JUN YE

Current position Fellow, National Institute of Standards and Technology, U.S. Dept. of Commerce
Fellow of JILA and Professor Adjoint, JILA and Dept. of Physics, University of Colorado at Boulder
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Education Ph.D. Physics, University of Colorado, 1997; M.S. Physics, University of New Mexico, 1991; B.S. Applied Physics, Jiao Tong University, Shanghai, 1989

Honors and Awards

Willis E. Lamb Award for Laser Science and Quantum Optics, 2026
Berthold Leibinger Zukunftspreis (Future Prize), Berthold Leibinger Stiftung, 2025
Clarivate Analytics/Thomson Reuters, Highly Cited Researcher (Top 1%), every year from 2014 to 2025
Lise Meitner Distinguished Lecture and Medal Stockholm, 2024
Ruiyuan (Foresight) Science and Technology Award, 2023
Gold Medal (Optical Atomic Clock), US Department of Commerce, 2022
Vannevar Bush Fellowship, Department of Defense, 2022
Herbert Walther Award, German Physical Society (DPG) and OPTICA (OSA), 2022
Niels Bohr Institute Medal of Honour, 2022
Breakthrough Prize in Fundamental Physics (shared with H. Katori), 2022
Julius Springer Prize for Applied Physics, 2021
Micius Quantum Prize (shared with C. Caves and H. Katori), 2020
Norman F. Ramsey Prize, American Physical Society (APS), 2019
Gold Medal (Atomic Clock Network), US Department of Commerce, 2019
I. I. Rabi Award, IEEE, 2018
Foreign Member, Chinese Academy of Sciences, 2017
Jacob Rabinow Award, National Institute of Standards and Technology, 2017
Presidential Rank Award (US), Distinguished, 2015
Gold Medal (Optical Atomic Clock), US Department of Commerce, 2014
Rocky Mountain Eagle Award, 2014
Gordon and Betty Moore Foundation Investigator Award, 2013
Member, National Academy of Sciences (US), 2011; Frew Fellow, Australian Academy of Science, 2011
Gold Medal (Ultracold Molecules), US Department of Commerce, 2011
European Frequency and Time Forum (EFTF) Award, 2009
Gordon and Betty Moore Distinguished Scholar, California Institute of Technology, 2008
I. I. Rabi Prize, American Physical Society (APS), 2007
Carl Zeiss Research Award, Germany, 2007
William F. Meggers Award, Optical Society of America (OSA), 2006
Samuel Wesley Stratton Award, National Institute of Standards and Technology, 2006
Friedrich Wilhem Bessel Research Award, Alexander von Humboldt Foundation, Germany, 2006
Fellow, Optical Society of America, 2006
First Prize (Technology Innovations), Amazing Light: Vision for Discovery (C. H. Townes), 2005
Fellow, American Physical Society, 2005
Arthur S. Flemming Award (Scientific Category, US Federal Government), 2005
Fellow, National Institute of Standards and Technology, U.S. Department of Commerce, 2004
Presidential Early Career Award for Scientists and Engineers, 2003
Technology Review Magazine's TR100 Young Innovator, 2002
Gold Medal (Optical Frequency Comb), US Department of Commerce, 2001
Frontiers of Engineering Symposium, National Academy of Engineering, 2000
Adolph Lomb Medal, Optical Society of America (OSA), 1999
R. A. Millikan Prize Fellowship, California Institute of Technology, 1997 – 1999
University Fellowship, University of Colorado at Boulder, 1993 – 1994
Silver-Light Prize (Exceptional Undergraduate Award), Honor Graduate, Jiao Tong University, 1987–89

Named Lectures and Professorships

Marker Lectures, Penn State Univ. 2026; Anna I. McPherson Lectures, McGill Univ. 2025; US AFOSR Chief Scientist Distinguished Lecture 2025; Alex Dalgarno Lectures, Harvard 2024; Richard B. Bernstein

Lecture, Univ. Wisconsin 2023; Hans Jensen Lecture, Heidelberg Univ. 2023; Jack Munushian Lecture, Univ. Southern California 2023; Lauritsen Memorial Lecture, Caltech 2022; Emmett Hudspeth Centennial Lecture, Univ. of Texas Austin 2022; C.N. Yang Lecture, CUHK 2022; Rydberg Lecture, Lund Univ., Sweden 2022; Hinshelwood Lecture, Oxford Univ. 2019; George Rochester Public Lecture, Univ. of Durham 2019; Morris Loeb Lectures, Harvard 2018; Robert M. Walker Distinguished Lecture, Washington Univ. 2017; Einstein Colloquium, Weizmann Institute of Science 2017; Lord Lecture, MIT 2016; Quantum Center Distinguished Lecture, Rice Univ. 2017; Hanan Rosenthal Memorial Lecture, Yale Univ. 2014; Heidelberg Univ. Public Lecture, Klaus-Georg & Sigrid Hengstberger Foundation 2014; Kent R. Wilson Lecture, Univ. California San Diego 2012; Niels Bohr Lecture, Univ. of Copenhagen 2009; R. B. Woodward Lecture, Harvard 2009; Henri Sack Memorial Lecture, Cornell Univ. 2007; Optical Society of America Traveling Lecturer, 2006 – 2010; Guest Professors, Shanghai JiaoTong Univ, East China Normal Univ, 2006; Guest Professor, Universität Innsbruck, 2004. Christopher Monroe Chaired Professorship CU 2024 – present

Employment

National Institute of Standards and Technology: Physicist (1999 – 2004), Fellow (since 2004)
JILA, NIST and University of Colorado: Associate Fellow (1999 – 2001), Fellow (since 2001)
Physics Department (Adjoint): Asst. Prof. (1999–2003), Assoc. Prof. (2004 – 2006), Professor (since 2006)

Professional Affiliations and activities

National Academy of Sciences (member), American Physical Society (APS, Fellow), Optical Society of America (OSA, Fellow), Chinese Academy of Sciences (foreign member)
Co-Chair, Symposium *Laser frequency stabilization, standards, & applicati*ons, 2001 Photonics West
Co-organizer – Special session on precision measurement, 2002 APS – DAMOP Annual Meeting
Principal Investigator, "Optical atomic clock," Multidisciplinary Research Program of the University Research Initiative (MURI), Office of Naval Research, 2003 – 2008
Program Subcommittee member, Conference on Lasers and Electro-Optics (CLEO) 2004, 2005
Co-organizer – 3rd and 4th workshop on Ultracold Group II Atoms: Theory and Applications
Program Subcommittee Chair, Conference on Lasers and Electro-Optics (CLEO) 2006, 2007
Grand Challenges Committee, Basic Energy Sciences, US Dept. of Energy 2006-2007
Thesis Prize Committee, DAMOP, American Physical Society, 2007, 2008
Member, Executive Committee, DAMOP, American Physical Society, 2008, 2009
International Steering Committee, Symposium of Frequency Standards and Metrology
Rabi Prize Committee, American Physical Society, 2008 – 2009
Organizing committee, "From Quantum to Cosmos", 2006 – 2009
Chair and Vice Chair, APS Group on Precision Measurement & Fundamental Constants, 2009-12
Panel members for NSF, NASA, DOE, etc., 2000 – present
Co-organizer, Cold Molecules Summer Workshop, JILA – 2009
Scientific Advisory Boards: MPQ; Caltech; Center for Ultracold Atoms (MIT/Harvard); CQT, National Singapore Univ; National Institute of Metrology; Jiaotong Univ., Tsinghua Univ.
Program Committee, ICAP 2012; QCMC2014; Symposium Freq. Standards & Metrology 2015
Director at Large, Optical Society of America, 2012-2015
Member, OSA Meggers Award Committee, APS Ramey Prize Committee, APS Nominating Committee, AIP Compton and Tate Medals Committee
Chair/Vice Chair, Gordon Research Conference on Quantum Science, 2014, 2016
Vice Chair/Chair, APS Division Atomic, Molecular, Optical Physics, 2018-2021
Co-Chair, National Academy of Sciences AMO-2020 Decadal Survey committee, 2018-2019
Director, Colorado Quantum Initiative (CUbit); Quantum Leap Challenge Institute Colorado 2020 – present
National Quantum Initiative Advisory Committee (NQIAC); Committee, Sloan Foundation Advisory Boards, Quantum Centers (Berkeley, Chicago, Princeton); Co-Chair, ICOLS 2023

Publications and Presentations

772 invited talks (Colloquia, Keynote Speeches, Invited Talks, and Seminars)
Web of Science: 53,399 citations (Avg. 125), H-index 114. Google Scholar: 79,042 citations; H-index 150
450 publications: *Science* (28), *Nature* (20)*, Nature journals* (25), *Phys. Rev. Lett.* / *Phys. Rev. X* (91)

2 edited books; 2 edited conference proceedings & special issues; 1 NAS report; 5 U.S. Patents

PhD Advisor – Dr. J. L. Hall, NIST; **Postdoctor Advisor** – Prof. H. J. Kimble, Caltech

Students and Post-Doctoral Scholars Advised

Post-doctoral Scholars – M. Silva, W.Y. Cheng, T.H. Yoon, J.L. Peng, X. Xu, D.J. Jones, T.H. Loftus, J.R. Bochinski, M. Notcutt, T. Ido, R.J. Jones, H.J. Lewandowski, K.D. Moll, B.L. Lev, T. Zelevinsky, T. Zanon, A. Pe'er, G. Campbell, T. Schibli, S. Ospelkaus, D.J. Wang, M. Swallows, F. Adler, T. Ban, P. Masłowski, A. Chotia, Y. Xia, A. Cingöz, M. Hummon, A. Foltynowicz, T. Allison, J. Williams, B. Yan, A.J. Fleisher, W. Zhang, B. Gadway, X. Zhang, F. Labaye, L. Hua, O. Heckl, B. Spaun, G.E. Marti, T. Langen, S. Kolkowitz, G. Porat, S. Schoun, A. Goban, C. Heyl, T. Bui, K. Iwakuni, E. Oelker, L. de Marco, S. Ding, G. Valtolina, Y. Shagam, I. Finneran, C. Kennedy, M. Weichman, C. Sanner, J.-R. Li, J. Toscano, L. von der Wense, L. Liu, P. Aggarwal, K. Kim, D. Rosenberg, J. Higgins, B. Lewis, Z. Yao, H. Hirzler, J. Hur, J.-Y. Lin, S. Lannig, Y. Yang, S. Scheidegger, L. Hillberry, D. Lee, T. de Jongh, S. Agrawal

