.

Integrated Geologic, Seismic, Geomechanics, and Reservoir Engineering Characterization and Flow Simulation in Fractured Conventional and Unconventional Reservoirs: presented to PTTC Rockies, presented at Colorado School of Mines, Golden, CO, February 11-12, 2020.

Integrated geologic, seismic, geomechanics, and reservoir engineering characterization and flow simulation in fractured reservoirs: presented to Society of Exploration Geophysicists, presented at Society of Exploration Geophysicists (SEG) Annual Meeting, San Antonio, Tex., September 14-15, 2019.

Laramide-style folding and associated secondary structures: Wyoming Geologic Association Short Course, Laramie, Wyoming, 2008.

Co-instructor, Structural Interpretation: presented to new hires, ConocoPhillips, Houston, Texas, 2004.

Invited corporate presentation: presented at CoP Fractured Reservoir Workshop, Calgary, Canada, 2004.

Invited presentation on Fractured Reservoirs: presented to Houston FRESH Group, Houston, Texas, 2004.

Co-instructor, Structural Interpretation: presented to new hires, ConocoPhillips, Houston, Texas, 2003.

## Field Trips Leadership

Field Trip Leader, Fault-Related Fractures of Paleozoic through Upper Cretaceous Strata, Southwest Texas, RCRL Annual Sponsors Meeting Field Trip, Alpine, Tex., 2022.

Field Trip Co-Leader, Ancestral Rocky Mountain Structure and Stratigraphy, Sacramento Mountains, NM, RCRL Annual Sponsors Meeting Field Trip, Alamogordo, N.Mex., 2021.

Field Trip Co-Leader, Stratigraphic and Structural Setting of the Brokeoff Mountains, NM: Implications for Interpretation and Modeling of the Terminal Infill of the Midland Basin, RCRL Annual Sponsors Meeting Field Trip, Queen, N.Mex., 2019.

Field Trip Co-Leader, Facies Architecture and Platform Demise of the Albian Devils River Trend, Maverick Basin, RCRL Annual Sponsors Meeting Field Trip, Del Rio, Tex., 2018.

Field Trip Co-Leader, Part I: Wolfcampian-Leonardian Stratigraphy and Syntectonic Deformation Along the Sierra Diablo Platform, RCRL Annual Sponsors Meeting Field Trip, Van Horn, N.Mex., 2017.

Field Trip Co-Leader, Tectonic Inheritance and the Effect on Natural Fracture Systems of the Southern Permian Basin, RCRL Annual Sponsors Meeting Field Trip, Alpine, Tex., 2016.

Field Trip Co-Leader, The Aptian Composite Sequence in Texas - Shoreline to Deep Shelf Profile of OAE 1A, RCRL Annual Sponsors Meeting Field Trip, Lake Travis, Tex., 2014.

Field Trip Co-Leader, Evaporite Paleokarst: Karst Models for Evaporite Dissolution without Clastic Input, Lower Cretaceous Edwards Group, RCRL Annual Sponsors Meeting Field Trip, Junction, Tex., 2013.

Field Trip Co-Leader, Advances in the Integrated Stratigraphic and Structural Model of the Guadalupian Mixed Clastic-Carbonate Strata, Guadalupe Mountains, RCRL Annual Sponsors Meeting Field Trip, West Dog Canyon, Tex., 2012.

Field Trip Co-Leader, Evaporite Paleokarst and Brecciation within the Upper Mississippian Madison Group of Wyoming and Montana, USA, RCRL Annual Sponsors Meeting Field Trip, Billings, Mont., 2010.

Field Trip Co-Leader, Evaporite Paleokarst: Karst Models for Evaporite Dissolution without Clastic Input, Lower Cretaceous Edwards Group, RCRL Annual Sponsors Meeting Field Trip, Junction, Texas, 2010.

Field Trip Co-Leader, The Mural Limestone of Arizona: An Outcrop Analog for the Aptian-Albian Patch-Reef Reservoirs of the Maverick Basin, RCRL Annual Sponsors Meeting Field Trip, Bisbee, Ariz., 2010.

Co-Leader, Field Seminar: Hedberg Conference, 2008.

Co-Leader, Field Trip: AAPG Convention, 2008.

Co-Leader, Petroleum Systems of Laramide Field Seminar: ConocoPhillips, Laramie, Wyoming, 2008.

Field Trip Co-Leader, Cretaceous, Ordovician, and Permian Reservoir Heterogeneities, RCRL

Annual Sponsors Meeting Field Trip, San Antonio and El Paso, Tex., 2008.

Co-Leader, Field Seminar, Reservoir Structural Heterogeneities, Wyoming-Utah: sponsored by CoP, , Wyoming, 2006.

