

CURRICULUM VITAE

Teng-fong WONG (黃庭芳)

Present Position:

Research Professor, Department of Geosciences
Earth and Space Science Building
Stony Brook University
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Emeritus Professor, Earth & Environmental Sciences
Faculty of Science, The Chinese University of Hong Kong
Shatin, Hong Kong SAR, China
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Education:

1976-80	Massachusetts Institute of Technology Ph.D. (Geophysics)
1973-76	Harvard University M.S. (Applied Mechanics)
1970-73	Brown University Sc.B. (Applied Mathematics) Magna cum laude, Sigma Xi

Employment:

The Chinese University of Hong Kong
2020 - Emeritus Professor
2020-2023 Research Professor
2013-2019 Professor and Founding Director, Earth System Science
Programme, Faculty of Science

Stony Brook University
2015 - Professor Emeritus/ Research Professor, Geosciences
1992-2015 Professor, Department of Geosciences
2004-2015 Affiliated Professor, Department of Mechanical Engineering
2004-2007 Chair, Department of Geosciences
1998-2001 Associate Dean of the Graduate School
1986-1992 Associate Professor
1982-1986 Assistant Professor

Department of Earth, Atmospheric and Planetary Sciences, M.I.T.
1981-1982 Postdoctoral Associate

Professional Experience and Awards:

Member, Committee on fracture in compressive stress fields,
National Materials Advisory Board, 1981-83.
Visiting fellow, Research School of Earth Sciences, The Australian
National University, 1988.
Visiting professor, Department of Earth, Atmospheric,
and Planetary Sciences, M.I.T., 1989.
Associate editor, *Journal of Geophysical Research*, 1989-92.
Visiting scientist, Geological Institute, Swiss Federal Institute
of Technology, Zurich, 1990, 1996.
Consulting expert panel, DOE Waste Isolation Pilot Project, 1993.
NSF grants review panel on the Northridge Earthquake, 1994.
Review panel for U.S. Rock Mechanics Annual Awards, 1992, 1995.
Review panel, DOE Laboratory Technology Research Program, 1997.

Visiting professor, University of Science and Technology, China, 1999.
Chair, Physical Properties of Earth Materials Committee, American Geophysical Union, 1999-2002.
Mineral and Rock Physics Committee, American Geophysical Union, 2000-2002.
Visiting professor, Ecole Normale Supérieure, Paris, 1998, 2003.
Visiting professor, University of Strasbourg, 2003, 2008.
Physical Sciences panel, Hong Kong SAR University Grants Committee Research Assessment Exercise, 2006.
Panel member, DOE/BES Workshop on Basic Research Needs for Geosciences: Facilitating 21st century energy systems, 2007.
External review committee, Department of Geological Sciences and Engineering, University of Nevada, Reno, 2008.
Advisory board, San Andreas Fault Observatory at Depth (SAFOD), EarthScope, 2004-8.
International advisory board, Utrecht University Sustainability Programme, 2015-17.
Grants review panel, National Earthquake Hazards Reduction Program, U. S. Geological Survey, 1989-91, 1995-96, 2000-01, 2007, 2010-12, 2017-19.
Physical Sciences panel, Hong Kong SAR Research Grants Council, 2013-18.
Editorial board, *Earthquake Science*, 2009-2021.
Guest associate editor, *Geophysical Prospecting*, 2019-2021.
Invited professor, State Key Laboratory of Earthquake Dynamics, Institute of Geology, China Earthquake Administration, 2013- .
Vice-President, Rock Physics Committee, Chinese Geophysical Society, 2016- .
Joint Research Schemes (Physical Sciences) panel, Hong Kong SAR Research Grants Council, 2020- .

Basic Research Award, U.S. National Committee for Rock Mechanics, National Research Council, 1986.
Outstanding Volunteer Award, Cornell Cooperative Extension of Suffolk County, NY, 2002.
SUNY Chancellor's Award for Excellence in Scholarship and Creative Activities, 2003.
Louis Néel Medal of the European Geosciences Union (in recognition of outstanding achievements in rock magnetism, rock physics and geomaterials), 2010.
Outstanding Reviewer of the Society of Exploration Geophysicists journal *Geophysics*, 2013.
Fellow, American Geophysical Union, 2017.
Maurice A. Biot Lecturer, Columbia University/American Society of Civil Engineers, 2017.
Editors' Citation for Excellence in Refereeing for *Journal of Geophysical Research Solid Earth*, 2019.
Exemplary Teaching Award, CUHK Faculty of Science, 2020.

Patents

Smith, C., R. Paulsen, and T.-f. Wong, *Ultrasonic Seepage Meter*,
U.S. Patents 6,874,371 (4/5/2005); 7,107,859 (9/19/2006)

Books

Evans, B., and T.-f. Wong (ed.), "*Fault Mechanics and Transport Properties of Rocks, A Festschrift in Honor of W. F. Brace*", Academic Press, San Diego, 524 pp, 1992.