Ph.D. Students – A. Marian, L. Chen, K.W. Holman, E.R. Hudson, S.M. Foreman, A.D. Ludlow, M.M. Boyd, M.C. Stowe, M.J. Thorpe, B.C. Sawyer, S. Blatt, D. Yost, B.K. Stuhl, E.H. Yeo, M.J. Martin, M. de Miranda, K.C. Cossel, T.L. Nicholson, M. Bishof, B. Bloom, S. Moses, C. Benko, S. Campbell, J. Covey, B. Bjork, A. Collopy, H. Wu, D. Reens, S. Bromley, Y. Wu, B. Changala, R. Hutson, T. Bothwell, L. Sonderhouse, J. Robinson, W. Tobias, K. Matsuda, D. Kedar, W. Milner, C. Zhang, L. Yan, A. Aeppli, J. Burau, Q. Liang, M. Miklos, Y. M. Tso, C. Miller, K. Mehling, A. Carroll, W. Warfield, Z. Hu, M. Frankel, T. Ooi, M. Chen, A. Bisht, J. Doyle, S. Kraus, Y.-H. Lee, K. Zhou, O. Licht, J. Bingaman, N. Song

Undergraduate students –S. Bergquist, J. Ames, J. Jost, C. McCann, S. Blatt, B. Safdi, D. Balslev-Clausen, A. Tingle, K. Cox, T. Hirokawa, R. Mcnally, N.D. Oppong, J. Scott, N. Punsuebsay, A. McAuliffe, C. Newfield, S. Cohen, J. Doyle, M. F.D. Pastor, A. Scheck, G. Cowan, S. Swerdfeger

U.S. patents (5)

1. J. L. Hall, S. A. Diddams, L.-S. Ma, and J. Ye, "Comb generating optical cavity that includes an optical amplifier and an optical modulator," U.S. Patent #6,201,638, March 13, 2001.
2. J. Ye and J. L. Hall, "A novel cavity ringdown heterodyne spectroscopy: 1 x 10^{-10} sensitivity with microwatt light power," U.S. Patent #6,727,492, April 27, 2004.
3. J. Ye, H. C. Kapteyn, J. L. Hall, R. K. Shelton, M. M. Murnane, and L.-S. Ma, "Multistage synchronization of pulsed radiation sources," U.S. Patent #6,831,935, December 14, 2004.
4. J. Ye, M. J. Thorpe, K. D. Moll, and R. J. Jones, "Frequency comb cavity enhanced spectroscopy," U.S. Patent #7,538,881, May 26, 2009.
5. J. Ye, E. G. Oelker, W. R. Milner, J. M. Robinson, C. J. Kennedy, T. Bothwell, D. Kedar, and T. Brown, "Optical local oscillator for all-optical time scales, and associated timekeeping methods," U.S. Patent #11,353,827, June 7, 2022.

Publications (Refereed journals and edited books)**:** **Jun Ye**

1. J. Ye, Q. Li, S. Peng, and Y. Chen, "Polarization rotation in optical fibers due to geometric path variance," Appl. Opt. **29**, 1724 (1990).
2. D. Emin, J. Ye, and C. Beckel, "Electron-correlation effects in one-dimensional large-bipolaron formation," Phys. Rev. B **46**, 10710 (1992).
3. J. Ye, H. Li, and J. G. McInerney, "Period-doubling route to chaos in semiconductor lasers," Phys. Rev. A **47**, 2249 (1993).
4. H. Li, J. Ye, and J. G. McInerney, "Detailed analysis of coherence collapse in semiconductor lasers," IEEE J. of Quantum Electron. **29**, 2421 (1993).
5. L.-S. Ma, P. Jungner, J. Ye, and J. L. Hall, "Delivering the same optical frequency at two places: Accurate cancellation of phase noise introduced by an optical fiber or other time-varying path," Opt. Lett. **19**, 1777-1779 (1994).
6. P. Jungner, S. Swartz, M. Eickhoff, J. Ye, J. L. Hall, and S. Waltman, "Absolute frequency measurement of molecular iodine transitions near 532 nm," IEEE Trans. Instrum. Meas. **44**, 151 (1995).
7. L.-S. Ma, P. Jungner, J. Ye**,** and J. L. Hall, "Accurate cancellation (to mHz levels) of optical phase noise due to vibration or optical fiber insertion phase," in Laser Frequency Stabilization and Noise Reduction, Y. Shevy, Ed., SPIE **2378**, pp165 (1995).
8. P. Jungner, M. Eickhoff, S. Swartz, J. Ye, J. L. Hall, and S. Waltman, "Stability and absolute frequency of molecular iodine transitions near 532 nm," in Laser Frequency Stabilization and Noise Reduction*,* Y. Shevy, Ed., SPIE **2378**, p. 22 (1995). (Invited)
9. J. Ye**,** L.-S. Ma, and J. L. Hall, "Sub-Doppler optical frequency reference at 1.064 μm via ultrasensitive cavity enhanced FM spectroscopy of C_2HD overtone transition," Opt. Lett. **21**, 1000 (1996).
10. J. Ye**,** S. Swartz, P. Jungner, and J. L. Hall, "Hyperfine structure and absolute frequency of the ^{87}Rb $5P_{3/2}$ state," Opt. Lett. **21**, 1280 (1996).
11. L.-S. Ma, J. Ye, P. Dubé, and J. L. Hall, "A new modulation method for sensitive nonlinear spectroscopy − application to molecular overtones as visible frequency references," in Laser Spectroscopy XII, M. Inguscio, M. Allegrini, and A. Sasso, Eds., World Scientific, Singapore, p. 199 (1996). (Invited)
12. J. L. Hall, J. Ye**,** L.-S. Ma, S. Swartz, P. Jungner, and S. Waltman, "Optical frequency standards - some improvements, some measurements, and some dreams," in Fifth Symposium on Frequency Standards and Metrology, J. C. Bergquist Ed., World Scientific, Singapore, p. 267 (1996). (Invited)
13. P. Dubé, L.-S. Ma, J. Ye**,** P. Jungner, and J. L. Hall, "Thermally-induced self-locking by overtone absorption from acetylene gas in an external optical cavity," J. Opt. Soc. Am. B **13**, 2041 (1996).
14. J. Ye**,** L.-S. Ma, T. Day, and J. L. Hall, "Highly-selective TeraHertz optical frequency comb generator," Opt. Lett. **22**, 301 (1997).
15. J. Ye, L.-S. Ma, and J. L. Hall, "Ultrasensitive high resolution laser spectroscopy and its application to optical frequency standards," in 28th Annual Precise Time and Time Interval (PTTI) Applications and Planning meeting, Proceedings, L. A. Breakiron, Ed., US Naval Observatory, Washington D.C., p. 289 (1997). (Invited)
16. J. Ye, L.-S. Ma, and J. L. Hall, "Ultra-stable optical frequency reference at 1.064 μm using a C_2HD molecular overtone transition," IEEE Trans. Instrum. Meas. **46**, 178 (1997).

17. J. Ye, L.-S. Ma, and J. L. Hall, "Ultrasensitive detections in atomic and molecular physics − demonstration in molecular overtone spectroscopy," J. Opt. Soc. Am. B **15**, 6 (1998).

18. J. L. Hall, J. Ye**,** L.-S. Ma, K. Vogel, and T. Dinneen, "Optical frequency standards: Progress and applications," in Laser Spectroscopy XIII, Z.-J. Wang, Z.-M. Zhang, and Y.-Z.Wang, Eds., World Scientific, Singapore, p. 75 (1998). (Invited)

19. J. Ye, L.-S. Ma, and J. L. Hall, "Ultrasensitive detection of weak resonances − application to optical frequency standards," in Laser Spectroscopy XIII, Z.-J. Wang, Z.-M. Zhang, and Y.-Z.Wang, Eds., World Scientific, Singapore, p. 81 (1998). (Invited)

20. J. Ye, L.-S. Ma, and J. L. Hall, "Cavity-enhanced frequency modulation spectroscopy: Advancing optical detection sensitivity and laser frequency stabilization," in Methods for Ultrasensitive Detection, B. L. Fearey, Ed., SPIE **3270**, p. 85 (1998).

21. F.-L. Hong, J. Ishikawa, T. H. Yoon, L.-S. Ma, J. Ye, and J. L. Hall, "A portable I_2-stabilized Nd:YAG laser for wavelength standards at 532 nm and 1064 nm," in Recent Developments in Optical Gauge Block Metrology, J. E. Decker and N. Brown, Eds., SPIE **3477**, p. 2 (1998).

22. C. J. Hood, T. W. Lynn, H. Mabuchi, M. S. Chapman, J. Ye, and H. J. Kimble, "Quantum information processing with Cavity QED," in Photonic Quantum Computing II, S. P. Hotaling and A. R. Pirich, Eds., SPIE **3385**, p. 95 (1998).

23. J. Ye, L.-S. Ma, and J. L. Hall, "Using FM methods with molecules in a high finesse cavity: A demonstrated path to $< 10^{-12}$ absorption sensitivity," in Cavity-Ringdown Spectroscopy: an Ultratrace-Absorption Measurement Technique, K. W. Busch and M. A. Busch, Eds., American Chemical Society/Oxford University Press, Washington, DC., p. 233 (1999). (Invited)

24. J. Ye, C. J. Hood, T. W. Lynn, H. Mabuchi, D. Vernooy, and H. J. Kimble, "Measurement and control of single atom motions in the quantum regime," in Trapped Charged Particles and Fundamental Physics, AIP Proceedings **457**, D.H.E. Dubin and D. Schneider, Eds., American Institute of Physics, New York, p. 371 (1999). (Invited)

25. F.-L. Hong, J. Ishikawa, J. Yoda, J. Ye, L.-S. Ma, and J. L. Hall, "Frequency comparison of $^{127}I_2$-stabilized Nd:YAG lasers," IEEE Trans. Instrum. Meas. **48**, 532 (1999).

26. J. Ye, L. Robertsson, S. Picard, L.-S. Ma, and J. L. Hall, "Absolute frequency atlas of molecular I_2 lines at 532 nm," IEEE Trans. Instrum. Meas. **48**, 544 (1999).

27. J. L. Hall, L.-S. Ma, M. Taubman, B. Tiemann, F.-L. Hong, O. Pfister, and J. Ye, "Stabilization and frequency measurement of the I_2-stabilized Nd:YAG laser," IEEE Trans. Instrum. Meas. **48**, 583 (1999).

