

Curriculum Vitae

Dale Edward Bird

16903 Clan Macintosh, Houston, Texas 77084

713-203-1927, dale@birdgeo.com

EDUCATION

Doctor of Philosophy, Geophysics, University of Houston, Houston, Texas, May 2004

Master of Science, Geophysics, University of Houston, Houston, Texas, December 1991

Bachelor of Science, Geophysics, University of Houston, Houston, Texas, August 1986

Imagery Interpretation and Photogrammetry, U.S. Army Intelligence Center and School, Fort Huachuca, Arizona, April 1977

AWARDS

Champion, Class C, U.S. Chess Federation, 2012 (1st place, tie)

Bonarelli Award, Best oral presentation, EAGE 72nd Annual Conference, European Association of Geoscientists & Engineers, Barcelona, 2011

Outstanding Student, Houston Geological Society, 2002

APPOINTMENT

Research Associate Professor, University of Houston, Department of Earth & Atmospheric Sciences, Houston, Texas, 2014-present; **Adjunct Professor** (2005-2014)

- Lecturer: Graduate-level semester courses, and short courses for industry and University of Houston's Professional Masters programs
- Researcher: Collaborate with colleagues and serve on graduate student research committees
- Research interests: Gravity and magnetic applications to regional geologic and tectonic scale studies, especially along continental margins and tectonic plate boundaries

PROFESSIONAL GEOPHYSICIST, Texas Board of Professional Geoscientists, License Number 1803

WORK EXPERIENCE

Sole Proprietor: Bird Geophysical, Houston, Texas, 1997-present, www.birdgeo.com

- Consultancy providing potential fields data interpretation and educational services to the petroleum exploration industry
- Non-exclusive studies: Gulf of Mexico, western Caribbean, Sunda Shelf, South China Sea
- Non-exclusive data: Reformatted and reprocessed GEODAS open-file marine gravity and magnetic data

General Manager, Houston: Aerodat, Inc., Houston, Texas, 1994-1997

- Established and managed the Houston office for an airborne geophysical survey company headquartered in Toronto Canada

Chief Geophysicist, Americas: World Geoscience, Inc., Houston, Texas, 1992-1994

- Airborne geophysical survey company headquartered in Perth Australia

Geophysicist: Marathon Oil Company, Houston, Texas, 1989-1992

- Potential fields data interpretation
- Reflection seismic data processing

Geophysicist: Digicon, Inc., Houston, Texas, 1988-1989

- 2D and 3D marine seismic reflection data processing

Geophysicist: Aero Service Division, Western Atlas International, Houston, Texas, 1981-1988

- Aeromagnetic data interpretation and processing

Imagery Interpreter (MOS: 96D): U.S. Army, 1st Military Intelligence Battalion, Fort Bragg, North Carolina, Sep. 7, 1976 – Sep. 6, 1979 (Honorable Discharge, Rank SP4)

- Analyze various formats of airborne imagery

ASSOCIATIONS – MEMBERSHIP

AAPG	American Association of Petroleum Geologists
AGU	American Geophysical Union
GSA	Geological Society of America
GSH	Geophysical Society of Houston
HGS	Houston Geological Society
NESA	National Eagle Scout Association (Eagle Rank: Council 255, Troop 272, 1973)
SEG	Society of Exploration Geophysicists

ASSOCIATIONS – SERVICE

2020-Present	AGU-SEG	Chair (SEG)	AGU-SEG Joint Committee
2018-2020	AGU-SEG	Liaison	AGU-SEG Joint Committee, Gravity and Magnetics
2006-2007	HGS	Chair	International Explorationists Group
2004-2006	GSH	Chair	Potential Fields Group
1998-2000	SEG	Chair	Gravity and Magnetics Committee
1994-1995	GSH	Editor	
1991-1993	GSH	Chair	Potential Fields Group

PUBLICATIONS - THESES

Bird, D. E., 2004, Jurassic tectonics of the Gulf of Mexico and central Atlantic Ocean: Ph.D. Dissertation, University of Houston, 173 p.

Bird, D. E., 1991, An integrated geophysical interpretation of the Grenada Basin: M.S. Thesis, University of Houston, 316 p.

PUBLICATIONS – PEER REVIEW

Bird, D. E., Dowla, N., and Cathey, W. E., 2023, Machine learning applications for predicting heat flow and thermal conductivity in northwest U.S.: Transactions, Geothermal Research Council, v. 47.

Zhang, H., and Bird, D. E., 2023, Detecting hypogenic karst features in the northeastern Delaware Basin, west Texas: Applications of Full Tensor Gradient (FTG) gravity data: Journal of Applied Geophysics, v. 208, 104889.

Chen, Y. -W., Colli, L., Bird, D. E., Wu, J., and Zhu, H., 2021, Caribbean plate tilted and actively dragged eastwards by low-viscosity asthenospheric flow: Nature Communications, v. 12, n. 1, p. 1-9.

