Methane/biochar related papers at MESA Lab, University of California, Merced.

Last updated: 2/25/2023 more information at <http://mechatronics.ucmerced.edu/methane>

**News/Accepted or submitted to appear in 2023:**

* Derek Hollenbeck, Kevin Zheng, [Demitrius Zulevic](https://edas.info/showPerson.php?p=2038297&c=29850), YangQuan Chen 2023. “[Swarm Robotic Source Seeking With Fractional Fluxotaxis](https://edas.info/showPaper.php?m=1570881229)” Accepted to appear at the 2023 Int. Conf. on Fractional Derivatives and Applications (ICFDA23), Dubai, UAE, March 2023.
* Di An and YangQuan Chen. 2023 "*Soil carbon smart sensing using optimized stochastic configuration networks (SCN)*" IFAC Int. Conf. on Industrial Artificial Intelligene (IAI 23), Shenyang, China.

**Survey paper widely cited/read:**

* Hollenbeck, Derek, Demitrius Zulevic, and Yangquan Chen. 2021. "Advanced Leak Detection and Quantification of Methane Emissions Using sUAS" Drones 5, no. 4: 117. <https://doi.org/10.3390/drones5040117>

**Research Monograph under preparation:**

* Derek Hollenbeck, YangQuan Chen, “Environmental sensing using digital twins: Small unmanned aerial systems for methane detection and mapping”, Springer, (book project proposal under review, Feb. 2023).

**First grant 2013-2014:** PG&E Fugitive Methane Detection Using Unmanned Aerial Systems.

**First senior capstone project 2014:** PG&E Fugitive Methane Detection Using Unmanned Aerial Systems.

**First startup by lab former member:** [**http://seekops.com/**](http://seekops.com/) **(2018)**

**First Biochar workshop:** [**https://mechatronics.ucmerced.edu/biochar**](https://mechatronics.ucmerced.edu/biochar) **(2017)**