陈颙、黄庭芳 《岩石物理学》。(Chen, Y., and T.-f. Wong, "*Rock Physics*"), Peking University Press, Beijing, 231 pp, 2001.

Paterson, M.S. and Wong, T.-f., *Experimental Rock Deformation - The Brittle Field*, 2nd Edition. Springer-Verlag, New York, 348 pp., 2005.

陈颙、黄庭芳、刘恩儒 《岩石物理学》。合肥：中国科学技术大学出版社，584 页，2009。
(Chen, Y., T.-f. Wong, and E. Liu, "*Rock Physics*", USTC Press, Hefei, 584 pp, 2009.)

Papers

(Google Scholar: Total # of citations 20,114; h-index 70; i10-index 120)

(Web of Science: Total # of articles 115; # of citations 10,344; h-index 55)

Wong, T.-f., and W.F. Brace, Thermal expansion of rocks: Some measurements at high pressure, *Tectonophysics*, **57**, 95-117, 1979.

Wong, T.-f., Shear fracture energy of Westerly granite from post-failure behavior, *J. Geophys. Res.*, **87**, 990-1000, 1982.

Wong, T.-f., Effect of temperature and pressure on failure and post-failure behavior of Westerly granite, *Mechanics of Materials*, **1**, 3-17, 1982.

Wong, T.-f., Micromechanics of faulting in Westerly granite, *Int. J. Rock Mech. Min. Sci.*, **19**, 49-64, 1982.

Walsh, J.B. and T.-f. Wong, Gravity change due to faulting in a viscoelastic half-space, *Acta Seismologica Sinica*, **5**, 169-171, 1983.

Wong, T.-f., Development of stress-induced anisotropy and localized deformation in brittle rock, in *Plastic Behavior of Anisotropic Solids*, ed. J.P. Boehler, 321-337, 1985.

Evans, B., and T.-f. Wong, Shear localization in rocks induced by tectonic deformation, in *Mechanics of Geomaterials: Rocks, Concretes and Soils*, ed. Z.P. Bazant, 189-210, 1985.

Wong, T.-f. and J.B. Walsh, A theoretical analysis of tectonic stress relief during overcoring, *Int. J. Rock Mech. Min. Sci.*, **22**, 163-171, 1985.

Wong, T.-f. and R. Biegel, Effects of pressure on the micromechanics of faulting in San Marcos gabbro, *J. Structural Geol.*, **7**, 737-749, 1985.

Wong, T.-f., Geometric probability approach to the characterization and analysis of microcracking in rocks, *Mechanics of Materials*, **4**, 261-276, 1985.

Fredrich, J. and T.-f. Wong, Micromechanics of thermally induced cracking in three crustal rocks, *J. Geophys. Res.*, **91**, 12743-12764, 1986.

Wong, T.-f., On the normal stress dependence of the shear fracture energy, in *Earthquake Source Mechanics*, A.G.U. Geophysical Monograph **37** (Maurice Ewing volume 6), 1-11, 1986.

Wang, Y. and T.-f. Wong, Finite element analysis of two overcoring techniques for *in situ* stress measurements, *Int. J. Rock Mech. Min. Sci.*, **24**, 41-52, 1987.

Zhang, J. and T.-f. Wong, Lithospheric flexure and deformation-induced gravity changes: Effect of elastic compressibility and gravitation on a multilayered, thick plate model, *Geophys. Jour.*, **92**, 73-88, 1988.

Fredrich, J., B. Evans and T.-f. Wong, Micromechanics of the brittle to plastic transition in Carrara marble, *J. Geophys. Res.*, **94**, 4129-4143, 1989.

Wong, T.-f., J. Fredrich and G. D. Gwanmesia, Crack aperture statistics and pore space fractal geometry of Westerly granite and Rutland quartzite: Implications for an elastic contact model of rock compressibility, *J. Geophys. Res.*, **94**, 10267-10278, 1989.

Wong, T.-f., Brittle phenomena, in *Encyclopedia of Geophysics*, ed. D. E. James, Van Nostrand Reinhold, NY, 38-48, 1989.

Wong, T.-f. and Y. Zhao, Effects of load point velocity on frictional instability behavior, *Tectonophysics*, **175**, 177-195, 1990.

Zhang, J., T.-f. Wong and D. M. Davis, Micromechanics of pressure-induced grain crushing in porous rocks, *J. Geophys. Res.*, **95**, 341-352, 1990.