Zhang, H., Mann, P., Bird, D. E., and Rudolph, K., 2021, Integration of regional gravity modeling, subsidence analysis, and source rock maturity data to understand the tectonic and hydrocarbon evolution of the Permian Basin, West Texas: Interpretation, v. 9, n. 1, p. T161-T181.

Sun, L., Mann, P., and Bird, D. E., 2020, Integration of tectonic geomorphology and crustal structure across the active oblique collisional zone on the island of Hispaniola, northeastern Caribbean: *in*, Davison, I., Hull, J. N. F., and Pindell, J. (editors), *The basin, orogens and evolution of the southern Gulf of Mexico and northern Caribbean*: Geological Society, London, Special Publications, v. 504, p. 379-400.

Lin, P., Bird, D. E., and Mann, P., 2019, Crustal structure of an extinct, late Jurassic-to-earliest Cretaceous spreading center and its adjacent oceanic crust in the eastern Gulf of Mexico: Marine Geophysical Researches, v. 40, n. 3, 395-418.

- Gomez, S., Bird, D., and Mann, P., 2018, Deep crustal structure and tectonic origin of the Tobago – Barbados ridge: Interpretation, v. 6, n. 2, p. T471-T484.
- Hall, S. A., Bird, D. E., McLean, D. J., Towle, P. J., Grant, J. V., and Danque, H. A., 2018, New constraints on the age of the opening of the South Atlantic basin: Marine and Petroleum Geology, v. 95, p. 50-66.
- Bird, D. E., and Hall, S. A., 2016, Early seafloor spreading in the South Atlantic: new evidence for M-series magnetochrons north of the Rio Grande Fracture Zone: Geophysical Journal International, v. 206, p. 835-844.
- Nguyen, L. C., Hall, S. A., Bird, D. E., and Ball, P. J., 2016, Reconstruction of the East Africa and Antarctica margins: Journal of Geophysical Research, v. 121, p. 4156-4179.
- Kumar, N., Danforth, A., Nuttall, P., Helwig, J., Bird, D. E., and Venkatraman, S., 2012, From oceanic crust to exhumed mantle: A 40 year (1970-2010) perspective on the nature of crust under the Santos Basin, SE Brazil: *in*, Mohriak, W., Danforth, A., Post, P. J., Brown, D. E., Tari, G. C., Nemcok, M., and Sinha, S. T. (editors), *Conjugate divergent margins*: Geological Society, London, Special Publications, v. 369, p. 147-165.
- Bird, D. E., Burke, K., Hall, S. A., and Casey, J. F., 2011, Tectonic evolution of the Gulf of Mexico basin: *in*, Buster, N. A., and Holmes, C. W. (editors), *The Gulf of Mexico origin, waters, and biota*: Texas A&M University Press, Tunnell, J. W., Felder, D. L., and Earle, S. A. (series editors), *Geology*, v. 3, p. 3-16.
- Bird, D. E., Hall, S. A., Burke, K., Casey, J. F., and Sawyer, D. S., 2007, Early Central Atlantic Ocean seafloor spreading history: *GeoSphere*, v. 3, p. 282-298.
- Bird, D. E., Burke, K., Hall, S. A., and Casey, J. F., 2005, Gulf of Mexico tectonic history: Hotspot tracks, crustal boundaries, and early salt distribution: American Association of Petroleum Geologists Bulletin, v. 89, p. 311-328 (Cover – March issue).
- Steffens, G. S., Biegert, E. K., Sumner, H. S., and Bird, D. E., 2003, Quantitative bathymetric analyses of selected deepwater siliciclastic margins: receiving basin configurations for deepwater fan systems: Marine and Petroleum Geology, v. 20, p. 547-561.
- Bird, D. E., Hall, S. A., Casey, J. F., and Millegan, P. S., 1999, Tectonic evolution of the Grenada Basin: *in*, Mann, P. (editor), *Caribbean Basins*: Elsevier Science B. V., Hsu, K. J. (series editor), *Sedimentary Basins of the World*, v. 4, p. 389-416.
- Bird, D. E., Hall, S. A., Casey, J. F., and Millegan, P. S., 1998, Interpretation of magnetic data at low latitudes: potential pitfall: *in*, Gibson, R. I., and Millegan, P. S. (editors), *Gravity and Magnetic Exploration Case Histories*: American Association of Petroleum Geologists Studies in Geology, n. 43 and Society of Exploration Geophysicists Geophysical Reference Series, n. 8, p. 53-57.
- Millegan, P. S., and Bird, D. E., 1998, How basement lithology changes affect magnetic interpretation: *in*, Gibson, R. I., and Millegan, P. S. (editors), *Gravity and Magnetic Exploration Case Histories*: American Association of Petroleum Geologists Studies in Geology, n. 43 and Society of Exploration Geophysicists Geophysical Reference Series, n. 8, p. 40-44.
- Bird, D. E., Hall, S. A., Casey, J. F., and Millegan, P. S., 1993, Interpretation of magnetic anomalies over the Grenada Basin: *Tectonics*, v. 12, p. 1267-1279.