|  |  |  |
| --- | --- | --- |
| [**Title**](https://scholar.google.com/citations?hl=en&user=SnecFpAAAAAJ&pagesize=80&view_op=list_works&citft=1&email_for_op=yangquan.chen%40gmail.com&sortby=title) | [**Cited by**](https://scholar.google.com/citations?hl=en&user=SnecFpAAAAAJ&pagesize=80&view_op=list_works&citft=1&email_for_op=yangquan.chen%40gmail.com) | **Year** |
| **Early works: (2013-2017)** |  |  |
| [Unmanned Aerial Systems for Low-Altitude Remote Sensing](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=wgvrY2YAAAAJ&cstart=20&pagesize=80&sortby=pubdate&citation_for_view=wgvrY2YAAAAJ:ULOm3_A8WrAC)C Armenakis, B Stark, B Smith, YQ Chen, RA Persad, J Li-Chee-Ming, ...Manual of Remote Sensing, 4th Edition 231 (296), 231-296 | [1](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=16188373892661515198) | 2019 |
| [Fugitive methane leak detection using sUAS and miniature laser spectrometer payload: System, application and groundtruthing tests](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=wgvrY2YAAAAJ&cstart=20&pagesize=80&sortby=pubdate&citation_for_view=wgvrY2YAAAAJ:hqOjcs7Dif8C)BJ Smith, G John, LE Christensen, YQ Chen2017 International Conference on Unmanned Aircraft Systems (ICUAS), 369-374 | [20](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=1948494195931743830) | 2017 |
| [Precision Counting of Sandhill Cranes in Staten Island by FAA Approved Small Unmanned Aerial System Night Missions](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=wgvrY2YAAAAJ&cstart=20&pagesize=80&sortby=pubdate&citation_for_view=wgvrY2YAAAAJ:Se3iqnhoufwC)B Stark, B Smith, A Anderson, JH Viers, YQ Chen, R KelseyWorld Environmental and Water Resources Congress 2017, 109-123 |  | 2017 |
| [Applicability of unmanned aerial systems for leak detection](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=wgvrY2YAAAAJ&cstart=20&pagesize=80&sortby=pubdate&citation_for_view=wgvrY2YAAAAJ:roLk4NBRz8UC)B Smith, G John, B Stark, LE Christensen, YQ Chen2016 International Conference on Unmanned Aircraft Systems (ICUAS), 1220-1227 | [15](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=7332631795117550126) | 2016 |
| [Methane monitoring from small unmanned aerial systems](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=wgvrY2YAAAAJ&cstart=20&pagesize=80&sortby=pubdate&citation_for_view=wgvrY2YAAAAJ:kNdYIx-mwKoC)LE Christensen, V Manzatianu, G Matheou, YQ Chen, B Smith, G JohnPasadena, CA: Jet Propulsion Laboratory, National Aeronautics and Space … |  | 2016 |
| [Development and validation of a microbe detecting UAV payload](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=wgvrY2YAAAAJ&cstart=20&pagesize=80&sortby=pubdate&citation_for_view=wgvrY2YAAAAJ:ufrVoPGSRksC)B Smith, M Beman, D Gravano, YQ Chen2015 Workshop on Research, Education and Development of Unmanned Aerial … | [6](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=12806575412102854977) | 2015 |
| [An outdoor scientific data drone ground truthing test site](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=wgvrY2YAAAAJ&cstart=20&pagesize=80&sortby=pubdate&citation_for_view=wgvrY2YAAAAJ:IjCSPb-OGe4C)B Smith, B Stark, T Zhao, YQ Chen2015 International Conference on Unmanned Aircraft Systems (ICUAS), 436-443 | [9](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=17505070735024888986) | 2015 |
| [The airworthiness and protocol development for night flying missions for small unmanned aerial systems (sUASs)](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=wgvrY2YAAAAJ&cstart=20&pagesize=80&sortby=pubdate&citation_for_view=wgvrY2YAAAAJ:UeHWp8X0CEIC)B Stark, B Smith, N Navarrete, YQ Chen2015 International Conference on Unmanned Aircraft Systems (ICUAS), 252-259 | [3](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=244972574969753308) | 2015 |
| [An essay on unmanned aerial systems insurance and risk assessment](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=wgvrY2YAAAAJ&cstart=20&pagesize=80&sortby=pubdate&citation_for_view=wgvrY2YAAAAJ:2osOgNQ5qMEC)J Knight, B Smith, YQ Chen2014 IEEE/ASME 10th International Conference on Mechatronic and Embedded … | [4](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=3753190653608825012) | 2014 |
| [Survey of thermal infrared remote sensing for Unmanned Aerial Systems](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=wgvrY2YAAAAJ&cstart=20&pagesize=80&sortby=pubdate&citation_for_view=wgvrY2YAAAAJ:9yKSN-GCB0IC)B Stark, B Smith, YQ Chen2014 International Conference on Unmanned Aircraft Systems (ICUAS), 1294-1299 | [44](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=3940355246886950524) | 2014 |