- Evans, B., J. T. Fredrich and T.-f. Wong, The brittle to ductile transition in rocks: recent experimental and theoretical progress, in *The Brittle-Ductile Transition in Rocks, The Heard Volume*, Geophysical Monograph **56**, Am. Geophys. Union, 1-20, 1990.
- Wong, T.-f., A note on the propagation behavior of a crack nucleated by a dislocation pile-up, *J. Geophys. Res.*, **95**, 8639-8646, 1990.
- Zhang, J., T.-f. Wong, T. Yanagidani and D. M. Davis, Pressure-induced microcracking and grain crushing in Berea and Boise sandstones: acoustic emission and quantitative microscopy measurements, *Mechanics of Materials*, **9**, 1-15, 1990.
- Fredrich, J., B. Evans and T.-f. Wong, Effects of grain size on brittle and semi-brittle strength: implications for micromechanical modeling of failure in compression, *J. Geophys. Res.*, **95**, 10907-10920, 1990.
- Wong, T.-f., Mechanical compaction and the brittle-ductile transition in porous sandstones, in *Deformation Mechanisms, Rheology and Tectonics*, ed. R. J. Knipe and E. H. Rutter, Geological Society Special Publication No. 54, 111-122, 1990.
- Wanamaker, B. J., T.-f. Wong and B. Evans, Decrepitation and crack healing of fluid inclusions in San Carlos olivine, *J. Geophys. Res.*, **95**, 15623-15641, 1990.
- Zhang, J., T.-f. Wong and D. M. Davis, High pressure embrittlement and shear-enhanced compaction in Berea sandstone: acoustic emission measurement and microstructural observation, in *Rock Mechanics Contributions and Challenges, Proc. 31st U. S. Symposium on Rock Mechanics*, ed. W. A. Hustrulid and G. A. Johnson, A. A. Balkema, Rotterdam, 653-660, 1990.
- Wong, T.-f. and J. B. Walsh, Deformation-induced gravity changes in volcanic regions, *Geophys. Jour. Int.*, **106**, 513-520, 1991.
- Gu, Y., and T.-f. Wong, Effects of loading velocity, stiffness, and inertia on the dynamics of a single degree of freedom spring-slider system, *J. Geophys. Res.*, **96**, 21677-21691, 1991.
- Wong, T.-f., News and Views: "Action replay for fracture", *Nature*, **350**, 17-18, 1991.
- Wong, T.-f., Y. Gu, T. Yanagidani and Y. Zhao, Stabilization of faulting by cumulative slip, in *Fault Mechanics and Transport Properties of Rocks*, ed. B. Evans and T.-f. Wong, Academic Press, 119-143, 1992.
- Gu, J. and T.-f. Wong, The transition from stable sliding to cyclic stick-slip: effect of cumulative slip and load point velocity on the nonlinear dynamical behavior in three rock-gouge systems, in *Rock Mechanics Proceedings of the 33rd U. S. Symposium*, ed. J. R. Tillerson and W. R. Wawersik, A. A. Balkema, Rotterdam, 151-158, 1992.
- Wong, T.-f., H. Szeto and J. Zhang, Effect of loading path and porosity on the failure mode of porous rocks, *Applied Mechanics Review*, **45**, 281-293, 1992.
- Zhang, J., D. M. Davis, and T.-f. Wong, Failure modes of tuff samples from Leg 131 in the Nankai accretionary wedge, *Proc. ODP, Init. Reports*, **131**, ed. I. Hill, A. Taira, J. V. Firth et al., 275-281, 1993.
- Zhang, J., D. M. Davis and T.-f. Wong, The brittle-ductile transition in porous sedimentary rocks: geological implications for accretionary wedge aseismicity, *J. Struct. Geol.*, **15**, 819-830, 1993.
- Gu, J. and T.-f. Wong, Nonlinear dynamics of the transition from stable sliding to cyclic stick-slip in rock, in *"Nonlinear Dynamics and Predictability of Critical Geophysical Phenomena"*, ed. W. Newman, A. Gabrielov and D. Turcotte, AGU Geophysical Monograph **83**, IUGG Volume 18, 15-35, 1994.
- Gu, J. and T.-f. Wong, Development of shear localization in simulated quartz gouge: effect of cumulative slip and gouge particle size, *Pure Appl. Geophys.*, **143**, 387-423, 1994.
- David, C., T.-f. Wong, W. Zhu and J. Zhang, Laboratory measurement of compaction-induced permeability change in porous rocks: implications for the generation and maintenance of pore pressure excess in the crust, *Pure Appl. Geophys.*, **143**, 425-456, 1994.
- Fredrich, J. T., B. Menéndez and T.-f. Wong, Imaging the pore structure of geomaterials, *Science*, **268**, 276-279, 1995.
- Olgaard, D. L., S.-c. Ko, and T.-f. Wong, Deformation and pore pressure in dehydrating gypsum under transiently drained conditions, *Tectonophysics*, **245**, 237-248, 1995.
- Zhu, W., C. David and T.-f. Wong, Network modeling of permeability evolution during cementation and hot isostatic pressing, *J. Geophys. Res.*, **100**, 15451-15464, 1995.