28. J. Ye, D. W. Vernooy, and H. J. Kimble, "Real time tracking and trapping of single atoms in cavity QED," Phys. Rev. Lett. **83**, 4987 (1999).

29. J. Ye, C. J. Hood, T. Lynn, H. Mabuchi, D. Vernooy, & H. J. Kimble, "Quantum manipulation and measurement of single atoms in optical cavity QED," IEEE Trans. Instrum. Meas. **48**, 608 (1999).

30. H. Mabuchi, J. Ye, and H. J. Kimble, "Full observation of single-atom dynamics in cavity QED," Appl. Phys. B **68**, 1095 (1999).

31. S. A. Diddams, L.-S. Ma, J. Ye, and J. L. Hall, "Broadband optical comb generation with a frequency modulated parametric oscillator," in Laser Spectroscopy XIV, R. Blatt, J. Eschner, D. Leibfried, and F. Schmidt-Kaler, Eds., World Scientific, Singapore, p. 350 (1999).

32. H. J. Kimble, C. J. Hood, T. W. Lynn, H. Mabuchi, D. W. Vernooy, and J. Ye, "The Quantum Internet," in Laser Spectroscopy XIV, R. Blatt, J. Eschner, D. Leibfried, and F. Schmidt-Kaler, Eds., World Scientific, Singapore, p. 80 (1999). (Invited)

33. J. L. Hall, M. S. Taubman, S. A. Diddams, B. Tiemann, J. Ye, L.-S. Ma, D. Jones, and S. Cundiff, "Stabilizing and measuring optical frequencies," in Laser Spectroscopy XIV, R. Blatt, J. Eschner, D. Leibfried, and F. Schmidt-Kaler, Eds., World Scientific, Singapore, p. 51 (1999). (Invited)

34. L.-S. Ma, J. Ye, P. Dubé, and J. L. Hall, "Ultrasensitive frequency-modulation spectroscopy enhanced by a high-finesse optical cavity: theory and application to overtone transitions of C_2H_2 and C_2HD," J. Opt. Soc. Am. B **16**, 2255 (1999).

35. S. A. Diddams, L.-S. Ma, J. Ye, and J. L. Hall, "Broadband optical frequency comb generation with a phase modulated parametric oscillator," Opt. Lett. **24**, 1747 (1999).

36. J. Ye and J. L. Hall, "Optical phase locking in the MicroRadian domain: Potential applications to NASA spaceborne optical measurements," Opt. Lett. **24**, 1838 (1999).

37. C. W. Gardiner, J. Ye, H. C. Nägerl, and H. J. Kimble, "Evaluation of heating effects on atoms trapped in an optical trap," Phys. Rev. A **61**, 045801 (2000).

38. J. Ye and J. L. Hall, "Cavity ringdown heterodyne spectroscopy: High sensitivity with microwatt light power," Phys. Rev. A **61**, Rapid Communications, 061802(R) (2000).

39. J. L. Hall, M. S. Taubman, and J. Ye, "Laser stabilization," in Handbook of Optics IV, M. Bass, J. M. Enoch, E. Van Stryland, W. L. Wolfe, Eds., Optical Society of America, Washington D.C., Chapter 27, McGraw-Hill, New York (2000). (Invited)

40. J. Ye, L.-S. Ma, and J. L. Hall, "A new high-resolution frequency standard at 1030 nm for Yb:YAG solid state lasers," J. Opt. Soc. Am. B **17**, 927 (2000).

41. S. A. Diddams, D. J. Jones, J. Ye, S. T. Cundiff, J. L. Hall, J. K. Ranka, R. S. Windeler, R. Holzwarth, Th. Udem, and T. W. Hänsch, "Direct link between microwave and optical frequencies with a 300 THz femtosecond laser comb," Phys. Rev. Lett. **84**, 5102 (2000). (Selected for a Focus in *Physics*; Physical Review Letters Milestone.)

42. J. Ye, T. H. Yoon, J. L. Hall, A. A. Madej, J. E. Bernard, K. J. Siemsen, L. Marmet, J.-M. Chartier and A. Chartier, "Accuracy comparison of optical frequency measurement between harmonic-generation synthesis and a frequency division femtosecond-comb," Phys. Rev. Lett. **85**, 3797 (2000).

43. J. L. Hall, J. Ye**,** and L.-S. Ma, "Measurement of mirror birefringence at the sub-ppm level: proposed application to a test of QED," Phys. Rev. A **62**, No. 1, 013815 (2000).

44. J. Ye, J. L. Hall and S. A. Diddams, "Precision phase control of ultrawide bandwidth fs laser – A network of ultrastable frequency marks across the visible spectrum," Opt. Lett. **25**, 1675 (2000).

45. S. A. Diddams, D. J. Jones, J. Ye, T.M. Fortier, R. S. Windeler, S. T. Cundiff, T. W. Hänsch, & J. L. Hall, "Towards the ultimate control of light - Optical frequency metrology and the phase control of femtosecond pulses," Optics and Photonics News **11**, No. 10 (October Issue), 16-22 (2000).

46. T. H. Yoon, A. Marian, J. L. Hall and J. Ye, "Phase-coherent multi-level two-photon transitions in cold Rb atoms: Ultrahigh resolution spectroscopy via frequency stabilized femtosecond laser," Phys. Rev. A **63**, Rapid Communications, 011402(R) (2001).

47. T. H. Yoon, J. Ye, J. L. Hall, and J.-M. Chartier, "Absolute frequency measurement of the iodine-stabilized He-Ne laser at 633 nm," Appl. Phys. B **72**, 221 (2001).

48. J. L. Hall and J. Ye, "Merging the ultrasensitive, the ultrastable, and the ultrafast: A new era of frequency standards and optical frequency measurement," Optics and Photonics News **12**, No. 2 (February Issue), 44-50 (2001). (Invited)

49. H. J. Kimble, K. Birnbaum, A. C. Doherty, C. J. Hood, T. W. Lynn, H.-C. Nägerl, D. M. Stamper-Kurn, D. W. Vernooy, and J. Ye, "Real-time tracking and trapping of single atoms in cavity QED,"

in Atomic Physics 17 (ICAP 2000), AIP Proceedings **551**, E. Arimondo, P. De Natale, M. Inguscio, Eds., American Institute of Physics, New York, p. 103 (2001).

50. F.-L. Hong, J. Ye, L.-S. Ma, S. Picard, Ch. J. Bordé, and J. L. Hall, "Rotation dependence of electric quadrupole hyperfine interaction in the ground state of molecular iodine by high resolution laser spectroscopy," J. Opt. Soc. Am. B **18**, 379 (2001).

51. S. A. Diddams, D. J. Jones, J. Ye, S. T. Cundiff, J. L. Hall, J. K. Ranka, and R. S. Windeler, "Direct RF to optical frequency measurements with a femtosecond laser comb," IEEE Trans. Instrum. Meas. **50**, 552 (2001).

52. R. K. Shelton, L.-S. Ma, H. C. Kapteyn, M. M. Murnane, J. L. Hall, and J. Ye, "Synchronization and phase locking of two mode-locked femtosecond lasers," in Laser Frequency Stabilization, Standards, Measurement, and Applications, J. L. Hall and J. Ye, Eds., SPIE **4269**, p. 105 (2001). (Invited)

53. J. L. Hall and J. Ye, Editors, Laser Frequency Stabilization, Standards, Measurement, and Applications, SPIE **Proceedings 4269** (2001).

54. S. J. van Enk, J. McKeever, H. J. Kimble, and J. Ye, "Cooling of a single atom in an optical trap inside a resonator," Phys. Rev. A **64**, 013407 (2001).

55. T. H. Yoon, A. Marian, J.L. Hall, and J. Ye, "High resolution Rb two-photon spectroscopy with ultrafast lasers," in Laser Frequency Stabilization, Standards, Measurement, and Applications, J. L. Hall and J. Ye, Eds., SPIE **4269**, p. 50 (2001). (Invited)

56. R. K. Shelton, L.-S. Ma, H. C. Kapteyn, M. M. Murnane, J. L. Hall, and J. Ye, "Phase-coherent optical pulse synthesis from separate femtosecond lasers," Science **293**, 1286 (2001).

57. L.-S. Ma, R. K. Shelton, H. C. Kapteyn, M. M. Murnane, and J. Ye, "Sub-10-femtosecond active synchronization between two passively mode-locked Ti:Sapphire oscillators," Phys. Rev. A **64**, Rapid Communications, 021802(R) (2001).

58. C. J. Hood, H. J. Kimble, and J. Ye, "Characterization of high-finesse mirrors: Loss, phase shifts, and more structure in an optical cavity," Phys. Rev. A **64**, 033804 (2001).

59. T. M. Fortier, D. J. Jones, S. A. Diddams, J. L. Hall, J. Ye, S. T. Cundiff, and R. S. Windeler, "Carrier-envelope phase control of femtosecond modelocked lasers" in Optical Pulse and Beam Propagation III, Y. B. Band, Ed., SPIE **4271**, p. 183 (2001). (Invited)

60. Th. Udem, J. Reichert, R. Holzwarth, S. A. Diddams, D. J. Jones, J. Ye, S. T. Cundiff, T. W. Hänsch, and J. L. Hall, "A new type of frequency chain and its application to fundamental frequency metrology," in Hydrogen II: Physics of Simple Atomic Systems, S. Karshenboim, Ed., Springer Verlag, Berlin, p. 125-144 (2001). (Invited)

61. S. T. Cundiff, J. Ye, and J. L. Hall, "Optical frequency synthesis based on mode-locked laser," Rev. Sci. Instrum. **72**, 3749 (2001). (Invited)

62. J. L. Hall, J. Ye, S. A. Diddams, L.-S. Ma, S. T. Cundiff, and D. J. Jones, "Ultra-Sensitive Spectroscopy, the Ultra-stable Lasers, the UltraFast Lasers, and the Seriously Nonlinear Fiber: A New Alliance for Physics and Metrology," IEEE J. of Quantum Electron. **37**, 1482 (2001).