| [Take-home mechatronics control labs: A low-cost personal solution and educational assessment](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=wgvrY2YAAAAJ&cstart=20&pagesize=80&sortby=pubdate&citation_for_view=wgvrY2YAAAAJ:d1gkVwhDpl0C)B Stark, Z Li, B Smith, YQ ChenInternational Design Engineering Technical Conferences and Computers and … | [40](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=7894086168112856590) | 2013 |
| [Dynamic flight modeling of a multi-mode flying wing quadrotor aircraft](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=wgvrY2YAAAAJ&cstart=20&pagesize=80&sortby=pubdate&citation_for_view=wgvrY2YAAAAJ:u5HHmVD_uO8C)P Ferrell, B Smith, B Stark, YQ Chen2013 International Conference on Unmanned Aircraft Systems (ICUAS), 398-404 | [16](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=11282794038430793723) | 2013 |
| [A guide for selecting small unmanned aerial systems for research-centric applications](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=wgvrY2YAAAAJ&cstart=20&pagesize=80&sortby=pubdate&citation_for_view=wgvrY2YAAAAJ:u-x6o8ySG0sC)B Stark, B Smith, YQ ChenIFAC Proceedings Volumes 46 (30), 38-45 |  |  |
| **Recent works: (see table below)** |
| [**Title**](https://scholar.google.com/citations?hl=en&user=SnecFpAAAAAJ&pagesize=80&view_op=list_works&citft=1&email_for_op=yangquan.chen%40gmail.com&sortby=title) | [**Cited by**](https://scholar.google.com/citations?hl=en&user=SnecFpAAAAAJ&pagesize=80&view_op=list_works&citft=1&email_for_op=yangquan.chen%40gmail.com) | **Year** |
| [Digital twin enabled methane emission abatement using networked mobile sensing and mobile actuation](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=1e5Fk2kAAAAJ&citation_for_view=1e5Fk2kAAAAJ:u-x6o8ySG0sC)D An, YQ Chen2021 IEEE 1st International Conference on Digital Twins and Parallel … | [8](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=14440030920512308840) | 2021 |
| [A Non-intrusive quantification method for biochar water retention capacity using a portable microwave sensor and machine learning](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=1e5Fk2kAAAAJ&citation_for_view=1e5Fk2kAAAAJ:9yKSN-GCB0IC)D An, H Niu, YQ Chen2021 9th International Conference on Control, Mechatronics and Automation … | [6](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=9280071584262098164) | 2021 |
| [Application of smart, swarm and small UAV’s for methane emission reduction](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=1e5Fk2kAAAAJ&citation_for_view=1e5Fk2kAAAAJ:d1gkVwhDpl0C)D An, YQ ChenInternational Design Engineering Technical Conferences and Computers and … | [3](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=14117332795750007823) | 2021 |
| [Optimal antenna pairing of a miniaturized radar array for smart sensing of soil carbon content](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=1e5Fk2kAAAAJ&citation_for_view=1e5Fk2kAAAAJ:IjCSPb-OGe4C)D An, M Difrieri, YQ Chen2022 4th International Conference on Industrial Artificial Intelligence (IAI … | [2](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=9856326022234035594) | 2022 |
| [A Field Study of Soil Biochar Treatment Response Using Small Unmanned Aerial Systems (sUAS)](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=1e5Fk2kAAAAJ&citation_for_view=1e5Fk2kAAAAJ:qjMakFHDy7sC)D An, D Hollenbeck, S Gao, YQ Chen | [1](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=5586772554546287614) | 2022 |
| [Soil Methane Emission Suppression Control Using Unmanned Aircraft Vehicle Swarm Application of Biochar Mulch-A Simulation Study](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=1e5Fk2kAAAAJ&citation_for_view=1e5Fk2kAAAAJ:UeHWp8X0CEIC)D An, D Hollenbeck, K Cao, YQ ChenJournal of Information and Intelligence |  | 2022 |
| [A Miniature Millimeter-Wave Radar Based Contactless Lithium Polymer Battery Capacity Sensing with Edge Artificial Intelligence](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=1e5Fk2kAAAAJ&citation_for_view=1e5Fk2kAAAAJ:Y0pCki6q_DkC)D An, YQ Chen2022 18th IEEE/ASME International Conference on Mechatronic and Embedded … |  | 2022 |