- Karato, S. and T.-f. Wong, Rock deformation - ductile and brittle, *Rev. Geophys. supplement, U.S. National Report to IUGG*, 451-457, 1995.
- Zang, A. and T.-f. Wong, Elastic stiffness and stress concentration in cemented granular material, *Int. J. Rock Mech. Min. Sci.*, **32**, 563-574, 1995.
- Wong, T.-f. and L. Wu, Tensile stress concentration and compressive failure in cemented granular material, *Geophys. Res. Lett.*, **22**, 1649-1652, 1995.
- Menéndez, B., W. Zhu and T.-f. Wong, Micromechanics of brittle faulting and cataclastic flow in Berea sandstone, *J. Struct. Geol.*, **18**, 1-16, 1996.
- Vetter, W.M., Dudley, M., T.-f. Wong, and J.T. Fredrich, Characterization of micropipes and other defect structures in 6H-SiC through fluorescence microscopy, in *Diagnostic Techniques for Semiconductor Materials Processing II*, S.W. Pang, O.J. Glembocki, F.H. Pollak, F. Celii, C.M.S. Torres (Editors), MRS Symp. Proc. V. 406, Materials Research Society, Pittsburgh, PA, 1996.
- Shah, K. R., and T.-f. Wong, Grain fracturing and comminution in porous materials, in *Rock Mechanics: Tools and Techniques, Proc. 2nd NARM Symp.*, ed. M. Aubertin, F. Hassani, and H. Mitri, A. A. Balkema, Rotterdam, 859-866, 1996.
- Zhu, W., and T.-f. Wong, Permeability reduction in a dilating rock: Network modeling of damage and tortuosity, *Geophys. Res. Lett.*, **23**, 3099-3102, 1996.
- Ko, S.-c., D.L. Olgaard, and T.-f. Wong, Generation and maintenance of pore pressure excess in a dehydrating system, 1 Experimental and microstructural observations, *J. Geophys. Res.*, **102**, 825-839, 1997.
- Wong, T.-f., S.-c. Ko, and D.L. Olgaard, Generation and maintenance of pore pressure excess in a dehydrating system, 2 Theoretical analysis, *J. Geophys. Res.*, **102**, 841-852, 1997.
- Zhu, W. and T.-f. Wong, Shear-enhanced compaction in sandstone under nominally dry and water-saturated conditions, *Int. J. Rock Mech. Min. Sci.* **34**, 3/4, paper no. 364, 1997.
- Wong, T.-f., C. David, and W. Zhu, The transition from brittle faulting to cataclastic flow in porous sandstones: Mechanical deformation, *J. Geophys. Res.*, **102**, 3009-3025, 1997.
- Zhu, W., and T.-f. Wong, The transition from brittle faulting to cataclastic flow: Permeability evolution, *J. Geophys. Res.*, **102**, 3027-3041, 1997.
- Zhu, W., L. Montesi, and T.-f. Wong, Shear-enhanced compaction and permeability reduction: triaxial extension tests on porous sandstones, *Mech. Mat.*, **25**, 199-214 1997.
- Shah, K. R., and T.-f. Wong, Fracturing at contact surfaces subjected to normal and tangential loads, *Int. J. Rock Mech. Min. Sci.*, **34**, 727-739, 1997.
- Seront, B., T.-f. Wong, J. S. Caine, C. B. Forster, R. L. Bruhn, and J. T. Fredrich, Laboratory characterization of hydromechanical properties of a seismogenic normal fault system, *J. Struct. Geol.*, **20**, 865-881, 1998.
- Zhu, W., and T.-f. Wong, Network modeling of the evolution of permeability and dilatancy in compact rock, *J. Geophys. Res.*, **104**, 2963-2971, 1999.
- Wong, T.-f., and W. Zhu, Brittle faulting and permeability evolution: hydromechanical measurement, microstructural observation, and network modeling, in *Faults and Subsurface Fluid Flow in the Shallow Crust*, ed. W.C. Haneberg, P.S. Mozley, J. C. Moore, and L.B. Goodwin, AGU Geophysical Monograph **113**, 83-99, 1999.
- Wong, T.-f., and P. Baud, Mechanical compaction of porous sandstone, *Oil Gas Sci. Tech. – Rev. IFP*, **54**, 715-727, 1999.
- Wu, X. Y., P. Baud, and T.-f. Wong, Micromechanics of compressive failure and spatial evolution of anisotropic damage in Darley Dale sandstone, *Int. J. Rock Mech. Min. Sci.*, **37**, 143-160, 2000.
- Baud, P., W. Zhu, and T.-f. Wong, Failure mode and weakening effect of water on sandstone, *J. Geophys. Res.*, **105**, 16371-16390, 2000.
- Baud, P., A. Schubnel, and T.-f. Wong, Dilatancy, compaction and failure mode in Solnhofen limestone, *J. Geophys. Res.*, **105**, 19289-19303, 2000.

