

CURRICULUM VITAE

Sen Yang

PERSONAL DATA

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EDUCATION

Ph.D., University of California, San Diego, USA 2009

B.Sc. Tsinghua University, China 2002

LIST OF PUBLICATIONS

(*corresponding author)

- Kin On Ho, Y. Shen, King Cho Wong, Man Yin Leung, Yiu Yung Pang, Wai Kuen Leung, N. Zhao*, **Sen Yang***, invited review article, Functional Diamond, in press.
- Kin On Ho, King Cho Wong, Man Yin Leung, Yiu Yung Pang, Wai Kuen Leung, King Yau Yip, Wei Zhang, Jianyu Xie, Swee Goh, and **Sen Yang***, invited review, Journal of Applied Physics 129, 241101 (2021).
- Sebastian Zaiser, Chun Tung Cheung, **Sen Yang**, Durga Bhaktavatsala Rao Dasari, Sadegh Raeisi & Jörg Wrachtrup, npj Quantum Information 7, 92 (2021)
- Ke Bian, Wentian Zheng, Xianzhe Zeng, Xiakun Chen, Rainer Stohr, Andrej Denisenko, **Sen Yang**, Joerg Wrachtrup, Ying Jiang, arXiv:2011.04473 (2020), Nature Communications 12, 2457 (2021)
- Kin On Ho, Man Yin Leung, Yiu Yung Pang, King Cho Wong, Ping Him Ng and **Sen Yang***, ACS Appl. Polym. Mater. 2021, 3, 1, 162–170
- Y.F. Chen, S.F. Hung, W. K. Lo, Y. Chen, Y. Shen, K. Kafenda, J. Su, K. Xia*, and **Sen Yang***, A universal method for depositing patterned materials in-situ, Nature Communications 11, 5334 (2020)
- Kangwei Xia, Roman Kolesov, Ya Wang, Petr Siyushev, Thomas Kornher, Rolf Reuter, **Sen Yang**, Jörg Wrachtrup, Spectroscopy properties of a single praseodymium ion in a crystal, arXiv:1706.08736 (2017), New J. Physics 22 073002 (2020)
- Kin On Ho, Man Yin Leung, Yaxin Jiang, Kin Pong Ao, Wei Zhang, King Yau Yip, Yiu Yung Pang, King Cho Wong, Swee K. Goh*, **Sen Yang***, Probing Local Pressure Environment in Anvil Cells with Nitrogen-Vacancy (N-V⁻) Centers in Diamond, Phys. Rev. Applied 13, 024041 (2020).
- King Yau Yip, Kin On Ho, King Yiu Yu, Yang Chen, Wei Zhang, S. Kasahara, Y. Mizukami, T. Shibauchi, Y. Matsuda, Swee K. Goh*, **Sen Yang***, “Measuring magnetic field texture in correlated electron systems under extreme conditions”, Science 366, 1355 (2019),
- M. S. J. Barson, P. M. Reddy, **S. Yang**, N. B. Manson, J. Wrachtrup, M. W. Doherty, “Temperature dependence of the ¹³C hyperfine structure of the negatively charged nitrogen-vacancy center in diamond”, Phys. Rev. B 99, 094101 (2019)
- D. D. Bhaktavatsala Rao*, **Sen Yang***, Stefan Jesenski, Florian Kaiser, and Jörg Wrachtrup, “Non-classical measurement statistics induced by a coherent spin environment”, Phys. Rev. A 100, 022307 (2019).
- Ning Wang, Gang-Qin Liu, Weng-Hang Leong, Hualing Zeng, Xi Feng, Si-Hong Li, Florian Dolde, Helmut Fedder, Jörg Wrachtrup, Xiao-Dong Cui, **Sen Yang**, Quan Li, and Ren-Bao Liu, “Magnetic Criticality Enhanced Hybrid Nanodiamond Thermometer under Ambient Conditions”,