Leader, Field Seminar, Facies to Fractures in Carbonates, Central Texas: sponsored by CoP, Austin, Texas, 2005.

Leader, Field Seminar, Facies to Fractures in Carbonates, Central Texas: sponsored by CoP, Austin, Texas, 2005.

Leader, Field Seminar, Facies to Fractures in Carbonates, Central Texas: sponsored by CoP, Austin, Texas, 2004.

Leader, Field Seminar, Facies to Fractures in Carbonates, Central Texas: sponsored by CoP, Austin, Texas, 2003.

Co-Leader, Field trip to Wind River and Bighorn Basins: sponsored by RMAG, , Wyoming, 2001.

### Student Committee Supervision

Co-Supervisor, M.S., Committee, Joseph Syzdek, Mechanical stratigraphic control on deformation in a fault-propagation fold, Gobbler Anticline, Sacramento Mountains, New Mexico, USA, The University of Texas at Austin, Austin, Tex., 2021

Co-Supervisor, M.S., Committee, Leland Spangler, Timing and controls on Late Paleozoic tectonism and synorogenic sedimentation, Bursum Formation, Sacramento Mountains, New Mexico, USA, The University of Texas at Austin, Austin, Tex., 2021

Co-Supervisor, Ph.D., Committee, Yasar Abdullah Alzayer, Differential Compaction Fractures in Carbonate Mound Complexes: Pioneering Numerical Models Applied to Outcrops and Subsurface Reservoirs, The University of Texas at Austin, Austin, Tex., 2018

Co-Supervisor, Ph.D., Committee, Andrea Nolting, Syndepositional Deformation in Steep-Walled Carbonate Margins: Insights from Outcrop and Numerical Modeling of Carbonate Platforms in the Recent and Ancient Rock Record, The University of Texas at Austin, Austin, Tex., 2017

Co-Supervisor, M.S., Committee, Nathan S. Tinker, Analyzing the Effects of Carbonate Mounds on Associated Stratal Geometry and Fracture Development, Sacramento Mountains. New Mexico, USA, The University of Texas at Austin, Austin, Tex., 2016

Co-Supervisor, M.S., Committee, Maren Mathisen, Spatial and Temporal Evolution of the Cave Graben Fault System, Guadalupe Mountains, New Mexico, The University of Texas at Austin, Austin, Tex., 2014

Co-Supervisor, M.S., Committee, Rebekah Simon, Syndepositional fault control on dolomitization of a steep-walled carbonate platform margin, Yates formation, Rattlesnake Canyon, New Mexico, The University of Texas at Austin, Austin, Tex., 2014

Co-Supervisor, M.S., Committee, Gordon Smith Jr., Fault and Fracture Systems Related to Reactivation of Pre-Existing Structural Elements, Devils River Uplift and Maverick Basin, Texas, The University of Texas at Austin, Austin, Tex., 2013

Committee Member, M.S., Thesis Committee, Nathaniel Jones, Integrated Lidar and Outcrop Study of Syndepositional Faults and Fractures in the Capitan Formation, Guadalupe Mountains, New Mexico, U.S.A., The University of Texas at Austin, Austin, Tex., 2012

Committee Member, Ph.D., Committee Member, Selin Erzeybek, Characterization and modeling of paleokarst reservoirs using multiple-point statistics on a non-gridded basis, The University of Texas at Austin, Austin, Tex., 2012

Co-Supervisor, M.S. Thesis Committee, Nabil Eldam, The University of Texas at Austin, In progress, 2011

Co-Supervisor, M.S., Committee, Travis Kloss, Evolution of a Regionally Extensive Evaporite Removal Paleokarst Complex: Mississippian Madison Group, Wyoming, The University of Texas at Austin, Austin, Tex., 2011

Masters of Science, Committee Member, Travis Kloss, Evolution of a Regionally Extensive Evaporite Removal Paleokarst Complex: Mississippian Madison Group, Wyoming, The University of Texas at Austin, Austin, Tex., 2011

Co-Supervisor, M.S., Committee, Milton Enderlin, A method for evaluating the effects of stresses and rock strength on fluid flow along the surfaces of mechanical discontinuities in low permeability rocks, Texas Christian University, Fort Worth, Tex., 2010

## Student Committee Participation

Member, M.S. Thesis Committee, Milton Enderline, Texas Christian University, In progress, 2011

Member, M.S. Thesis Committee, Travis Kloss, The University of Texas at Austin, In progress, 2011

Member, Ph.D. Dissertation Committee, Selin Erzeybek, Characterization and Modeling of Karst Reservoirs by Using Multiple-Point Statistics on a Non-Gridded Basis: The University of Texas at Austin, In progress, 2011

Co-Advisor, M.S. Thesis Committee, Nabil Edlam, The University of Texas at Austin, 2009

Co-Advisor, M.S. Thesis Committee, Travis Kloss, The University of Texas at Austin, 2009

## Presentations

### Presentations

Overview and geologic characterization of the Upper Cretaceous Austin Chalk Trend along the onshore Gulf of Mexico: presented to Corpus Christi Geological Society, March 2021.