- Lindquist, W. B., A. Venkatarangan, J. Dunsmuir, and T.-f. Wong, Pore and throat size distributions measured from synchrotron X-ray tomographic images of Fontainebleau sandstones, *J. Geophys. Res.*, **105**, 21509-21527, 2000.
- Wawersik, W. R., J. W. Rudnicki, P. Dove, J. Harris, J. M. Logan, L. Pyrak-Nolte, F. M. Orr, P. J. Ortoleva, F. Richter, N. R. Warpinski, J. L. Wilson, and T.-f. Wong, Terrestrial sequestration of CO₂: An assessment of research needs, *Advances in Geophysics*, **43**, 97-177, 2001.
- Klein, E., P. Baud, T. Reuschle, and T.-f. Wong, Mechanical behaviour and failure mode of Bentheim sandstone under triaxial compression, *Phys. Chem. Earth (A)*, **26**, 21-25, 2001.
- David, C., B. Menéndez, W. Zhu, and T.-f. Wong, Mechanical compaction, microstructures and permeability evolution in sandstones, *Phys. Chem. Earth (A)*, **26**, 45-51, 2001.
- Wong, T.-f., P. Baud, and E. Klein, Localized failure modes in a compactant porous rock, *Geophys. Res. Lett.*, **28**, 2521-2524, 2001.
- Paulsen, R. J., C. F. Smith, D. O'Rourke, and T.-f. Wong, Development and evaluation of an ultrasonic groundwater seepage meter, *Ground Water*, **39**, 904-911, 2001.
- Beeler, N. M., S. H. Hickman, and T.-f. Wong, Earthquake stress drop and laboratory-inferred interseismic strength recovery, *J. Geophys. Res.*, **106**, 30701-30713, 2001.
- Rawling, G. C., P. Baud, and T.-f. Wong, Dilatancy, brittle strength and anisotropy of foliated rocks: Experimental deformation and micromechanical modeling, *J. Geophys. Res.*, **107** (B10), 2234, doi:10.1029/2001JB000472, 2002.
- Zhu, W., L. G. J. Montési, and T.-f. Wong, Effects of stress on the anisotropic development of permeability during mechanical compaction of porous sandstones, in *Deformation Mechanisms, Rheology and Tectonics: Current Status and Future Perspectives*, ed. S. de Meer, M.R. Drury, J.H.P. de Bresser and G.M. Pennock, Geological Society Special Publication No. 200, 119-136, 2002.
- Bésuelle, P., P. Baud, and T.-f. Wong, Failure mode and spatial distribution of damage in Rothbach sandstone in the brittle-ductile transition, *Pure Appl. Geophys.*, **160**, 851-868, 2003.
- He, C., T.-f. Wong, and N. M. Beeler, Scaling of stress drop with recurrence interval and loading velocity for laboratory-derived fault strength relations, *J. Geophys. Res.*, **108** (B1), 2037, doi:10.1029/2002JB001890, 2003.
- Wang, W.-H., and T.-f. Wong, Effects of reaction kinetics and fluid drainage on the development of pore pressure excess in a dehydrating system, *Tectonophysics*, **370**, 227-239, 2003.
- Beeler, N. M., T.-f. Wong, and S. H. Hickman, On the expected relationships between apparent stress, static stress drop, effective shear fracture energy and seismic efficiency, *Bull. Seism. Soc. Am.*, **93**, 1381-1389, 2003.
- Vajdova, V., and T.-f. Wong, Incremental propagation of discrete compaction bands: Acoustic emission and microstructural observations on circumferentially notched samples of Bentheim sandstone, *Geophys. Res. Lett.*, **30** (14), 1775, doi:10.1029/2003GL017750, 2003.
- Wong, T.-f., C. David, and B. Menéndez, Mechanical compaction, in *Mechanics of Fluid Saturated Rocks*, ed. Y. Guéguen and M. Boutéca, 55-114, Academic Press, 2004.
- Baud, P., E. Klein, and T.-f. Wong, Compaction localization in porous sandstones: Spatial evolution of damage and acoustic emission activity, *J. Struct. Geol.*, **26**, 603-624, 2004.
- Vajdova, V., P. Baud, and T.-f. Wong, Compaction, dilatancy and failure in porous carbonate rocks, *J. Geophys. Res.*, **109**, B05204, doi:10.1029/2003JB002508, 2004.
- Vajdova, V., P. Baud, and T.-f. Wong, Permeability evolution during localized deformation in Bentheim sandstone, *J. Geophys. Res.*, **109**, B10406, doi:10.1029/2003JB002942, 2004.
- Paulsen, R. J., D. O'Rourke, C. F. Smith and T.-f. Wong, Tidal load and saltwater influences on submarine ground water discharge, *Ground Water*, **42**, 990-999, 2004.
- Baud, P., L. Louis, C. David, G. C. Rawling, and T.-f. Wong, Effects of bedding and foliation on mechanical anisotropy, damage evolution and failure mode, in *High-Strain Zones: Structure and Physical Properties*, ed. D. Bruhn and L. Burlini, Geological Society London Special Publication No. **245**, 223-249, 2005.