| [A Digital Twin Enabled Internet of Living Things (IoLT) Framework for Soil Carbon Management](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=1e5Fk2kAAAAJ&citation_for_view=1e5Fk2kAAAAJ:Tyk-4Ss8FVUC)D An, YQ Chen2022 18th IEEE/ASME International Conference on Mechatronic and Embedded … |  | 2022 |
| [A Soil Carbon Content Quantification Method Using A Miniature Millimeter Wave Radar Sensor and Machine Learning](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=1e5Fk2kAAAAJ&citation_for_view=1e5Fk2kAAAAJ:zYLM7Y9cAGgC)D An, YQ Chen2022 18th IEEE/ASME International Conference on Mechatronic and Embedded … |  | 2022 |
| [A Control System Benchmark for Biomass Burning Based Thermoelectric Generation: Modeling and Efficiency Maximization Algorithms](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=1e5Fk2kAAAAJ&citation_for_view=1e5Fk2kAAAAJ:YsMSGLbcyi4C)RWM Ajcac, J Viola, D An, YQ Chen2022 10th International Conference on Control, Mechatronics and Automation … |  | 2022 |
| [A Greenhouse Gas Proximity Sensing System Using Chemiresistive Strip and Miniaturized Radar Array](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=1e5Fk2kAAAAJ&citation_for_view=1e5Fk2kAAAAJ:W7OEmFMy1HYC)D An, Z Liu, D Hollenbeck, YQ Chen2022 10th International Conference on Control, Mechatronics and Automation … |  | 2022 |
| [Biochar co‐compost improves nitrogen retention and reduces carbon emissions in a winter wheat cropping system](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=1e5Fk2kAAAAJ&citation_for_view=1e5Fk2kAAAAJ:eQOLeE2rZwMC)S Gao, BP Harrison, T Thao, ML Gonzales, D An, TA Ghezzehei, G Diaz, ...GCB Bioenergy <https://doi.org/10.1111/gcbb.13028> |  |  |
| [**Title**](https://scholar.google.com/citations?hl=en&user=SnecFpAAAAAJ&pagesize=80&view_op=list_works&citft=1&email_for_op=yangquan.chen%40gmail.com&sortby=title) | [**Cited by**](https://scholar.google.com/citations?hl=en&user=SnecFpAAAAAJ&pagesize=80&view_op=list_works&citft=1&email_for_op=yangquan.chen%40gmail.com) | **Year** |
| [Soil Methane Emission Suppression Control Using Unmanned Aircraft Vehicle Swarm Application of Biochar Mulch-A Simulation Study](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:5Ul4iDaHHb8C)D An, D Hollenbeck, K Cao, YQ ChenJournal of Information and Intelligence |  | 2022 |
| [Single and Multi-sUAS Based Emission Quantification Performance Assessment Using MOABS/DT: A Simulation Case Study](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:LPZeul_q3PIC)D Hollenbeck, D Zulevicl, YQ Chen2022 18th IEEE/ASME International Conference on Mechatronic and Embedded … |  | 2022 |
| [A Greenhouse Gas Proximity Sensing System Using Chemiresistive Strip and Miniaturized Radar Array](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:fQNAKQ3IYiAC)D An, Z Liu, D Hollenbeck, YQ Chen2022 10th International Conference on Control, Mechatronics and Automation … |  | 2022 |
| [A Digital Twin Framework For Environmental Sensing with sUAS](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:sSrBHYA8nusC)D Hollenbeck, YQ ChenJournal of Intelligent & Robotic Systems 105 (1), 1-15 | [3](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=18212642269576001903) | 2022 |
| [A Field Study of Soil Biochar Treatment Response Using Small Unmanned Aerial Systems (sUAS)](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:8AbLer7MMksC)D An, D Hollenbeck, S Gao, YQ ChenProceedings of the International Conference on Unmanned Aircraft Systems | [1](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=5586772554546287614) | 2022 |
| [A Modified Near-Field Gaussian Plume Inversion Method Using Multi-sUAS for Emission Quantification](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:geHnlv5EZngC)D Hollenbeck, D Zulevic, YQ ChenProceedings of the International Conference on Unmanned Aircraft Systems | [1](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=15902408456605318254) | 2022 |
| [Advanced leak detection and quantification of methane emissions using suas](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:u_35RYKgDlwC)D Hollenbeck, D Zulevic, Y ChenDrones 5 (4), 117 | [5](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=12571113426884045961) | 2021 |
| [Digital twin behavior matching of gas plumes using a fixed sensor mesh and dynamic mode decomposition](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:4OULZ7Gr8RgC)D Hollenbeck, YQ ChenInternational Design Engineering Technical Conferences and Computers and … | [1](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=10389228344309185827) | 2021 |