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12. J. Ye, "Modern laser spectroscopy: ultrasensitive, ultrastable, and ultrafast," Seminar on Modern Optics and Spectroscopy, Massachusetts Institute of Technology, March 14, 2000.
13. J. Ye, "Modern laser spectroscopy: ultrasensitive, ultrastable, and ultrafast: precision control of light field and matter," Physics Seminar, Colorado State University, April 3, 2000.
14. D. J. Jones, S. A. Diddams, J. Ye, S. T. Cundiff, J. L. Hall, J. K. Ranka, R. S. Windeler, and A. J. Stentz, "Optical frequency synthesizer spanning 260 to 590 THz directly referenced to the cesium standard," Quantum Electronics and Laser Science Conference (QELS), San Francisco, California, May 7-12, 2000. (Post Deadline paper)
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33. J. Ye, “Coherent pulse synthesis from separate ultrafast lasers,” Ultrafast Optics III, Chatêau Montebello, Québec, Canada, July 22 – 26, 2001. (KEYNOTE SPEECH)

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51. J. Ye, "Optical clocks and optical frequency synthesizers," Topical Workshop on the Taming of Optical Frequencies: Towards Next Generation Photonic Networks, Technical Digest, p. 61, Tokyo, Japan, September 2 – 4, 2002.

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53. J. Ye, "Control of coherent light: time meets frequency," Argonne National Laboratory Physics Colloquium, Argonne, Illinois, Oct. 18, 2002.

54. J. Ye, "Control of coherent light: applications in time and frequency domain," Kansas State University, Physics Colloquium, Manhattan, Kansas, Nov. 5, 2002.

55. J. Ye, "From relative to absolute: optical phase measurement and control in ultrashort pulses," IEEE Lasers and Electro-Optics Society (LEOS) Annual Meeting, Conference Proceedings, p. 167, Glasgow, Scotland, UK, Nov. 10 – 14, 2002. (Conference Tutorial)

56. J. Ye, "Phase coherent synthesis and control of light," 2002 Material Research Society Fall Meeting, Conference Program, p. 288, Boston, Massachusetts, December 2 – 6, 2002.

57. J. Ye, "Ultra-precise phase control of ultra-short pulses," Argonne National Laboratory, Advance Photon Source Physics Seminar, Argonne, Illinois, Dec. 6, 2002.

58. T. H. Loftus and J. Ye, "Laser cooled atomic Sr: unconventional cooling dynamics, magnetic trapping, and future optical standards," The 5th Laser Cooling Workshop, Awaji Yumebutai, Japan, Jan. 7 – 9, 2003.

59. J. R. Bochinski, E. R. Hudson, and J. Ye, "Cold molecules: deceleration and trapping of neutral ground-state free radical OH," American Association for the Advancement of Science (AAAS) Annual Meeting, Conference Program S56, Denver, Colorado, Feb. 13 – 18, 2003.

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66. J. Ye, "A new era in molecular spectroscopy," WE-Heraeus-Seminar on Astrophysics, Clocks and Fundamental Constants, Physikzentrum Bad Honnef, Germany, June 16 – 18, 2003.

67. J. Ye, "Ultra-precise phase control of short pulses," The 16th International Conference on Laser Spectroscopy (ICOLS03), Palm Cove, North Queensland, Australia, July 13-18, 2003.

68. J. Ye, "Control of coherent light: spectrum generation, waveform synthesis, and atomic clocks," 2003 Gordon Research Conference on Quantum Control of Light and Matter, Mt. Holyoke College, Mass., August 3 – 8, 2003.

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71. E. R. Hudson, J. R. Bochinski, H. J. Lewandowski, and J. Ye, "Exploring cold free radical neutral OH molecules," Physical Chemistry Meeting of Japan, Kyoto, Japan, September 24–27, 2003.

72. J. Ye, "Laser cooled atomic Sr: unconventional cooling dynamics, magnetic trapping, and future optical standards," 2003 European Network on Cold Atoms and Ultraprecise Atomic Clocks Annual meeting, Braunschweig, Germany, October 10 – 12, 2003.

73. J. Ye, "Cavity-enhanced laser spectroscopy: A demonstrated path to ultrahigh detection sensitivities," Federation of Analytical Chemistry and Spectroscopy Societies (FACSS) 30th Annual meeting, Conference Program, p.104, Ft. Lauderdale, Florida, October 19 – 23, 2003.

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75. J. Ye, "Control of coherent light: (precision-) frequency meets (ultrafast-) time," Physics Colloquium, California Institute of Technology, Pasadena, California, December 4, 2003.

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77. J. Ye, "Phase-coherent synthesis and control of light – optical atomic clocks," and "A new regime in molecular spectroscopy," Visiting Professor lecture series, Institut für Experimentalphysik, Universität Innsbruck, Austria, Jan. 8 – 18, 2004.

78. J. Ye, "New era in optical frequency metrology, spectroscopy, and nonlinear optics," Colloquium, Department of Physics, University of Wisconsin, Madison, Wisconsin, Jan. 23, 2004.

79. J. Ye, "Control of coherent light and its applications to molecular spectroscopy," 51st Annual Conference of the Western Spectroscopy Association, Asilomar Conference Center, Pacific Grove, California, January 28 – 30, 2004.

80. J. Ye, "Ultra-precise phase control of ultra-short pulses: principles and applications," Special seminar, Lawrence Berkeley National Laboratory, Berkeley, CA, Feb. 10, 2004.

81. J. Ye, "A new era in molecular spectroscopy: high sensitivity, definitive precision, and cool resolution," National Research Council of Canada, 100 Sussex Dr, 2069, Ottawa Ontario K1A 0R6 Canada, February 27, 2004.

82. J. Ye, "Ultracold atoms and precision spectroscopy," MIT/Harvard Center for Ultracold Atoms Colloquium, Cambridge, MA, April 27, 2004.

83. R. J. Jones and J. Ye, "Amplification of femtosecond pulses by coherent addition in passive enhancement cavities," Conference on Lasers and Electro-Optics (CLEO), CLEO '04, San Francisco, California, May 16-21, 2004. (Postdeadline presentation) (CPDC8)

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85. D. J. Jones, K. W. Holman, and J. Ye, "Laser synchronization and timing distribution," Workshop on the Physics of Seeded Free-Electron-Lasers, Cambridge, Massachusetts, June 17 – 19, 2004.

86. J. Ye, "Control of coherent light and its applications to molecular spectroscopy," International Symposium on Molecular Spectroscopy, 59th Meeting, Conference Proceedings, p. 160, Columbus, Ohio, June 21 – 25, 2004. (Conference Plenary)

87. J. Ye, "Ultracold, Ultrafast, and Ultraprecise – a new paradigm in precision measurements," International Conference on Physics Education and Frontier Research, Conference Proceedings, p. 16, Shanghai, China, June 28 – July 1, 2004.

88. J. Ye, "Ultracold atoms and precision measurements," International Symposium on Cold Atom Physics (ISCAP-I), Lushan, Jiangxi, China, July 5 – 7, 2004.

89. J. Ye, "Precise and ultrafast measurement in ultracold atoms," Physics seminar, Hänsch group annual meeting, Ringberg, Germany, July 19 – 23, 2004.

90. R. J. Jones and J. Ye, "Precision measurements with stabilized femtosecond lasers" Modern Problems in Laser Physics 2004, Novosibirsk, Russia, August 22 – 26, 2004.

91. J. Ye, "Optical frequency measurement and synthesis," 2004 IEEE International Ultrasonics, Ferroelectrics, and Frequency Control Joint 50th Anniversary Conference, Montreal, Canada, August 23 – 27, 2004. (Conference tutorial)

92. D. J. Jones, K. W. Holman, and J. Ye, "Distribution of frequency standards using mode-locked fiber lasers," European Physical Society–QEOD Europhoton Conference on Solid-State and Fiber Coherent Light Sources, Lausanne, Lake Geneva, Switzerland, August 29 – September 3, 2004 (WeD1).

93. J. Ye, "Coherent control of light – from optical atomic clocks to precision ultrafast spectroscopy," Princeton University, Institute for the Science and Technology of Materials (PRISM) Seminar, September 15, 2004.

94. J. Ye, "Ultracold, ultrafast, and ultra-precise – a new paradigm in precision spectroscopy," Frontiers in Optics 2004/Laser Science XX, Conference Program p. 119 (LThD2), Rochester, New York, October 10 – 14, 2004.

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96. J. Ye, "Ultracold, ultrafast, and ultra-precise – a new paradigm in precision measurement," The 12th Laser Physics Workshop, Lijiang, China, October 24 – 30, 2004.

97. J. Ye, "Precision spectroscopy in ultracold atoms," Physics Colloquium, East China Normal University, Shanghai, October 28, 2004.

98. R. J. Jones and J. Ye, "Ultra-precise optical phase control: From atomic state manipulation to extreme nonlinear optics," Berkeley Attosecond MURI Project – Kickoff Workshop, December 1 – 2, 2004.

99. T. Ido, T. H. Loftus, M. Boyd, A. Ludlow, and J. Ye, "Precision spectroscopy and density-related frequency shifts in ultracold Sr," Symposium on Cold Atom/Matter Waves, Abingdon, UK, December 1 – 3, 2004.

100. J. Ye, "Phase coherent manipulation of light – from precision measurement to ultrafast spectroscopy," 2005 Advanced Solid State Photonics Conference Topical Meeting, Conference Program, p. 10, Vienna, Austria, February 6 – 9, 2005.

101. J. Ye, "Cold polar molecules – Stark deceleration, precision spectroscopy, and future laser cooling," European Research and Training Network on Cold Molecules –"*Applications and dynamics of cold molecules*," Hannover, Germany, February 20 – 23, 2005.

102. J. Ye, "Bridging precision measurement and coherent control," Physics Colloquium, University of Connecticut, Storrs, Connecticut, March 4, 2005.

103. J. Ye, "Coherent control and precision spectroscopy," Joint Atomic Physics Colloquium of ITAMP and Physics Department, Harvard, Cambridge, MA, April 6, 2005.

104. J. Ye, "Coherent control and precise measurement in atom-light interactions," Physics Colloquium, University of Washington, Seattle, April 25, 2005.

105. R. J. Jones, K. D. Moll, M. J. Thorpe, and J. Ye, "High-Harmonic Generation at 100 MHz Repetition Frequency: Efficient Production of a VUV Frequency Comb," Conference on Lasers and Electro-Optics (CLEO), CLEO '05, Baltimore, Maryland, May 22-27, 2005. (Postdeadline presentation) (QPDA9)

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107. J. Ye, M. Stowe, A. Marian, T. Ido, M. Boyd, A. Ludlow, T. Zelevinsky, S. Blatt, and R. J. Jones, "Coherent control and precision spectroscopy in ultracold atoms," International Conference on Coherent and Nonlinear Optics/International Conference on Lasers, Applications, & Technologies (ICONO/LAT), Conference Program p. 115 (LSI2), St. Petersburg, Russia, May 11-15, 2005.