- Phys. Rev. X 8, 011042 (2018)
- Durga B. Rao Dasari, **Sen Yang**, Nikolas Abt, Joerg Wrachtrup, "A repository for quantum measurement trajectories," Proc. SPIE 10409, Quantum Communications and Quantum Imaging XV, 104090U (30 August 2017); doi: 10.1117/12.2274755
 - D. D. Bhaktavatsala Rao, **Sen Yang**, and Jörg Wrachtrup, "Dissipative entanglement of solid-state spins in diamond", Phys. Rev. A 95, 022310 (2017)
 - Jörg Wrachtru, **Sen Yang** and D. D. Bhaktavatsala Rao, "Diamond storage units for photons in quantum communication", SPIE Newsroom. DOI: 10.1117/2.1201607.006539
 - **Sen Yang***, Ya Wang, D. D. Bhaktavatsala Rao, Thai Hien Tran, S. Ali Momenzadeh, M. Markham, D. J. Twitchen, Ping Wang, Wen Yang, Rainer Stoehr, Philipp Neumann, Hideo Kosaka, Joerg Wrachtrup*, Nature Photonics 10, 507–511 (2016)
 - Nathan Chejanovsky, Mohammad Rezai, Federico Paolucci, Youngwook Kim, Torsten Rendler, Wafa Rouabeh, Felipe Fávoro de Oliveira, Patrick Herlinger, Andrej Denisenko, **Sen Yang**, Ilja Gerhardt, Amit Finkler, Jurgen H. Smet, and Jörg Wrachtrup, Nano Lett., 2016, 16 (11), pp 7037–7045.
 - S. Ali Momenzadeh, Felipe Fávoro de Oliveira, Philipp Neumann, D.D. Bhaktavatsala Rao, Andrej Denisenko, Morteza Amjadi, Zhiqin Chu, **Sen Yang**, Neil B. Manson, Marcus W. Doherty, and Jörg Wrachtrup , Phys. Rev. Applied 6, 024026 (2016)
 - **Sen Yang**, L. V. Butov, B. D. Simons, K. L. Campman, and A. C. Gossard, Phys. Rev. B 91, 245302 (2015)
 - D. D. Bhaktavatsala Rao, **Sen Yang**, and Jörg Wrachtrup, Phys. Rev. B 92, 081301(R) (2015) (Rapid Communication)
 - Kangwei Xia, Roman Kolesov, Ya Wang, Petr Siyushev, Rolf Reuter, Thomas Kornher, Nadezhda Kukharchyk, Andreas D. Wieck, Bruno Villa, **Sen Yang**, and Joerg Wrachtrup, Phys. Rev. Lett. 115, 093602 (2015)
 - Liang Jin, Matthias Pfender, Nabeel Aslam, Philipp Neumann, **Sen Yang**, Jörg Wrachtrup, Ren-Bao Liu, Nature Communications 6, 8251 (2015)
 - S. Ali Momenzadeh, Rainer J. Stöhr, Felipe Favaro de Oliveira, Andreas Brunner, Andrej Denisenko, **Sen Yang**, Friedemann Reinhard, Jörg Wrachtrup, Nano Letters 2015, 15 (1), pp 165–169
 - Ya Wang, Florian Dolde, Jacob Biamonte, Ryan Babbush, Ville Bergholm, **Sen Yang**, Ingmar Jakobi, Philipp Neumann, Alán Aspuru-Guzik, James D. Whitfield, Jörg Wrachtrup, ACS Nano, vol. 9 (2015), 7769–7774
 - Matthias Widmann, Sang-Yun Lee, Torsten Rendler, Nguyen Tien Son, Helmut Fedder, Seoyoung Paik, Nan Zhao, **Sen Yang**, Ian Booker, Andrej Denisenko, Mohammad Jamali, Seyed Ali Momenzadeh, Takeshi Ohshima, Adam Gali, Erik Jánzén, Jörg Wrachtrup, Nature Material 14, 164–168 (2015)
 - Sang-Yun Lee, Matthias Widmann, Torsten Rendler, Marcus W. Doherty, Thomas M. Babinec, **Sen Yang**, Moritz Eyer, Petr Siyushev, Birgit J. M. Hausmann, Marko Loncar, Zoltán Bodrog, Adam Gali, Neil B. Manson, Helmut Fedder, Jörg Wrachtrup, Nature Nano 8, 487–492 (2013)
 - A. High, A. T. Hammack, J. R. Leonard, **Sen Yang**, L. V. Butov, T. Ostatnický, M. Vladimirova, A. V. Kavokin, T. C. H. Liew, K. L. Campman, and A. C. Gossard, Phys. Rev. Lett. 110, 246403 (2013)
 - **Sen Yang**, L. V. Butov, L. S. Levitov, B. D. Simons, A. C. Gossard, Phys.Rev. B 81, 115320(2010)
 - J.R. Leonard, Y.Y. Kuznetsova, **Sen Yang**, L.V. Butov, T. Ostatnicky, A. Kavokin, and A.C. Gossard, Nano Lett. 9 (12), 4204-4208 (2009)
 - M.M. Fogler, **Sen Yang**, A.T. Hammack, L.V. Butov, and A.C. Gossard, Phys. Rev. B 78, 035411 (2008)
 - Y.M. Shen, L. Pang, Y. Fainman, M. Griswold, **Sen Yang**, L.V. Butov, L.J. Sham. Phys. Rev. B 76, 085312 (2007)
 - **Sen Yang**, A.V. Mintsev, A.T. Hammack, L.V. Butov, and A.C. Gossard, Phys. Rev. B 75, 033311 (2007)

