

### Ten Career-Best Research Outputs

- [1] \* R J Spaargaren, **H S Wang**, S J Mojzsis, M D Ballmer & P J Tackley 2023, 'Plausible constraints on the range of bulk terrestrial exoplanet compositions in the Solar neighbourhood', *The Astrophysical Journal*, vol. 948, pp. 63 (Refereed Journal Article)
- [2] \* **H S Wang**, C H Lineweaver, S P Quanz, S J Mojzsis & T R Ireland et al. 2022, 'A Model Earth-sized Planet in the Habitable Zone of  $\alpha$  Centauri A/B', *The Astrophysical Journal*, vol. 927, no. 2, pp. 134, doi:10.3847/1538-4357/ac4e8c (Refereed Journal Article)
- [3] \* **H S Wang**, S P Quanz, D Yong, F Liu & F Seidler et al. 2022, 'Detailed chemical compositions of planet-hosting stars: II. Exploration of the interiors of terrestrial-type exoplanets', *Monthly Notices of the Royal Astronomical Society*, vol.513, no.4, pp.5829–5846, doi:10.1093/mnras/stac1119 (Refereed Journal Article)
- [4] \* **H S Wang**, T Morel, S P Quanz & S J Mojzsis 2020, 'Europium as a lodestar: diagnosis of radiogenic heat production in terrestrial exoplanets', *Astronomy & Astrophysics*, vol. 644, pp. A19, doi:10.1051/0004-6361/202038386 (Refereed Journal Article)
- [5] \* F Liu, D Yong, M Asplund, **H S Wang** & L Spina et al. 2020, 'Detailed chemical compositions of planet-hosting stars – I. Exploration of possible planet signatures', *Monthly Notices of the Royal Astronomical Society*, vol. 495, no. 4, pp. 3961–3973, doi:10.1093/mnras/staa1420 (Refereed Journal Article)
- [6] \* **H S Wang**, C H Lineweaver & T R Ireland 2019, 'The volatility trend of protosolar and terrestrial elemental abundances', *Icarus*, vol. 328, pp. 287–305, doi:10.1016/j.icarus.2019.03.018 (Refereed Journal Article)
- [7] \* **H S Wang**, F Liu, T R Ireland, R Brasser & D Yong et al. 2019, 'Enhanced constraints on the interior composition and structure of terrestrial exoplanets', *Monthly Notices of the Royal Astronomical Society*, vol. 482, no. 2, pp. 2222–2233, doi:10.1093/mnras/sty2749 (Refereed Journal Article)
- [8] \* **H S Wang**, C H Lineweaver & T R Ireland 2018, 'The elemental abundances (with uncertainties) of the most Earth-like planet', *Icarus*, vol. 299, pp. 460–474, doi:10.1016/j.icarus.2017.08.024 (Refereed Journal Article)
- [9] S Z Sun, **H Wang**, Z Liu, Y Li & X Zhou et al. 2012, 'The theory and application of DEM-Gassmann rock physics model for complex carbonate reservoirs', *The Leading Edge*, vol. 31, no. 2, pp. 152–158, doi:10.1190/1.3686912 (Refereed Journal Article)
- [10] **H Wang**, S Z Sun, H Yang, H Gao & Y Xiao et al. 2011, 'The influence of pore structure on P- & S-wave velocities in complex carbonate reservoirs with secondary storage space', *Petroleum Science*, vol. 8, no. 4, pp. 394–405, doi:10.1007/s12182-011-0157-6 (Refereed Journal Article)

### Additional Refereed Journal Articles

- [11] D Angerhausen, M Ottiger, F Dannert, Y Miguel, C Sousa-Silva, J Kammerer, F Menti, E Alei, B S Konrad, **H S Wang**, S P Quanz. 2023. 'Large Interferometer For Exoplanets (LIFE): VIII. Where is the phosphine?

# Dr. HAIYANG S. WANG

## Publication List

 [orcid.org/0000-0001-8618-3343](https://orcid.org/0000-0001-8618-3343)

 Google Scholar

Observing exoplanetary PH3 with a space based MIR nulling interferometer', *Astrobiology*, vol.23, no.2, pp.183-184, doi.org/10.1089/ast.2022.0010

[12] S P Quanz, et al (including **H S Wang** under the LIFE Collaboration). 2022, 'Large Interferometer For Exoplanets (LIFE)', *Astronomy & Astrophysics*, vol. 664, pp. A21, doi:10.1051/0004-6361/202140366

[13] Y Zhang, S Z Sun, J Han, **H Wang**, C Fan. 2016. 'Fluid mapping in deeply buried Ordovician paleokarst reservoirs in the Tarim Basin, western China', *Geofluids*, vol. 16, pp. 421-433, doi.org/10.1111/gfl.12160

[14] **H Wang**, S Z Sun, D Wang, J Han & B Jing .2012. 'Frequency-dependent velocity prediction theory with implication for better reservoir fluid prediction', *The Leading Edge*, vol. 31, no. 2, pp. 160–166, doi:10.1190/1.3686913

[15] **H Wang**, S Z Sun & M Chapman. 2012. 'Velocity dispersion and attenuation of seismic wave propagation in rocks', *Acta Petrolei Sinica*, vol. 33, pp. 332-342, doi:10.7623/syxb201202024