Overview and geologic characterization of the Upper Cretaceous Austin Chalk Trend along the onshore Gulf of Mexico: presented to Dallas Geological Society, March 2021.

Overview and geologic characterization of the Upper Cretaceous Austin Chalk Trend along the onshore Gulf of Mexico: presented to East Texas Geological Society, March 2021.

Overview and geologic characterization of the Upper Cretaceous Austin Chalk Trend along the onshore Gulf of Mexico: presented to New Orleans Geological Society, March 2021.

Overview and geologic characterization of the Upper Cretaceous Austin Chalk Trend along the onshore Gulf of Mexico: presented to South Texas Geological Society, March 2021.

A New 3-D Structural Model and Characterization of Basement-Rooted Faults of the Delaware Basin and Central Basin Platform for Application in Understanding Recent Seismicity: presented at The American Association of Petroleum Geologists 2020 Annual Convention and Exhibition, Houston, Tex. (virtual), September 29-October 1, 2020.

3D Structural and Kinematic Model of the Delaware Basin and Surrounding Structural Blocks for Application in Understanding Recent Seismicity: presented at The American Association of Petroleum Geologists 2019 Annual Convention and Exhibition, San Antonio, Tex., May 2019.

3D Structural and Kinematic Model of the Delaware Basin and Surrounding Structural Blocks for Application in Understanding Recent Seismicity: presented at American Geophysical Union, Fall Meeting, Washington, D.C., December 2018.

Development of a 3D Geometric and Kinematic Model of the Delaware Basin and Surrounding Blocks: presented at The American Association of Petroleum Geologists 2018 Southwest Section Convention, El Paso, Tex., April 2018.

Invited talk presented at Illinois State University, Normal, Illinois, 2007.

Invited presenter: UT-BEG RCRL Consortia Meeting, Austin, Texas, 2006.

Invited talk: presented at RMAG Symposium on Structural Geology of U.S. Rockies, Golden, Colorado, 2001.

Integrated Approach Key to Success in Resurging Upper Cretaceous Austin Chalk, Onshore Gulf of Mexico Basin: presented to AAPG, presented at Global Super Basins Leadership Conference, Houston, January 26, 2021-Present.

## Activities of a Professional Nature

### Professional Societies

American Association of Petroleum Geologists

Society of Petroleum Engineers

## Publications

### Peer Reviewed Journal Articles

Syzdek, J. C., Zahm, C. K., Kerans, C., and Malone, D. H., 2024, Mechanical stratigraphy and deformation of the Gobbler Anticline, Sacramento Mountains, New Mexico, USA: *The Mountain Geologist*, v. 61, no. 3, p. 169-200, <http://doi.org/10.31582/rmag.mg.61.3.169>.

Larson, T. E., Loucks, R. G., Sivil, J. E., Hattori, K. E., and Zahm, C. K., 2023, Machine learning classification of Austin Chalk chemofacies from high-resolution x-ray fluorescence core characterization: *AAPG Bulletin*, v. 107, no. 6, p. 907-927, <http://doi.org/10.1306/09232220095>.

Loucks, R. G., Zahm, C. K., Hattori, K. E., and Sanchez, T., 2023, Middle platform carbonate depositional systems and lithofacies patterns in the Lower Ordovician Ellenburger Group, Tobosa Basin in West Texas, U.S.A., and subsequent Sauk-Tppecanoe megasequence boundary meteoric karsting: *Marine and Petroleum Geology*, v. 150, no. 106176, 17 p., <http://doi.org/10.1016/j.marpetgeo.2023.106176>.

Loucks, R. G., Peng, S., Hattori, K. E., Periwai, P., Lambert, J. R., Zahm, C. K., and Ko, L. T., 2022, Depositional systems, lithofacies, and reservoir characterization of the Upper Cretaceous Austin Chalk, Brookeland and Burr Ferry fields in East Texas and western Louisiana: *GCAGS Journal*, v. 11, p. 37-57.