- Tembe, S., V. Vajdova, T.-f. Wong, and W. Zhu, Initiation and propagation of strain localization in circumferentially notched samples of two porous sandstones, *J. Geophys. Res.*, **111**, B02409, doi:10.1029/2005JB003611, 2006.
- Wong, T.-f., R.H.C. Wong, K.T. Chau, and C. A. Tang, Microcrack statistics, Weibull distribution and micromechanical modeling of compressive failure in rock, *Mech. Mat.*, **38**, 664-681, 2006.
- Louis, L., T.-f. Wong, P. Baud, and S. Tembe, Imaging strain localization by X-ray computed tomography: discrete compaction bands in Diemelstadt sandstone, *J. Struct. Geol.*, **28**, 762-775, 2006.
- Baud, P., V. Vajdova, and T.-f. Wong, Shear-enhanced compaction and strain localization: Inelastic deformation and constitutive modeling of four porous sandstones, *J. Geophys. Res.*, **111**, B12401, doi: 10.1029/2005JB004101, 2006.
- Tembe, S., D.A. Lockner, J. G. Solum, C. A. Morrow, T.-f. Wong, and D.E. Moore, Frictional strength of cuttings and core from SAFOD drillhole Phases 1 and 2, *Geophys. Res. Lett.*, **33**, L23307, doi: 10.1029/2006GL027626, 2006.
- Tembe, S., V. Vajdoda, P. Baud, W. Zhu, and T.-f. Wong, A new methodology to delineate the compactive yield cap of two porous sandstones under undrained condition, *Mech. Mat.*, **39**, 513-523, 2007.
- Louis, L., T.-f. Wong, and P. Baud, Imaging strain localization by X-ray radiography and digital image correlation: deformation bands in Rothbach sandstone, *J. Struct. Geol.*, **29**, 129-140, 2007.
- Morrow, C.A, J. G. Solum, S. Tembe, D.A. Lockner, and T.-f. Wong, Using drill cutting separates to estimate the strength of narrow shear zones at SAFOD, *Geophys. Res. Lett.*, **34**, L11301, doi:10.1029/2007GL029665, 2007.
- Wong, T.-f. and W. Zhu, Weak elastic anisotropy in a cracked rock, in *Rock Physics and Geomechanics in the Study of Reservoirs and Repositories*, ed. C. David and M. le Ravalec-Dupin, Geological Society of London Special Publication **284**, 207-220,, 2007.
- Louis, L., P. Baud, and T.-f. Wong, Effect of image resolution on the spatial distribution of X-ray attenuation in sandstone, in *Rock Physics and Geomechanics in the Study of Reservoirs and Repositories*, ed. C. David and M. Le Ravalec-Dupin, Geological Society of London Special Publication **284**, 127-146, 2007.
- Zhu, W., L. G. J. Montesi, and T.-f. Wong, A probabilistic damage model of stress-induced permeability anisotropy during cataclastic flow, *J. Geophys. Res.*, **112**, B10207, doi:10.1029/2006JB004456, 2007.
- Solum, J. G., S. Hickman, D.A. Lockner, S. Tembe, J.P. Evans, S.D. Draper, D.C. Barton, D.L. Kirschner, J.S. Chester, F.M. Chester, B.A. van der Pluijm, A.M. Schleicher, D.E. Moore, C. Morrow, K. Bradbury, W.M. Calvin, and T.-f. Wong, San Andreas fault zone mineralogy, geochemistry, and physical properties from SAFOD cuttings and core, *Scientific Drilling, Special Issue No.1*, 64-67, 2007.
- Wang, B. S., Y. Chen, and T.-f. Wong, A discrete element model for the development of compaction localization in granular rock, *J. Geophys. Res.*, **113**, B03202, doi:10.1029/2006JB004501, 2008.
- Louis, L., T.-M. N. Chen, C. David, P. Robion, T.-f. Wong, and S.-R. Song, Anisotropy of magnetic susceptibility and P-wave velocity in core samples from the Taiwan Chelungpu-Fault Drilling Project (TCDP), *J. Struct. Geol.*, **30**, 948-962, 2008.
- Tembe, S., P. Baud, and T.-f. Wong, Stress conditions for the propagation of discrete compaction bands in porous sandstone, *J. Geophys. Res.*, **113**, B09409, doi:10.1029/2007JB005439, 2008.
- Chen, T.-M. N., W. Zhu, T.-f. Wong, and S.-R. Song, Laboratory characterization of permeability and its anisotropy of Chelungpu Fault rocks, *Pure Appl. Geophys.*, **166**, 1011-1036, 2009.
- Louis, L., P. Baud, and T.-f. Wong, Microstructural inhomogeneity and mechanical anisotropy associated with bedding in Rothbach sandstone, *Pure Appl. Geophys.*, **166**, 1063-1087, 2009.
- Tembe, S., D.A. Lockner, and T.-f. Wong, Constraints on the stress state of the San Andreas Fault with analysis based on core and cuttings from SAFOD drilling phases I and II, *J. Geophys. Res.*, **114**, B11401, doi:10.1029/2008JB005883, 2009. (Corrections, *J. Geophys. Res.*, **115**, B03418, doi:10.1029/2009JB000818, 2010)