[16] Y Zhang, S Z Sun, H Yang, **H Wang** & J Han et al. 2011, 'Pre-stack inversion for caved carbonate reservoir prediction: A case study from Tarim Basin, China', *Petroleum Science*, vol. 8, no. 4, pp. 415–421, doi:10.1007/s12182-011-0159-4

[17] H Yang, S Z Sun, L Cai, Y Xiao & **H Wang** et al. 2011, 'A new method of formation evaluation for fractured and caved carbonate reservoirs: A case study from the Lundong area, Tarim Basin, China', *Petroleum Science*, vol. 8, no. 4, pp. 446– 454, doi:10.1007/s12182-011-0162-9

## Patents

[18] **H Wang** & Z. Sun. 2013. Full-frequency band velocity prediction model related to pore structure. Patent, granted by State Intellectual Property Office of China, Appl. No. CN 201010506921, Publ. No. CN102445709B

[19] Z Sun & **H Wang**. 2013. Rich argillaceous sand stone three-dimension equivalent speed prediction model. Patent, granted by State Intellectual Property Office of China, Appl. No. CN 201010506914, Publ. No. CN102445708 B

## Selected Conference Proceedings

[20] \* **Wang, H.**, Quanz, S., Yong, D., Liu, F., Seidler, F., Acuña, L., and Mojzsis, S. 2022. The interior diversity of terrestrial-type exoplanets: constrained with devolatilized stellar abundances and mass-radius measurements. Europlanet Science Congress 2022, EPSC2022-283, doi.org/10.5194/epsc2022-283

[21] \* Sossi, P., **Wang, H.** 2022. The effect of stellar composition on nebular condensation. Europlanet Science Congress 2022, EPSC2022-188, doi.org/10.5194/epsc2022-188

[22] \* Lin, W.-J., **Wang, H.**, Hunt, A., Quanz, S. 2022. No universal devolatilization trend has been found for the solar system rocky bodies, Europlanet Science Congress 2022, EPSC2022-678, doi.org/10.5194/epsc2022-678

- 
- [23] \* **Wang, H.** 2022. Devolatilisation during planet formation: A hybrid model of chemistry and dynamics. EGU General Assembly 2022, EGU22-10146, doi.org/10.5194/egusphere-egu22-10146
- [24] \* Seidler, F., **Wang, H.**, Quanz, S. 2022. A python package for fast interior modelling of terrestrial (exo-) planets using a Gibbs free energy minimization. EGU General Assembly 2022, EGU22-12614, doi.org/10.5194/egusphere-egu22-12614
- [25] \* Seidler, F., **Wang, H.**, Quanz, S. 2021. On the importance of including devolatilized stellar abundances in determining the composition of rocky exoplanets. EGU General Assembly 2021, EGU21-15884, doi.org/10.5194/egusphere-egu21-15884
- [26] \* **Wang, H.**, Sossi, P., Quanz, S. 2022. Nebular condensation of different stellar compositions and its influence on planetary chemistry. Europlanet Science Congress 2020, EPSC2020-874, doi.org/10.5194/epsc2020-874
- [27] \* **H Wang** & C Lineweaver 2016, 'Chemical complementarity between the gas phase of the interstellar medium and the rocky material of our planetary system', Proceedings of the 15th Australian Space Research Conference, vol. 15, pp. 173- 182
- [28] Z Liu, S Z Sun, **H Wang**, H Lu & J Zhang 2012, 'Complex lithological reservoir prediction through pre-stack simultaneous inversion: a case study from the Leijia Area in Liaohe Oil-field, China', SEG Technical Program Expanded Abstracts 2012, 4 pages, doi:10.1190/segam2012-1219.1
- [29] L Liu, S Z Sun, **H Wang**, H Yang & J Han et al. 2011, '3D Seismic attribute optimization technology and application for dissolution caved carbonate reservoir prediction', SEG Technical Program Expanded Abstracts 2011, 4 pages, doi:10.1190/1.3627592
- [30] L Liu, S Z Sun, **H Wang**, H Yang & J Han et al. 2011, 'A new reservoir prediction method: PCA value-weighted attribute optimization', SEG Technical Program Expanded Abstracts 2011, 4 pages, doi:10.1190/1.3627606
- [31] S Z Sun, X Zhou, Y Li, **H Wang** & Y. Zhang 2011, 'Fluid Identification of Caved Carbonate Reservoir Based on Prestack Inversion', 73rd EAGE Conference and Exhibition incorporating SPE EUROPEC 2011, 4 pages, doi:10.3997/2214-4609.20149591
- [32] **H Wang** & S Z Sun 2010, 'A full-frequency band Kuster-Toksöz model and its application in velocity dispersion analysis', SEG Technical Program Expanded Abstracts 2010, 4 pages, doi:10.1190/1.3513362
- [33] **H Wang**, S Z Sun, Y Li & X Li 2009, 'Evaluation and improvement of velocity-prediction models and fluid substitution for argilliferous clastic reservoirs rock', SEG Technical Program Expanded Abstracts 2009, 4 pages, doi:10.1190/1.3255292
- [34] **H Wang**, S Z Sun & H Yang 2009, 'Velocity prediction models evaluation and permeability prediction for fractured and caved carbonate reservoir: From theory to case study', SEG Technical Program Expanded Abstracts 2009, 4 pages, doi:10.1190/1.3255295