| [MOABS/DT: Methane odor abatement simulator with digital twins](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:zA6iFVUQeVQC)D Hollenbeck, D Zulevic, YQ Chen2021 IEEE 1st International Conference on Digital Twins and Parallel … | [3](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=8051455066588904824) | 2021 |
| [Multi-UAV method for continuous source rate estimation of fugitive gas emissions from a point source](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:O3NaXMp0MMsC)D Hollenbeck, YQ Chen2021 International Conference on Unmanned Aircraft Systems (ICUAS), 1308-1313 | [6](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=5175808719017146017) | 2021 |
| [Individual and collective foraging in autonomous search agents with human intervention](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:YFjsv_pBGBYC)DS Schloesser, D Hollenbeck, CT KelloScientific Reports 11 (1), 8492 | [2](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=7318656737913148052) | 2021 |
| [Advanced Leak Detection and Quantification of Methane Emissions Using sUAS. Drones 2021, 5, 117](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:D_sINldO8mEC)D Hollenbeck, D Zulevic, Y Chens Note: MDPI stays neutral with regard to jurisdictional claims in published … |  | 2021 |
| [Evaluating a UAV-based Mobile Sensing System Designed to Quantify Ecosystem-based Methane](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:NMxIlDl6LWMC)D Hollenbeck, K Manies, YQ Chen, D Baldocchi, ES Euskirchen, ... | [6](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=5299001902479292227) | 2021 |
| [Evapotranspiration estimation with small UAVs in precision agriculture](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:blknAaTinKkC)H Niu, D Hollenbeck, T Zhao, D Wang, YQ ChenSensors 20 (22), 6427 | [26](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=16809886091053402399) | 2020 |
| [Characterization of ground-to-air emissions with sUAS using a digital twin framework](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:M3NEmzRMIkIC)D Hollenbeck, YQ Chen2020 International Conference on Unmanned Aircraft Systems (ICUAS), 1162-1166 | [10](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=7931197724132674702) | 2020 |
| [Social Foraging in Groups of Search Agents with Human Intervention.](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:BqipwSGYUEgC)D Schloesser, D Hollenbeck, CT KelloCogSci |  | 2020 |
| [Pitch and roll effects of on-board wind measurements using sUAS](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:qjMakFHDy7sC)D Hollenbeck, M Oyama, A Garcia, YQ Chen2019 International Conference on Unmanned Aircraft Systems (ICUAS), 1249-1254 | [8](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=15277222624244496418) | 2019 |
| [Data quality aware flight mission design for fugitive methane sniffing using fixed wing sUAS](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:2osOgNQ5qMEC)D Hollenbeck, M Dahabra, LE Christensen, YQ Chen2019 International Conference on Unmanned Aircraft Systems (ICUAS), 813-818 | [7](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=8931861513583670949) | 2019 |
| [Application of the bc GHGMapper™ platform for the Alberta Methane Field Challenge (AMFC)](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:4fKUyHm3Qg0C)M Whiticar, D Hollenbeck, B Billwiller, C Salas, L ChristensenGeoscience BC Summary of Activities, 2020-02 | [8](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=12555556575703136446) | 2019 |
| [On optimal tempered Lévy flight foraging](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:u-x6o8ySG0sC)Y Chen, D Hollenbeck, Y Wang, YQ ChenFrontiers in Physics 6, 111 | [1](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=10109815007371427315) | 2018 |
| [Wind measurement and estimation with small unmanned aerial systems (suas) using on-board mini ultrasonic anemometers](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=SnecFpAAAAAJ&pagesize=80&sortby=pubdate&citft=1&email_for_op=yangquan.chen%40gmail.com&citation_for_view=SnecFpAAAAAJ:u5HHmVD_uO8C)D Hollenbeck, G Nunez, LE Christensen, YQ Chen2018 International Conference on Unmanned Aircraft Systems (ICUAS), 285-292 | [25](https://scholar.google.com/scholar?oi=bibs&hl=en&cites=8023415449025734816) | 2018 |