- Wong, T.-f. and P. Baud, Grain crushing, pore collapse and strain localization in porous sandstone, in *Mechanics of Natural Solids*, ed. D. Kolymbas and G. Viggiani, Springer, Berlin, 239-254, 2009.
- Tembe, S., D.A. Lockner, and T.-f. Wong, Effect of clay content and mineralogy on frictional sliding behavior of simulated gouges: Binary and ternary mixtures of quartz, illite and montmorillonite, *J. Geophys. Res.*, **115**, B03416, doi:10.1029/2009JB006383, 2010.
- Zhu, W., P. Baud, and T.-f. Wong, Micromechanics of cataclastic pore collapse in limestone, *J. Geophys. Res.*, **115**, B04405, doi:10.1029/2009JB006610, 2010.
- Rozell, D.J., and T.-f. Wong, Effects of climate change on ground water flow in Shelter Island, New York, *Hydrogeol. Jour.*, **18**, 1657-1665, 2010.
- Vajdova, V., W. Zhu, T.-M. N. Chen, and T.-f. Wong, Micromechanics of brittle faulting and cataclastic flow in Tavel limestone, *J. Struct. Geol.*, **32**, 1158-1169, 2010.
- Zhu, W., P. Baud, S. Vinciguerra, and T.-f. Wong, Micromechanics of brittle faulting and cataclastic flow in Alban Hills tuff, *J. Geophys. Res.*, **116**, B06209, doi:10.1029/2010JB008046, 2011.
- Louis, L., C. David, P. Špaček, T.-f. Wong, J. Fortin, and S.R. Song, Elastic anisotropy of core samples from the Taiwan Chelungpu Fault Drilling Project (TCDP): Direct 3-D measurements and weak anisotropy approximations, *Geophys. J. Int.*, **188**, 239-252, 2012.
- Vajdova, V., P. Baud, L. Wu, and T.-f. Wong, Micromechanics of inelastic compaction in two allochemical limestones, *J. Struct. Geol.*, **43**, 100-117, 2012.
- Wong, T.-f. and P. Baud, The brittle-ductile transition in porous rock: A review, *J. Struct. Geol.*, **44**, 25-53, 2012.
- Cheung, C.S.N., P. Baud, and T.-f. Wong, Effect of grain size distribution on the development of compaction localization in porous sandstone, *Geophys. Res. Lett.*, **39**, L21302, doi:10.1029/2012GL053739, 2012.
- Ji, Y., P. Baud, V. Vajdova, and T.-f. Wong, Characterization of pore geometry of Indiana Limestone in relation to mechanical compaction, *Oil & Gas Sci. and Tech. - Rev. IFPEN*, **67**, 753-775, 2012.
- Baud, P., T.-f. Wong, and W. Zhu, Effects of porosity and crack density on compressive strength: Laboratory data and analytic estimates, *Int. J. Rock Mech. Min. Sci.*, **67**, 202-211, 2014.
- He, C., and T.-f. Wong, Effect of varying normal stress on stability and dynamic motion of a spring-slider system with rate and state dependent friction, *Earthq. Sci.*, **27**, 577-587, 2014.
- Ji, Y., S.A. Hall, P. Baud, and T.-f. Wong, Characterization of pore structure and strain localization in Majella limestone by X-ray computed tomography and digital image correlation, *Geophys. J. Int.*, **200**, 699-717, 2015.
- Baud, P., T. Reuschlé, Y. Ji, C.S.N. Cheung, and T.-f. Wong, Mechanical compaction and strain localization in Bleurswiler sandstone, *J. Geophys. Res. Solid Earth*, **120**, 6501-6522, doi:10.1002/2015JB012192, 2015.
- Zhu, W., P. Baud, S. Vinciguerra, and T.-f. Wong, Micromechanics of brittle faulting and cataclastic flow in Mt. Etna basalt, *J. Geophys. Res. Solid Earth*, **121**, 4268-4289, doi:10.1002/2016JB012826, 2016.
- Baud, P., U. Exner, U. M. Lommatzsch, T. Reuschlé, and T.-f. Wong, Effect of cementation on mechanical properties and permeability in porous carbonate, *J. Geophys. Res. Solid Earth*, **122**, 7363-7387, doi:10.1002/2017JB014060, 2017.
- Wong, T.-f., Anisotropic poroelasticity in a rock with cracks, *J. Geophys. Res. Solid Earth*, **122**, 7739-7753, doi:10.1002/2017JB014315, 2017.
- Sun, W.C., and T.-f. Wong, Prediction of permeability and formation factor of sandstone with multiscale lattice Boltzmann/finite element simulation on microtomographic images, *Int. J. Rock Mech. Min. Sci.*, **106**, 269-277, 2018.
- Wang, Y., F. Meng, X. Wang, P. Baud, and T.-f. Wong, Effective stress law for the permeability and deformation of four porous limestones, *J. Geophys. Res. Solid Earth*, **123**, 4707-4729, doi:10.1029/2018JB015539, 2018.
- Meng, F., P. Baud, H. Ge, and T.-f. Wong, The effect of stress on limestone permeability and effective stress behavior of damaged samples, *J. Geophys. Res. Solid Earth*, **124**, 376-399, doi: 10.1029/2018JB016526, 2019.