108. D. J. Jones, K. Holman, D. Hudson, and J. Ye, "Distribution of high-stability and low-jitter frequency signals over optical fiber networks," International Conference on Coherent and Nonlinear Optics/International Conference on Lasers, Applications, and Technologies (ICONO/LAT), Conference Program p. 121 (LSM1), St. Petersburg, Russia, May 11-15, 2005.

109. J. Ye, T. Ido, M. M. Boyd, A. D. Ludlow, T. Zelevinsky, S. Blatt, M. Stowe, A. Marian, and R. J. Jones, "Ultrafast-based precision measurements and control in ultracold world," The Canadian Association of Physicists 2005 Congress, University of British Columbia, Vancouver, June 5 – 8, 2005.

110. M. M. Boyd, T. Ido, A. D. Ludlow, T. Zelevinsky, S. Blatt, M. Notcutt, S. Foreman, and J. Ye, "Optical frequency standards based on ultra-cold strontium atoms," First European Space Agency (ESA) International Workshop on Optical Clocks, ESTEC (The Netherlands), June 8 – 10, 2005.

111. J. Ye, "Precision spectroscopy meets ultrafast control," The 17th International Conference on Laser Spectroscopy (ICOLS05), the Cairngorms National Park, Aviemore, Scotland, June 19 – 24, 2005.

112. J. Ye, "Precision measurements in atomic physics," 2005 Gordon Research Conference on Atomic Physics, Tilton, New Hampshire, June 26 – July 1, 2005. (Discussion leader)

113. T. Ido, M. M. Boyd, A. Ludlow, T. Zelevinsky, S. Blatt, S. Foreman, M. Notcutt, and J. Ye, "Optical atomic clocks based on ultracold neutral strontium atoms," International Conference on Quantum Electronics (IQEC2005), Tokyo, Japan, July 11 – 15, 2005.

114. J. Ye, "Control of coherent light: From precision spectroscopy to extreme nonlinear optics," 2005 IEEE LEOS Summer Topical Meeting on Optical Frequency & Time Measurement and Generation (OFTMAG), San Diego, California, July 25 – 27, 2005. (Conference Plenary)

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116. J. Ye, "New Optical Technologies for Control," 2005 Gordon Research Conference on Quantum Control of Light and Matter, Waterville, Maine, July 31 – August 5, 2005. (Discussion leader)

117. J. Ye, "Uniting ultrafast, ultracold and ultraprecision," 2005 Chinese Physical Society Annual Meeting, Wuhan, China, September 18 – 21, 2005. (Conference Plenary)

118. J. Ye, "Uniting ultrafast, ultracold and ultraprecision," Physics Colloquium, Shanxi Unversity, Taiyuan, September 15, 2005; Physics Colloquium, East China Normal University, Shanghai, September 21, 2005.

119. K. Moll, R. J. Jones, M. Thorpe, and J. Ye, "Coherent XUV generation using a passive optical cavity interacting with a femtosecond pulse train from a mode-locked laser," Ultrashort Pulse Laser Materials Interaction Workshop 2005, Directed Energy Professional Society, Boulder, Colorado, September 22 – 23, 2005.

120. R. J. Jones, K. Moll, M. Thorpe, and J. Ye, "High-harmonic generation at 100 MHz repetition frequency using a femtosecond enhancement cavity," Joint Conference on Ultrafast Optics V and Applications of High Field and Shortwavelength Sources XI (UFO/HFSW 2005), Nara, Japan, September 25 – 30, 2005. (M3-1)

121. J. Ye, "Precision measurement meets ultrafast science," Physics Colloquium, Stanford University, Stanford, California, October 4, 2005.

122. J. Ye, "Optical phase control from 10^{-15} s to 1 s: Precision measurement meets ultrafast science," The Amazing Light Young Scholars Competition, Symposium of Amazing Light: Visions for Discovery, Berkeley, California, October 6 – 8, 2005.

123. E. Hudson, B. Sawyer, and J. Ye, "Production of cold formaldehyde molecules for study and control of chemical reaction dynamics with hydroxyl radicals," European Cold Molecules Network meeting, Ringberg, Germany, October 19 – 22, 2005.

124. J. Ye, "Precision measurement meets ultrafast science," Colloquium, Max-Planck-Institut für Quantenoptik (MPQ), Garching, Germany, Oct. 24, 2005.

125. J. Ye, "Practical long range interferometry in optical fibers," Workshop on Quantum Repeaters for Long-Distance Quantum Communications, Cambridge, MA, November 3 – 4, 2005.

126. J. Ye, "Bridging precision measurement and coherent control," Colloquium, Department of Physics, Yale University, New Haven, CT, November 18, 2005.

127. J. Ye, "Ultracold Alkaline Earth Strontium atoms," AMO Seminar, Department of Physics, Yale University, New Haven, CT, November 18, 2005.

128. J. Ye, "Femtosecond frequency comb and real-time ultrasensitive spectroscopy," Chemical Physics Seminar series, California Institute of Technology, Pasadena, CA, November 29, 2005.

129. J. Ye and R. J. Jones, "Control of coherent light: From precision spectroscopy to extreme nonlinear optics," Australasian Conference on Optics, Lasers and Spectroscopy 2005 Meeting (ACOLS'05), Rotorua, New Zealand, December 6 – 9, 2005. (Conference Plenary)

130. J. Ye, "Uniting precision measurements and quantum control," International Conference on Quantum Optics, Hong Kong, December 16 – 20, 2005.

131. J. Ye, “The state-of-the-art in light control,” “Ultracold matters, Ultrastable lasers, Ultraprecise measurements, and Ultrafast dynamics,” Physics Seminar and Colloquium, Shanghai Jiao Tong University, December 21 – 22, 2005.

132. J. Ye, “Optical atomic clock based on ultracold fermionic strontium atoms,” The 36th Winter Colloquium on the Physics of Quantum Electronics, Snowbird, Utah, January 2 – 6, 2006.

133. J. Ye, “Ultrafast science united with optical frequency metrology,” Institute for Molecules & Materials, Radboud Universiteit Nijmegen, Nijmegen, the Netherlands, January 6, 2006.

134. J. Ye, “Uniting precision measurement and quantum control,” Physics Colloquium, New York University, New York, January 19, 2006.

135. J. Ye, “Cold molecules – Stark deceleration and precision spectroscopy,” Colloquium, James Franck Institute, University of Chicago, February 14, 2006.

136. J. Ye, “Uniting precision measurement and quantum control,” Physics Colloquium, University of Michigan, February 15, 2006.

137. J. Ye, “Uniting precision measurement and quantum control,” Physics Colloquium, University of Chicago, February 16, 2006.

138. E. R. Hudson, B. Sawyer, B. Lev, and J. Ye, “Precision spectroscopy with cold molecules,” Training School and Workshop on Achievements and Perspectives of Cold Molecules (COMOL’06/CATS’06), Les Houches, France, February 26 – March 10, 2006.

139. J. Ye, “Precision measurement meets ultrafast science,” Colloquium, Duke University, March 8, 2006.

140. J. Ye, “Cold molecules – Stark deceleration and precision spectroscopy,” Colloquium, University of Kentucky, March 10, 2006.

141. J. Ye, “Optical frequency combs: precision measurement meets ultrafast control,” March American Physical Society meeting, Baltimore, March 13-17, 2006.

142. J. Ye, “Precision measurement meets ultrafast science,” Colloquium, Department of Physics, Colorado School of Mines, April 3, 2006.

143. T. Ido, M. M. Boyd, A. D. Ludlow, T. Zelevinsky, S. M. Foreman, and J. Ye, “Ultracold Sr at JILA: Precision spectroscopy, optical clock, and future outlooks,” Workshop on Fundamental Physics, The Coseners House, Abingdon, UK, May 3 – 5, 2006.

144. J. Ye, “Precision measurement based on ultracold atoms and molecules,” International Workshop “From Quantum to Cosmos: Fundamental Physics Research in Space", Washington, D.C., May 22 – 24, 2006.

145. J. Ye, “Direct frequency comb spectroscopy – from precision measurement to real-time ultrasensitive detection,” Panel Session, 2006 Research Lab Expo (ReLEX), R&D Magazine, May 23 – 24, 2006.

146. R. J. Jones, K. Moll, M. J. Thorpe, and J. Ye, “100 MHz frequency combs in the XUV spectral region,” Conference on Lasers and Electro-Optics, CLEO ’06, Long Beach, California, May 21 – 26, 2006. (CFF4)

147. A. D. Ludlow, M. M. Boyd, T. Zelevinsky, S. M. Foreman, S. Blatt, T. Ido, and J. Ye, “Ultracold Strontium optical lattice clock,” Conference on Lasers and Electro-Optics, CLEO ’06, Long Beach, California, May 21 – 26, 2006. (postdeadline paper, CPDB11)

148. T. Ido, T. Zelevinsky, M. M. Boyd, A. D. Ludlow, J. Ye, R. Ciurylo, P. Naidon, and P. S. Julienne, “Narrow line photoassociation in an optical lattice,” Quantum Electronics and Laser Science Conference, QELS ’06, Long Beach, California, May 21 – 26, 2006. (postdeadline paper, QPDA2)

149. J. Ye, “Productions of cold molecules and their applications to precision measurement,” Workshop on dipolar gases, Max-Planck Institute, Dresden, Germany, May 29 – June 2, 2006.

150. J. Ye and S. M. Foreman, “Optical frequency measurement and synthesis,” 2006 IEEE International Ultrasonics, Ferroelectrics, and Frequency Control Joint Conference (FCS 2006), Miami, Florida, June 5 – 7, 2006. (Conference tutorial)

151. J. Ye, S. Blatt, M. M. Boyd, S. M. Foreman, T. Ido, A. D. Ludlow, and T. Zelevinsky, “Systematic study of the ^{87}Sr clock transition in an optical lattice,” 2006 IEEE International Ultrasonics, Ferroelectrics, and Frequency Control Joint Conference (FCS 2006), Miami, Florida, June 5 – 7, 2006.

152. J. Ye, “Enhancement cavity for femtosecond lasers – from ultrasensitive spectroscopy to XUV frequency comb,” 2006 Gordon Research Conference on Multiphoton Processes, Tilton, New Hampshire, June 11 – 16, 2006.