- **Sen Yang**, A.T. Hammack, M.M. Fogler, L.V. Butov, and A.C. Gossard, Phys. Rev. Lett. 97, 187402 (2006)
- A.T. Hammack, N.A. Gippius, **Sen Yang**, G.O. Andreev, L.V. Butov, M. Hanson, and A.C. Gossard, J. Appl. Phys. 99, 066104 (2006)
- A.L. Ivanov, L.E. Smallwood, A.T. Hammack, **Sen Yang**, L.V. Butov, and A.C. Gossard, Europhys. Lett. 73, 920-926 (2006)
- **Sen Yang** and Hui Zhai, Chinese Phys. Lett. 19, 628 (2002)

PATENT

Sen Yang, K. Xia, S.F. Hung, Y.F. Chen, European patent 2021.

Sen Yang, K. Xia, S.F. Hung, Y.F. Chen, USA patent 2021.

Sen Yang, K. Xia, S.F. Hung, Y.F. Chen, China patent 2021.

INVITED PRESENTATIONS/ LECTURES

CONFERENCE

- New Technologies with Carbons: From Chip Fabrication to Quantum Information, 2021 Industry Development Summit of Carbon-based Semiconductor and Device (2021-05-21)
- New technology with carbons: From chip fabrication to quantum information, Carbon Week 2021 (2021-01-22)
- Study phase transitions via NV centers in diamond, CEMS2020, Japan via online(2020-09)
- Study phase transitions via NV centers in diamond, PSHK 2020, Hong Kong (2020-07)
- Turn NV centers in diamond into tools for quantum information science, Carbontech Global 2020, online (2020-05)
- Quantum sensing of many body effects via nitrogen vacancy centers in diamond, International conference on Quantum & Nonlinear Optics (QNO2019), University of Malaya, Kuala Lumpur, Malaysia (2019-07)
- Quantum sensing of many body effects via nitrogen vacancy centers in diamond, 2019 量子工程国际会议(AQE2019), Shenzhen, China (2019-06)
- Towards measurement induced quantum state engineering, International Workshop on Solid-State Qubits, Korean Physical Society, South Korea (2019-04)
- Towards measurement induced quantum state engineering, APCWQIS-2018, India (2018-12-20)
- Towards measurement induced quantum state engineering, ICQAO-2018, India (2018-12-16)
- Towards measurement induced quantum state engineering, 2018 Wyoming Summer School on Quantum Science and Engineering in Honor of Prof. Lu Sham's 80th Birthday, Casper, USA (2018-07)
- A diamond road toward quantum network, 20th Anniversary of the Fundamental Science Class and the 10th Anniversary of the Tsinghua Xuetang Talent Program on Physics, Beijing (2018-07)
- A diamond road toward quantum network in Workshop on Quantum Materials and Quantum Technology organized by The Chinese University of Hong Kong (2018-01)
- A diamond road toward quantum network in International Conference on Physics of Information organized by South University of Science and Technology of China, China (2018-01)
- A Diamond Road toward Scalable Quantum Information Networks in Symposium in Honour of the 95th Birthday of Professor Yang Chen Ning organized by The Chinese University of Hong Kong (2017-09)
- A repository for quantum measurement trajectories in SPIE Optics + Photonics 2017 organized by SPIE, United States of America (2017-08)
- High fidelity storage of photon states in a single nuclear spin in NV center in diamond in Quantum Information Workshop 2017 organized by The Chinese University of Hong Kong