Loucks, R. G., Reed, R. M., Ko, L. T., Zahm, C. K., and Larson, T. E., 2021, Micropetrographic characterization of a siliciclastic-rich chalk; Upper Cretaceous Austin Chalk Group along the onshore northern Gulf of Mexico, USA: *Sedimentary Geology*, v. 412, no. 105821, 19 p., <http://doi.org/10.1016/j.sedgeo.2020.105821>.

Loucks, R. G., Zahm, C. K., Larson, T. E., Zahm, L. C., and Peng, S. [erroneously credited as "Peng Zeng"], 2021, Stratal architecture, lithofacies, environmental setting, depositional processes, and associated geological characteristics of the Upper Cretaceous Austin Chalk in Louisiana: *GCAGS Journal*, v. 10, p. 47-75.

Kerans, C., Hearty, P. J., Zahm, C., Bachtel, S. L., and Cheng, H., 2020, Reply to: comments on: "Anatomy of a late Quaternary carbonate island: Constraints on timing and magnitude of sea-level fluctuations, West Caicos, Turks and Caicos Islands, BWI" by Wanless and Dravis [Quat. Sci. Rev. DOI:10.1016/j.quascirev.2020.106216]: *Quaternary Science Reviews*, v. 243, no. 106441, 6 p., <http://doi.org/10.1016/j.quascirev.2020.106441>.

Loucks, R. G., Lambert, J. R., Patty, K., Larson, T. E., Reed, R. M., and Zahm, C. K., 2020, Regional overview and significance of the mineralogy of the Upper Cretaceous Austin Chalk Group, onshore Gulf of Mexico: *GCAGS Journal*, v. 9, p. 1-16.

Loucks, R. G., Larson, T. E., Zheng, C. Y. C., Zahm, C. K., Ko, L. T., Sivil, J. E., Peng, S., Ruppel, S. C., and Ambrose, W. A., 2020, Geologic characterization of the type cored section for the Upper Cretaceous Austin Chalk Group in southern Texas: a combination fractured and



unconventional reservoir: AAPG Bulletin, v. 104, no. 10, p. 2209-2245, <http://doi.org/10.1306/04222019197>.

Nolting, A., Zahm, C. K., Kerans, C., and Alzayer, Y., 2020, The influence of variable progradation to aggradation ratio and facies partitioning on the development of syndepositional deformation in steep-walled carbonate platforms: *Marine and Petroleum Geology*, v. 114, no. 104171, 12 p., <http://doi.org/10.1016/j.marpetgeo.2019.104171>.

Kerans, C., Zahm, C., Bachtel, S. L., Hearty, P., and Cheng, H., 2019, Anatomy of a late Quaternary carbonate island: constraints on timing and magnitude of sea-level fluctuations, West Caicos, Turks and Caicos Islands, BWI: *Quaternary Science Reviews*, v. 205, p. 193-223, <http://doi.org/10.1016/j.quascirev.2018.12.010>.

Loucks, R. G., Gates, B. G., and Zahm, C. K., 2019, Depositional systems, lithofacies, nanopore to micropore matrix network, and reservoir quality of the Upper Cretaceous (Cenomanian) Buda Limestone in Dimmit County, southwestern Texas: *GCAGS Journal*, v. 8, p. 281-300.

Zahm, C. K., Loucks, R. G., and Gates, B. G., 2019, High-resolution rock strength and the implications for reservoir geomechanics in the Cenomanian-age Buda Formation, Dimmit County, Texas: *GCAGS Journal*, v. 8, p. 268-280.

Nolting, A., Zahm, C., Kerans, C., and Nikolinakou, M. A., 2018, Effect of carbonate platform morphology on syndepositional deformation: insights from numerical modeling: *Journal of Structural Geology*, v. 115, p. 91-102, <http://doi.org/10.1016/j.jsg.2018.07.003>.

Kerans, C., Zahm, C., Garcia-Fresca, B., and Harris, P. M., 2017, Guadalupe Mountains, West Texas and New Mexico: key excursions: *AAPG Bulletin*, v. 101, no. 4, p. 465-474, <http://doi.org/10.1306/011817DIG17025>.

Brooks, D. L., Janson, X., and Zahm, C., 2016, The effect of sample volume on micro-rebound hammer UCS measurements in Gulf Coast Cretaceous carbonate cores: *GCAGS Journal*, v. 5, p. 189-202.

Nolting, A., Zahm, C., Kerans, C., and Brooks, D. L., 2016, Spatial and temporal characterization of mechanical rock properties from West Caicos, British West Indies: *Proceedings of the 50th Symposium of the American Rock Mechanics Association*, v. 16, no. 705, p. 1-14.