PUBLICATIONS – EXTENDED ABSTRACTS

- Bird, D. E., Cathey, W. E., and Dowla, N., 2023, Heat flow and Supervised Learning in the Permian Basin: Applying The Magnetic Layer (TML) to control thermal property calculations: American Association of Petroleum Geologists & Society of Exploration Geophysicists, International Meeting for Applied Geoscience & Energy (IMAGE).
- DeVito, S., Bird, D., and Cvetkovic, M., 2023, Syn-rift and pre-rift section in the Colorado Basin, offshore Argentina: An integration of new long offset 2D seismic reflection data with potential fields and vintage seismic refraction data: American Association of Petroleum Geologists & Society of Exploration Geophysicists, International Meeting for Applied Geoscience & Energy (IMAGE).

- Zhang, H., and Bird, D.E., 2023, Full Tensor Gradient (FTG) gravity data application in karst features detection in the northeastern Delaware Basin, west Texas: American Association of Petroleum Geologists & Society of Exploration Geophysicists, International Meeting for Applied Geoscience & Energy (IMAGE).
- Bird, D. E., Cathey, W. E., and Dowla, N., 2022, The Magnetic Layer in Powder River and Denver-Julesburg basins: a new crustal temperature constraint for estimating thermal properties in sedimentary basins: American Association of Petroleum Geologists & Society of Exploration Geophysicists, International Meeting for Applied Geoscience & Energy (IMAGE), NEF 2, 2 p.
- Dinkelman, M. G., and Bird, D. E., 2013, Interpretation of the tectonic framework of NE Greenland continental margin from regional seismic reflection and gravity data: 3P Arctic, The Polar Petroleum Potential Conference & Exhibition.
- Bird, D. E., and Hall, S. A., 2010, Early seafloor spreading in the South Atlantic Ocean: M-series isochrons north of the Rio Grande Fracture Zone?: 2nd Conjugate Margins Conference, Lisbon.
- Dinkelman, M. G., and Bird, D. E., 2010, Offshore Nova Scotia: basin framework of the slope diapiric province: 2nd Conjugate Margins Conference, Lisbon.
- Bird, D. E., and Hall, S. A., 2010, South Atlantic kinematics and the evolution of Tristan da Cunha hotspot tracks: 72nd European Association of Geoscientists & Engineers Conference & Exhibition, Barcelona, D044. (Bonarelli Award, Best oral presentation)
- Bird, D. E., Hall, S. A., Burke, K., Casey, J. F., and Sawyer, D. S., 2008, Mesozoic seafloor spreading history of the Central Atlantic Ocean: Conjugate Margins Conference, Dalhousie Univ., Halifax.
- Bird, D. E., Radovich, B. J., and Moon, J., 2007, Integrated Seismic and Gravity Data Modeling: Basement Structure in the Gulf of Mexico: Gulf Coast Association of Geological Societies Societies, v. 57, p. 47-53.
- Radovich, B. J., Moon, J., Connors, C. D., and Bird, D. E., 2007, Insights into Structure and Stratigraphy of the Northern Gulf of Mexico from 2D Pre-Stack Depth Migration Imaging of Mega-Regional Onshore to Deep Water, Long-Offset Seismic Data: Gulf Coast Association of Geological Societies, v. 57, p. 633-637.
- Bird, D. E., and Burke, K., 2006, Pangea breakup: Mexico, Gulf of Mexico, and Central Atlantic Ocean: *in*, Expanded Abstracts of the Technical Program: Society of Exploration Geophysicists 76th Annual International Meeting and Exposition, p. 1013-1016.
- Walraven, D., Drummond, J., Rodriguez, A., Kue, C. –W., Chang, T., and Bird, D., 2002, Integrated seismic illumination and gravity modeling in refinement of a subsalt interpretation: *in*, Expanded Abstracts of the Technical Program, Society of Exploration Geophysicists 72nd Annual International Meeting and Exposition: p. 621-624.
- Bird, D. E., and Gibson, R. I., 1999, Gravity and magnetic interpretation of the Sunda Shelf and South China Sea: *in*, Expanded Abstracts of the Technical Program, Society of Exploration Geophysicists 69th Annual International Meeting and Exposition: v. 1, p. 407-410.
- Bird, D. E., and Nelson, J. R., 1999, Aeromagnetic interpretation of basement structure using over 3,000 control wells, central Alberta: a case history: *in*, Expanded Abstracts of the Technical Program, Society of Exploration Geophysicists 69th Annual International Meeting and Exposition: v. 1, p. 347-349.
- Bird, D. E., Hall, S. A., Casey, J. F., and Millegan, P. S., 1991, Integrated geophysical interpretation of the Grenada Basin: *in*, Expanded Abstracts of the Technical Program, Society of Exploration Geophysicists 61st Annual International Meeting and Exposition, p. 172-175.