- Huang, L., P. Baud, B. Cordonnier, F. Renard, L. Liu, and T.-f. Wong, Synchrotron X-ray imaging in 4D: Multiscale failure and compaction localization in triaxially compressed porous limestone, *Earth Planet. Sci. Lett.*, **528**, 115831, 2019.
- Jiang, G., X. Qiao, X. Wang, R. Lu, L. Liu, H. Yang, Y. Su, L. Song, B. Wang, and T.-f. Wong, GPS observed horizontal ground extension at the Hutubi (China) underground gas storage facility and its application to geomechanical modeling for induced seismicity, *Earth Planet. Sci. Lett.*, **530**, 115943, 2020.
- Meng, F., X. Li, P. Baud, and T.-f. Wong, Effective stress law for the permeability and pore volume change of clayey sandstones, *J. Geophys. Res. Solid Earth*, **125**, e2020JB019765, <https://doi.org/10.1029/2020JB019765>, 2020.
- Meng, F., X. Li, P. Baud, and T.-f. Wong, Bedding anisotropy and effective stress law for the permeability and deformation of clayey sandstones, *Rock Mech. Rock Eng.*, <https://doi.org/10.1007/s00603-020-02306-w>, 2020.
- Choo, J., A. Sohail, F. Fei, and T.-f. Wong, Shear fracture energies of stiff clays and shales, *Acta Geotechnica*, <https://doi.org/10.1007/s11440-021-01145-5>, 2021.
- Baud, P., S. Hall, M. Heap, Y. Ji, and T.-f. Wong, The brittle-ductile transition in porous limestone: failure mode, constitutive modeling of inelastic deformation and strain localization, *J. Geophys. Res. Solid Earth*, **126**, <https://doi.org/10.1029/2020JB021602>, 2021.
- Meng, F., L. Huang, P. Baud, and T.-f. Wong, Spatiotemporal evolution of strain and compaction localization in Leitha limestone: Synchrotron tomographic imaging and digital volume correlation, in *Multiscale Processes of Instability, Deformation and Fracturing in Geomaterials - Proceedings of 12th International Workshop on Bifurcation and Degradation in Geomechanics*, ed. E. Pasternak and A. Dyskin, Springer, p31-40, 2022.
- Cai, C., N. Vlassis, L. Magee, R. Ma, Z. Xiong, B. Bahmani, T.-f. Wong, Y. Wang, W.C. Sun, Equivariant geometric learning for digital rock physics: Estimating formation factor and effective permeability tensors from Morse graph, *International Journal for Multiscale Computational Engineering*, **20**, 1-24, 2023.
- Meng, F., L. Huang, P. Baud, and T.-f. Wong, Strain localization in 4D imaged by X-ray computed tomography and digital volume correlation: Discrete compaction bands in Leitha limestone, *J. Mech. Phys. Solids*, **171**, 105160, <https://doi.org/10.1016/j.jmps.2022.105160>, 2023.
- Huang, W., F. Meng, J. Liu and T.-f. Wong, Development of compaction localization in Leitha limestone: Finite element modeling based on synchrotron X ray imaging, submitted, *J. Geophys. Res. Solid Earth*, 2024.