Smith, G., Zahm, C., and Kerans, C., 2016, Mechanically-partitioned deformation related to reactivated oblique-slip faults, Pecos River Canyon: *Gulf Coast Association of Geological Societies Journal*, v. 5, p. 238-252.

Zahm, C., Lambert, J., and Kerans, C., 2016, Use of unmanned aerial vehicles (UAVs) to create digital outcrop models: an example from the Cretaceous Cow Creek Formation: *Gulf Coast Association of Geological Societies Journal*, v. 5, p. 180-188.

Janson, X., Lee, K., Zahm, C., and Kerans, C., 2015, Ground-penetrating radar imaging of Albian rudist buildups, central Texas: *Interpretation*, v. 3, no. 3, p. SY67-SY81, <http://doi.org/10.1190/INT-2014-0273.1>.

Hennings, P. H., Allwardt, P., Paul, P., Zahm, C., Reid, R., Alley, H., Kirschner, R., Lee, B., and Hough, E., 2012, Relationship between fractures, fault zones, stress, and reservoir productivity in the Suban gas field, Sumatra, Indonesia: *AAPG Bulletin*, v. 96, no. 4, p. 753-772.

Zahm, C., Zahm, L., and Bellian, J. A., 2010, Integrated fracture prediction using sequence stratigraphy within a carbonate fault damage zone, Texas, USA, *Journal of Structural Geology*, v. 32, p. 1363-1374. doi:10.1016/j.jsg.2009.05.012.

Kurtzman, Daniel, El-Azzi, J. A., Lucia, F. J., Bellian, J. A., Zahm, C., and Janson, Xavier, 2009, Improving fractured carbonate-reservoir characterization with remote sensing of beds, fractures, and vugs: *Geosphere*, v. 5, no. 2, p. 126-139.

Zahm, C. K., and Hennings, P. H., 2009, Complex fracture development related to stratigraphic architecture: challenges for structural deformation prediction, Tensleep Sandstone at the Alcova anticline, Wyoming: AAPG Bulletin, v. 93, no. 11, p. 1427-1446.

### Peer Reviewed Book Chapters

Horne, E. A., Hennings, P. H., and Zahm, C. K., 2021, Basement-rooted faults of the Delaware Basin and Central Basin Platform, Permian Basin, West Texas and southeastern New Mexico, in Callahan, O. A., and Eichhubl, P., eds., The Geologic basement of Texas: a volume in honor of Peter T. Flawn: Austin, Tex., The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations, v. 286, 36 p., <http://doi.org/10.23867/RI0286C6>.

Horne, E. A., Hennings, P. H., and Zahm, C. K., 2021, Basement-rooted faults of the Delaware Basin and Central Basin Platform, Permian Basin, West Texas and southeastern New Mexico, in Callahan, O. A., and Eichhubl, P., eds., The geologic basement of Texas: a volume in honor of Peter T. Flawn: The University of Texas at Austin, Bureau of Economic Geology, v. 286, 36 p., <http://doi.org/10.23867/RI0286C6>.

Kerans, C., Zahm, C., Garcia-Fresca, B., and Harris, P. (M.), 2021, Natural laboratory for studying stratigraphic architecture, facies tract distribution and syndepositional deformation in carbonate ramps and steep-rimmed platforms: Guadalupe Mountains, West Texas and New Mexico, in Wright, V. P., and Della Porta, G., eds., Field guides to exceptionally exposed carbonate outcrops: Ghent, Belgium, International Association of Sedimentologists, Field Guides, v. 3, p. 129-178, <http://doi.org/10.54780/IASFG003>.

Shuster, M. W., Zahm, C. K., and Hennings, P. H., 2021, Oil and gas in fractured crystalline igneous and metamorphic rocks: global overview and examples from Texas, in Callahan, O. A., and Eichhubl, P., eds., The geologic basement of Texas: a volume in honor of Peter T. Flawn: Austin, Tex., The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations, v. 286, 68 p., <http://doi.org/10.23867/RI0286C3>.

### Non Peer Reviewed Journal Articles

Alzayer, Y., Alnazghah, M., and Zahm, C., 2019, 3D reservoir-scale forward geomechanical modeling of differential compaction fractures: SPE Middle East Oil and Gas Show and Conference, Manama, Bahrain, March 18-21, no. SPE-195079-MS, 17 p., <http://doi.org/10.2118/195079-MS>.

Michelena, R. J., Gilman, J. R., and Zahm, C. K., 2019, Seismic, geologic, geomechanics, and dynamic constraints in flow models of unconventional fractured reservoirs: example from a south Texas field: The Leading Edge, v. 38, no. 2, p. 116-122, <http://doi.org/10.1190/tle38020116.1>.

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