153. J. Ye, “Advances in Coherent Optical Spectroscopy,” OSA Topical Meeting on Coherent Optical Technologies and Applications, Whistler, BC, Canada, June 28 – 30, 2006.

154. J. Ye, “Precision measurement based on ultracold atoms and cold molecules,” 20th International Conference on Atomic Physics (ICAP 2006), Innsbruck, Austria, July 16 – 21, 2006.

155. M. J. Thorpe and J. Ye, “Femtosecond enhancement cavities for extreme nonlinear optics and molecular spectroscopy,” International Laser Physics Workshop (LPHYS'06), Lausanne, Switzerland, July 24 – 28, 2006.

156. J. Ye, “Femtosecond enhancement cavity – from real-time ultrasensitive spectroscopy to coherent extreme nonlinear optics,” XVth International Conference on Ultrafast Phenomena, Asilomar conference center, Monterey, California, July 31 – August 4, 2006.

157. J. Ye, “Precision measurement with ultracold atoms and molecules,” The 10th US-Japan Joint Seminar, Breckenridge, Colorado, August 23 – 25, 2006.

158. J. Ye, “Precision laser tools for societal needs,” Mile-Hi Optimist Club of Denver, August 31, 2006.

159. J. Ye, “Towards ultracold molecules – Laser cooling and magnetic trapping of neutral, ground-state, polar molecules for collision studies,” 2006 Atomic, Molecular, and Optical Sciences Research Meeting, U.S. Department of Energy, Airlie Conference Center, Warrenton, Virginia, September 10 – 13, 2006.

160. J. Ye and T. Schibli, “Spectroscopy at the ultimate resolution – precision test using cold atoms and molecules,” Gordon Research Conference on "Electronic Spectroscopy and Dynamics," Les Diablerets, Switzerland, September 10 – 15, 2006.

161. T. Ido, M. M. Boyd, A. D. Ludlow, T. Zelevinsky, S. M. Foreman, S. Blatt, T. Zanon-Willette, and J. Ye, “Sr optical lattice clock,” Ultracold Group II Atoms: Theory and Applications, ITAMP, Harvard University, September 18 – 20, 2006.

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164. M. J. Thorpe and J. Ye, "Cavity-enhanced optical frequency comb spectroscopy," American Chemical Society 232nd National Meeting & Exposition, San Francisco, California, September 10 – 14, 2006.

165. J. Ye, "Precision measurement using ultracold atoms and molecules," International Workshop on ADVANCES IN PRECISION TESTS AND EXPERIMENTAL GRAVITATION IN SPACE, Galileo Galilei Institute, Firenze, Italy, September 28 – 30, 2006.

166. J. Ye, "Novel applications of optical frequency combs," Workshop on OPTICAL FREQUENCY COMBS FOR SPACE APPLICATIONS, National Physical Laboratory, UK, October 2 – 3, 2006.

167. J. Ye, "Ultracold atoms and molecules for precision spectroscopy and measurement," Frontier in Optics 2006/Laser Science XXII/The 90th OSA Annual Meeting, Rochester, New York, October 9 – 12, 2006. OSA Conference Program p. 115 (LTuK2)

168. J. Ye, "Precision metrology and coherent atom-light interactions at one second time scale," US – Japan Workshop on Quantum Information Science, Maui, Hawaii, October 16 – 19, 2006.

169. J. Ye, "New frontiers in coherent optical spectroscopy," The 13th Laser Physics Workshop, Zhang-Jia-Jie, China, October 21 – 25, 2006.

170. B. Lev and J. Ye, "Cold molecules for precision spectroscopy," 379th Wilhelm und Else Heraeus Seminar on Cold Molecules, Bad Honnef, Germany, October 29 – November 02, 2006.

171. J. Ye, "Precise measurement and control of light – matter interactions," Colloquium, Department of Physics, University of Nevada, Reno, December 1, 2006.

172. J. Ye, "Optical phase coherence," Review of Attosecond Instrumentation MURI Project, University of California, Berkeley, December 11, 2006.

173. T. Schibli, D. Yost, M. J. Thorpe, D. Hudson, & J. Ye, "Femtosecond enhancement cavities," 37th Winter Colloquium on the Physics of Quantum Electronics, Snowbird, Utah, January 2–6, 2007.

174. B. Lev, B. C. Sawyer, B. K. Stuhl, and J. Ye, "Prospects for cavity-assisted laser cooling of Stark decelerated OH," The 37th Winter Colloquium on the Physics of Quantum Electronics, Snowbird, Utah, January 2 – 6, 2007.

175. J. Ye, "Precise measurement and control of light – matter interactions," Physics Colloquium, Northwestern University, Evanston, February 2, 2007.

176. J. Ye, "Femtosecond Optical Frequency Comb," OSA Student Chapter Seminar, CREOL, The College of Optics and Photonics, University of Central Florida, February 15, 2007.

177. J. Ye, "The art of light-based precision measurement," Henri Sack Memorial Lecture, School of Applied and Engineering Physics, Cornell University, February 21, 2007.

178. J. Ye, "Cold molecules – the new frontier in the ultracold world," Seminar Series of the Center for Nanoscale Systems, Cornell University, February 22, 2007.

179. J. Ye, "The art of light-based precision measurement," Physics Colloquium, Harvard University, Cambridge, March 19, 2007.

180. J. Ye, "Stable cold polar molecules," MIT-Harvard Center for Ultracold Atoms Seminar, MIT, Cambridge, March 20, 2007.

181. J. Ye, "Ultracold matters and phase coherent light – from precision measure to quantum control," Department of Physics & Astronomy, University of New Mexico, April 5, 2007.

182. J. Ye, "Stable cold polar molecules," Conference on "Correlated States in Degenerate Atomic Gases," Kavli Institute for Theoretical Physics, University of California at Santa Barbara, April 23 – 27, 2007.

183. J. Ye, “The art of precision measurement using light,” Physics Colloquium, University of Oregon, April 26, 2007.

184. E. R. Hudson and J. Ye, “Probing the Variation of Fundamental Constants with Polar Molecule Microwave Spectroscopy,” Fundamental Neutron Physics, March 19 - June 8, 2007, Seattle, April 27, 2007.

185. T. Zelevinsky and J. Ye, “Ultracold atoms in optical lattice – from precision measurement to quantum optics,” Quantum Electronics and Laser Science Conference, QELS’07, Baltimore, Maryland, May 7 – 11, 2007.

186. T. R. Schibli, D. D. Hudson, D. C. Yost, J. Ye, I. Hartl, A. Marcinkevicius, and M. E. Fermann, “4 x 10^{13} W/cm^2 at 136 MHz repetition rate from a cavity-enhanced Yb-similariton fiber laser,” Conference on Lasers and Electro-Optics, CLEO’07, Baltimore, Maryland, May 7 – 11, 2007. (postdeadline paper, CPDB3)

187. B. C. Sawyer and J. Ye, “Cold molecules for chemical reactions,” XXII Symposium on Molecular Beams, Freiburg, Germany, May 27 – June 1, 2007.

188. J. Ye, “Sr Optical Lattice Clocks at JILA,” The European Time and Frequency Forum and the IEEE International Frequency Control Symposium (EFTF-IEEE IFCS) Joint Meeting, Geneva May 29 – June 1, 2007.

189. J. Ye, “The art of light-based precision measurement,” I. I. Rabi Prize Lecture, American Physical Society, Division of Atomic, Molecular, and Optical Physics (DAMOP) Annual meeting, Calgary, Alberta, Canada, June 5 – 9, 2007. Bulletin Am. Phys. Soc. 52, pp. 12.

190. A. D. Ludlow, M. M. Boyd, T. Zelevinsky, S. Blatt, S. M. Foreman, G. Campbell, and J. Ye, “Highly stable and accurate Sr lattice clock,” 388. WE-Heraeus-Seminar “Atomic Clocks and Fundamental Constants”, Physikzentrum, Bad Honnef, Germany, June 3 – 7, 2007.

191. M. M. Boyd, G. Campbell, A. D. Ludlow, T. Zelevinsky, S. Blatt, S. M. Foreman, and J. Ye, “Optical lattice clock,” "From Quantum to Cosmos II: Space-based Research in Fundamental Physics and Quantum Technologies" Bremen, Germany, June 10 – 13, 2007.

192. J. Ye, “^{87}Sr Optical Lattice Clock,” Colloquium, Physikalisch-Technische Bundesanstalt (PTB), Braunschweig, Germany, June 18, 2007.

193. J. Ye, “Application of femtosecond frequency combs,” Presentation of the Carl Zeiss Research Award 2007, International Congress Center, Munich, Germany, June 20, 2007.

194. J. Ye, “Ultracold Strontium atoms in an Optical Lattice – Quantum Measurement and Clock,” 18th International Conference on Laser Spectroscopy (ICOLS-07), Telluride, Colorado, June 24 – 30, 2007.

195. J. Ye, “Experiments on the variation of fundamental constants – Lecture I: Light-based precision measurement with ultracold atoms,” and “Lecture II: Cold molecules and precision measurement,” Course on QUANTUM ENGINEERING WITH COLD ATOMS FOR LAB AND MICRO-G PHYSICS TESTS, International School of Physics “Enrico Fermi”, Italian Physical Society, Varenna, Italy, July 3 – 13, 2007.

196. J. Ye, “The art of light-based precision measurement,” Colloquium, University of Hannover, Germany, July 18, 2007.

197. I. Hartl, A. Marcinkevicius, M. E. Fermann, T. R. Schibli, D. D. Hudson, D. C. Yost, and J. Ye, “Xe Plasma Generated by a Cavity Enhanced Yb-Similariton Laser Based Fiber Frequency Comb,” Nonlinear Optics: Materials, Fundamentals, and Applications (OSA Topical Meeting), Kona, Hawaii, July 30 – August 3, 2007. (Paper ThB3)

198. J. Ye, "Coherent control applied to cold molecules," International Workshop on Coherent Control of Ultracold Molecular Processes, University of British Columbia, Vancouver, August 1 – 4, 2007.

199. J. Ye, "Ultracold Sr atoms – quantum measurement and optical atomic clock," and "Ultracold polar molecules," Summer School on Experimental Cold Atomic & Molecular Physics, Shanghai, China, July 29 – Aug. 10, 2007.