(2017-07)

- High fidelity transfer and storage of photon states in a single nuclear spin in SPIE Photonics West 2017 organized by SPIE, United States of America (2017-01)
- High fidelity transfer and storage of photon states in a single nuclear spin in XIV Asia-Pacific Conference & Workshop on Quantum Information Science organized by ANAS Institute of Physics, Azerbaijan (2016-12)
- High fidelity storage of arbitrary photon states in a single nuclear spin in NV center in diamond, QCMC 2016 conference, Singapore (2016-07)
- High fidelity storage of arbitrary photon states in a single nuclear spin in NV center in diamond, META15, New York USA(2015-08)
- Quantum memory based on nuclear spin in nitrogen vacancy in diamond for quantum repeater, SPIE Photonics West, CA USA (2015-02)

DEPARTMENT SEMINARS

- Turn defects in solids into tools for quantum information science, Seminar, HKUST (2020-06)
- Quantum sensing of many body effects via nitrogen vacancy centers in diamond, ECNU, Shanghai, China (2019-12)
- Quantum sensing of many body effects via nitrogen vacancy centers in diamond, SUSTEC, Shenzhen, China (2019-11)
- High fidelity storage of arbitrary photon states in a single nuclear spin in NV center in diamond, CUHK (2016-05)
- High fidelity storage of arbitrary photon states in a single nuclear spin in NV center in diamond, Tsinghua University, China (2016-04)
- Optical quantum interface based on single nuclear spin in NV in diamond, UCSD Solid state seminar, CA USA (2015-02)
- Optical quantum interface based on single nuclear spin in NV in diamond, MIT Quantum information seminar (2015-02)
- Quantum photon storage in single nuclear spin in nitrogen vacancy in diamond, Beijing Computational Science Research Center, China (2014-12)
- Spontaneous coherence and kinetics of macroscopically ordered exciton state, condensed matter seminar, Hong Kong University, HK (2009-03)
- Spontaneous coherence and kinetics of macroscopically ordered exciton state, condensed matter seminar, University of Texas, Austin (2009-02)

KEYNOTE SPEECHES/ DISTINGUISHED LECTURES

- CIDE/AAMA Technology Salon: Quantum Stories in the Digital Economy (2021-01-23)
- CUHK Physics Student Conference 2020 (2020-09-26)
- Department Colloquium, CUHK (2020-04-17)
- the QPQI Talk, Synergetic Innovation Center in Quantum Information and Quantum Physics, USTC (2019-03-01)
- Department Colloquium, CUHK (2016-05)

CONFERENCE ORGANIZATION

- Organizer, Workshop on Quantum Materials and Quantum Technology (2018-01)
- Organizer, Quantum Information Workshop 2017 (7-9 July 2017)

EDITORSHIP

- Editor board member, Functional Diamond