200. T. R. Schibli and J. Ye, "Femtosecond enhancement cavity and XUV frequency comb," International Laser Physics Workshop (LPHYS'07), Leon, Mexico, August 20 – 24, 2007.

201. G. K. Campbell, M. M. Boyd, A. D. Ludlow, T. Zelevinsky, S. Blatt, S. M. Foreman, T. Zanon, and J. Ye, "Ultra-high resolution spectroscopy with a ^{87}Sr optical lattice clock," SPIE Optics + Photonics 2007, San Diego, California, August 26 – 30, 2007. [6673-11, Proceedings p. 88]

202. S. M. Foreman, A. D. Ludlow, M. M. Boyd, S. Blatt, T. Zelevinsky, G. K. Campbell, J. Ye, J. E. Stalnaker, and S. A. Diddmas, "Frequency and timing transfer for an ^{87}Sr optical clock," SPIE Optics + Photonics 2007, San Diego, California, August 26 – 30, 2007. [6673-17, p. 89].

203. A. Pe'er and J. Ye, "Comb-based coherent control in cold molecules," Conference on Laser Frequency Comb and Coherent Control, Brijuni, Croatia, August 26 – 31, 2007.

204. M. J. Thorpe and J. Ye, "Ultrasensitive, wide-bandwidth trace detection," Conference on Laser Frequency Comb and Coherent Control, Brijuni, Croatia, August 26 – 31, 2007.

205. A. D. Ludlow and J. Ye, "Narrow linewidth laser and Sr lattice clocks at JILA," 2nd ESA International Workshop on Optical Atomic Clocks, ESA/ESRIN, Frascati, Rome, Italy, October 10 – 12, 2007.

206. S. M. Foreman and J. Ye, "Remote transfer of ultrastable frequency references via fiber networks," 2nd ESA International Workshop on Optical Atomic Clocks, ESA/ESRIN, Frascati, Rome, Italy, October 10 – 12, 2007.

207. J. Ye, "The art of light-based precision measurement," Colloquium, University of Georgia, Athens, Georgia, November 1, 2007.

208. J. Ye, "Quantum metrology with precision light and ultracold atoms," Colloquium, Pennsylvania State University, University Park, Pennsylvania, December 13, 2007.

209. J. Ye, "Quantum metrology with precision light and ultracold atoms," Colloquium, California Institute of Technology, Pasadena, California, January 17, 2008.

210. M. M. Boyd, A. D. Ludlow, T. Zelevinsky, S. M. Foreman, S. Blatt, G. K. Campbell, T. Zanon, M. H. Miranda, M. Martin, and J. Ye, "Neutral atom optical clock with high precision and accuracy," OPTO 2008, SPIE Photonics West, San Jose, California, January 19 – 24, 2008. (Invited paper 6906-16)

211. J. Ye, "Science with ultracold molecules," Plenary Lecture, Winter School of Asian Core Program, Okazaki, Japan, January 24 – 26, 2008.

212. J. Ye, "Art of control in the light-matter interactions," DARPA DSO Overview, Keswick Hall, Charlottesville, Virginia, January 29, 2008.

213. J. Ye, "The Sr optical atomic clock," Colloquium, Harvey Mudd College, Claremont, California, February 19, 2008.

214. S. Ospelkaus, A. Pe'er, K.-K. Ni, J. J. Zirbel, B. Neyenhuis, S. Kotochigova, P. S. Julienne, D. S. Jin, and J. Ye, "Precision quantum control for ultracold polar molecules," Batsheva de Rothschild Seminar on Ultracold – Ultrafast Processes, Ein Gedi, Dead Sea, Israel, February 24 – 29, 2008.

215. J. Ye, "Precision quantum metrology with lattice-confined ultracold atoms," Collège de France Seminar, Paris, March 3, 2008.

216. J. Ye, "Cold and ultracold polar molecules," Focus Session on Photophysics of Cold Molecules, American Physical Society Spring Meeting, New Orleans, Louisiana, March 10 – 14, 2008. Program Guide pp. 202.

217. M. J. Martin and J. Ye, "An introduction to noise in cavity-based laser frequency stabilization," Optical Coating Workshop, California Institute of Technology, Pasadena, CA, March 20 – 21, 2008.

218. J. Ye, "Precise control of light and matter for precision measurement," Colloquium, University of Arizona, Tucson, Arizona, March 27, 2008.

219. S. Blatt and J. Ye, "Laboratory measurements of time variations of α and m_e/m_p," Workshop on "Atomic and Molecular Physics of the Early Universe", ITAMP, Harvard University, March 31 – April 2, 2008.

220. J. Ye, "Precision Quantum Metrology and Optical Atomic Clock," Workshop on "Coherence, squeezing and entanglement for precision measurements with quantum gases," Levico Terme (Trento), Italy, April 3 – 5, 2008.

221. J. Ye, "Cold and ultracold polar molecules," Cold Quantum Matter (EuroQUAM) Inauguration Conference, Barcelona, Spain, April 7 – 9, 2008. (Keynote talk)

222. A. D. Ludlow and J. Ye, "Sr optical lattice clock," NIST Time and Frequency Division monthly seminar, Boulder, Colorado, April 17, 2008.

223. F. Adler, M. J. Thorpe, K. C. Cossel, and J. Ye, "Tomography of a Supersonically Cooled Molecular Jet by Direct Frequency Comb Spectroscopy," Quantum Electronics and Laser Science Conference, CLEO/QELS 2008, San Jose, California, May 4 – 9, 2008. (postdeadline paper, QPDA1)

224. D. C. Yost, T. R. Schibli, and J. Ye, "Overcoming the Power Scalability Limit in Intracavity HHG," Conference on Lasers and Electro-Optics, CLEO/QELS 2008, San Jose, California, May 4 – 9, 2008. (postdeadline paper, CPDA10)

225. J. Ye, "Precision quantum metrology," Quantum Seminars, Quantum Institute, Los Alamos National Laboratory, Los Alamos, New Mexico, May 15, 2008.

226. A. D. Ludlow and J. Ye, "Sr optical lattice clock," 2008 IEEE International Frequency Control Symposium, Honolulu, Hawaii, May 19 – 21, 2008.

227. S. Ospelkaus, A. Pe'er, K.-K. Ni, J. J. Zirbel, B. Neyenhuis, S. Kotochigova, P. S. Julienne, J. Ye, and D. S. Jin, "Ultracold dense gas of heteronuclear deeply bound molecules," 39th Annual Meeting of the Division of Atomic, Molecular & Optical Physics (DAMOP), American Physical Society, State College, Pennsylvania, May 27 – 31, 2008. (K2 1) Bulletin Am. Phys. Soc. 53, No.7, pp. 76.

228. J. W. Thomsen, G. K. Campbell, A. D. Ludlow, S. Blatt, M. J. Martin, T. Zelevinsky, T. Zanon, M. M. Boyd, and J. Ye, "Strontium Optical Lattice Clock with high Accuracy and Stability," Conference on Precision Electromagnetic Measurements (CPEM 2008), Broomfield, Colorado, June 8 – 13, 2008.

229. J. Ye, "Art of light-based precision measurement," "Optical lattice of Sr," "Cold and Ultracold molecules," Quantum Foundations and Quantum Information Summer School, Ann Arbor, Michigan, June 16 – 28, 2008.

230. J. Ye, "Optical Atomic Clocks," IdeaCity08 – *Ideas Change the World*, Toronto, Canada, June 18 – 20, 2008.

231. J. Thomsen, S. Blatt, G. Campbell, A. D. Ludlow, M. J. Martin, T. Zelevinsky, M. M. Boyd, and J. Ye, "High accuracy ^{87}Sr optical lattice clock for laboratory measurements of α variation," *From*

Quantum to Cosmos III: Space-Based Research in Fundamental Physics for the Next Decade, Airlie Center, Virginia, July 6 – 10, 2008.

232. J. Ye, "Polar molecules – a new frontier for ultracold matter," The 3rd International Symposium on Cold Atom Physics (ISCAP-III), Wuhan Institute of Physics and Mathematics (WIPM), Chinese Academy of Sciences (CAS), July 10 – 12, 2008.

233. J. Ye, "Measurement of time-variation of physical constants," Precision Measurement – Physics and Methods, XiangShan Meeting, Wuhan, July 13 – 15, 2008.

234. J. W. Thomsen, S. Blatt, G. Campbell, A. D. Ludlow, M. J. Martin, T. Zelevinsky, M. M. Boyd, and J. Ye, "High accuracy ^{87}Sr atomic lattice clock for laboratory measurements of alpha variation," Workshop, *In search of variation of fundamental couplings and mass scales*, Perimeter Institute for Theoretical Physics, Waterloo, Canada, July 14 – 18, 2008.

235. J. Ye, "Precision measurement, Part I and Part II," Summer School for the 21st International Conference on Atomic Physics (ICAP 2008), Cambridge, Massachusetts, July 20 – 25, 2008.

236. J. Ye, "Quantum metrology with ultracold strontium," XXI International Conference on Atomic Physics (ICAP 2008), Storrs, Connecticut, July 27 – August 1, 2008.

237. G. K. Campbell and J. Ye, "Sr optical atomic clock," International Union of Radio Science (URSI) 2008 General Assembly, Oral Presentations Program, Chicago, August 07 – 16, 2008.

238. T. Zelevinsky, G. K. Campbell, S. Blatt, A. D. Ludlow, M. M. Boyd, M. J. Martin, J. Thomsen, and J. Ye, "Strontium Optical Lattice Clock," Fifth International Symposium "*Modern Problems of Laser Physics*", Akademgorodok, Novosibirsk, Russia, August 24 – 30, 2008.

239. D. C. Yost and J. Ye, "Phase-coherent high power fiber-laser based optical frequency combs," 3rd EPS-QEOD EUROPHOTON CONFERENCE, Special Symposium "Extreme light sources in measurement and sensing", Paris, France, August 31 – September 5, 2008.

240. J. Ye, "Optical clocks and applications," Stanford Photonics Research Center Symposium, Stanford University, September 15 – 17, 2008. (Plenary Talk)

241. J. Ye, "Precision quantum metrology," Physics & Applied Physics Colloquium, Stanford University, Palo Alto, California, September 30, 2008.

242. J. Ye, "Quantum metrology with lattice-confined ultracold Sr atoms," 7th Symposium on Frequency Standards and Metrology, Asilomar, Pacific Grove, California, October 5 – 11, 2008.

243. J. Ye, "Optical atomic clocks," AVS 55th International Symposium & Exhibition, Industrial Physics Forum (American Institute of Physics,), Boston, Massachusetts, October 19 – 21, 2008.

244. J. Ye, "Ultracold polar molecules," Colloquium, MIT, Cambridge, MA, Oct. 23, 2008.

245. J. Ye, "Cold and ultracold molecules," Laser Science XXIV Conference/OSA Annual meeting, Rochester, New York, October 19 – 24, 2008.

246. J. Ye, "Atoms in a chain – a new time keeper," JILA Colloquium, November 11, 2008.

247. J. Ye, "Quantum metrology at the highest precision," Colloquium, Centre for Quantum Technologies, National University of Singapore, Singapore, December 2, 2008.

248. J. Ye, "Ultracold polar molecules," 14th Laser Science Workshop, Guangzhou, December 4 – 7, 2008.

249. J. Ye, "Cold molecules," Colloquium, East China Normal University, Shanghai, Dec. 8, 2008.

250. J. Ye, "Ultracold Sr atoms in optical lattice – from precision metrology to quantum information science," ITAMP WORKSHOP, "Non-equilibrium dynamics and correlations in strongly

interacting atomic, optical and solid state systems" Cambridge, Massachusetts, January 26 – 28, 2009.

251. J. Ye, "Cold molecules and spectroscopy," R. B. Woodward Lecture in the Chemical Sciences/Physical Chemistry, Harvard University, Cambridge, January 29, 2009.

252. J. Ye, "Cold molecules and spectroscopy," Physical Chemistry Seminar, University of California, Berkeley, CA, February 10, 2009.

253. J. Ye, "Quantum metrology with ultracold atoms," Physics Colloquium, ETH Zürich, March 4, 2009.

254. S. Ospelkaus, K.-K. Ni, M. H. G. de Miranda, B. Neyenhuis, D. Wang, S. Kotochigova, P. S. Julienne, D. S. Jin, and J. Ye, "Ultracold polar molecules near quantum degeneracy," American Physical Society March Annual Meeting, Pittsburgh, PA, March 16 – 20, 2009.

255. J. Ye, "Cold and ultracold molecules," Colloquium, University of Toledo, Toledo, Ohio, March 26, 2009.

256. J. Ye, "Precision quantum metrology and optical atomic clock," Niels Bohr Lecture, Niels Bohr Institute, University of Copenhagen, Denmark, April 15, 2009.

257. J. Ye, "Ultracold polar molecules near quantum degeneracy," Faraday Discussion 142: Cold and Ultracold Molecules, Durham University, United Kingdom, April 15 – 17, 2009.

258. J. Ye, "Cold and ultracold polar molecules," Cold Quantum Matter (EuroQUAM) Conference, Durham, United Kingdom, April 18, 2009.

259. M. D. Swallows and J. Ye, "Sr optical lattice clock – precision measurement of fermionic collisions," European Frequency and Time Forum & International Frequency Control Symposium (EFTF–IFCS 2009 Joint Conference), Besancon, France, April 20 – 24, 2009.

260. J. Ye, "Quantum metrology with ultracold atoms," Colloquium, Ohio State University, Columbus, Ohio, May 12, 2009.

261. K.-K. Ni, S. Ospelkaus, D. Wang, M. Miranda, B. Neyenhuis, A. Pe'er, J. Zirbel, S. Kotochigova, P. Julienne, J. Bohn, J. Ye, and D. Jin, "Ultracold polar molecules," 40th Annual Meeting of the Division of Atomic, Molecular & Optical Physics (DAMOP), American Physical Society, Charlottesville, Virginia, May 19 – 23, 2009. (Q1 1) Bulletin Am. Phys. Soc. 54, No.7, pp. 99.

262. M. J. Martin and J. Ye, "Optical atomic clocks for space applications," Space-Time Anisotropy Tests (STAT) Workshop, Stanford University, Pala Alto, California, May 28 – 29, 2009.

263. F. Adler, K. C. Cossel, M. J. Thorpe, I. Hartl, M. E. Fermann, and J. Ye, "Phase-stabilized, 1.5-W mid-infrared frequency comb," Conference on Lasers and Electro-Optics and International Quantum Electronics Conference, CLEO/QELS 2009, Baltimore, Maryland, May 31 – June 5, 2009. (postdeadline paper, CPDA9)

264. J. Ye and D. S. Jin, "Ultracold molecules," 19th International Conference on Laser Spectroscopy (ICOLS09), Kussharo Hokkaido, Japan, June 7 – 13, 2009.

265. K. C. Cossel, F. Adler, M. J. Thorpe, and J. Ye, "Phase-stabilized, 1.5-W frequency comb at 2.8 to 4.8 μm," Middle Infrared Coherent Sources (MICS'2009), Trouville, France, June 8 – 12, 2009.

266. J. Ye, "Precision quantum metrology and optical clocks," The Nordic Physical Societies, First Common Meeting, Copenhagen, Denmark, June 16 – 18, 2009. (Plenary Talk)

267. J. Ye, "Cold and ultracold polar molecules," Seminar, Physikalisch-Technische Bundeanstalt (PTB), Braunschweig, Germany, June 19, 2009.

268. J. Ye, "Precision measurement with ultracold atoms," OSA Traveling Lecture, Humboldt University, Berlin, Germany, June 22, 2009.

269. J. Ye, "Cavity-enhanced direct frequency comb spectroscopy," 2009 Ohio State University International Symposium on Molecular Spectroscopy, Columbus, Ohio, June 22–26, 2009.

270. B. Sawyer and J. Ye, "Cold molecule collisions," Kyoto Workshop on Cold/Ultracold Molecules and Field Effects, Kyoto, Japan, June 22 – 26, 2009.

271. J. Ye, "Cold and ultracold polar molecules," 2009 Atomic Physics Gordon Research Conference, Tilton, New Hampshire, June 28 – July 3, 2009.

272. D. C. Yost and J. Ye, "Interference of quantum trajectories in high harmonic generations," SIAM (Society for Industrial and Applied Mathematics) Annual Meeting, Denver, Colorado, July 6 – 10, 2009.

273. S. Ospelkaus, K.-K. Ni, M. H. G. de Miranda, B. Neyenhuis, D. Wang, G. Quéméner, J. Bohn, J. Ye, and D. S. Jin, "Dipolar collisions in a quantum gas of polar molecules," Cold Molecules Workshop, JILA, Boulder, Colorado, July 15 – 17, 2009.

274. J. Ye, "Coherent frequency combs and spectroscopy – from far IR to XUV," Second International Conference on Attosecond Physics, Manhattan, Kansas, July 28 – August 1, 2009. (Overview talk)

275. J. Ye, "Precision Quantum Metrology and Cold Molecules," The 6th joint meeting of Chinese Physicists Worldwide (OCPA6) – International Conference on Physics Education and Frontier Physics Research, Lanzhou, China, August 3 – 7, 2009. (Plenary Talk)

276. D. C. Yost and J. Ye, "XUV frequency comb," Ultrafast Optics/High Field Short Wavelength, Arcachon, France, August 31 – September 4, 2009. (Plenary Talk)

277. J. Ye and D. S. Jin, "Dipolar molecular gas near quantum degeneracy," BEC 2009 Conference (Bose-Einstein Condensation 2009: Frontiers in Quantum Gases), Sant Feliu de Guixols (Costa Brava), Spain, September 5 – 11, 2009.

278. G. K. Campbell and J. Ye, "Precision measurement of fermionic collisions with an ^{87}Sr optical lattice clock," Workshop on Ultracold Group II Atoms: Theory and Applications, Joint Quantum Institute, University of Maryland, September 17 – 19, 2009.

279. D. S. Jin and J. Ye, "Polar molecules near quantum degeneracy," The Kavli Institute for Theoretical Physics China (KITPC), Chinese Academy of Sciences, Research Program, *Condensed Matter Physics of Cold Atoms: Cold molecules and quantum dipolar gases*, Beijing, October 19 – 23, 2009.

280. J. Ye, "Precision Quantum Metrology," Colloquium, Rice University, Houston, Texas, November 18, 2009.

281. J. Ye, "Polar molecules near quantum degeneracy," Colloquium, University of California at Berkeley, November 30, 2009.

282. J. Ye, "Frequency combs and ultrahigh precision measurement," OSA Traveling Lecture, University of Maryland, Baltimore County, Baltimore, Maryland, December 14, 2009.

283. J. Ye and D. S. Jin, "Polar molecules – dipolar collisions and ultracold chemistry," The 40th Winter Colloquium on the Physics of Quantum Electronics, Snowbird, Utah, January 3 – 7, 2010. (Plenary Talk)

284. M. J. Martin and J. Ye, "Sr optical lattice clock," International Conference on Cold Ions and Atoms, Vedic Village, Kolkata, India, January 18 – 21, 2010.

285. J. Ye, "Ultracold dipolar molecules," Colloquium, Physics Department, University of Illinois at Urbana-Champaign, Urbana, IL, February 17, 2010.

286. J. Ye, "Direct frequency comb spectroscopy," Focus Session on *New Trends in Spectroscopy*, American Physical Society March meeting, Portland, March 15 – 19, 2010.

287. D. S. Jin and J. Ye, "Ultracold Chemistry," American Physical Society March Meeting, Press Conferences, Portland, Oregon, March 15 – 19, 2010.

288. J. Ye, "Coherent frequency combs and spectroscopy – from far IR to XUV," The 239th National Meeting of the American Chemical Society, Symposium of *Measuring and manipulating condensed phase chemistry in time and frequency: Celebrating 50 years of the laser*, San Francisco, California, March 21 – 25, 2010.

289. J. Ye, "Quantum gas of polar molecules," Colloquium, Physics Department, University of California at Los Angeles (UCLA), April 1, 2010.

290. J. Ye, "Cold and Ultracold Polar Molecules," Jet Propulsion Laboratory, California Institute of Technology, Pasadena, California, April 12, 2010.

291. J. Ye, "Polar molecules in the quantum regime," Workshop, *Coherence in Ultracold Molecular Physics*, University of British Columbia, Vancouver, May 20 – 23, 2010.

292. J. Ye, "Coherent frequency combs and spectroscopy," 2010 Annual Meeting of the Division of Atomic, Molecular & Optical Physics (DAMOP), American Physical Society, Houston, Texas, May 25 – 29, 2010. Bulletin Am. Phys. Soc. 55, No. 5, p. 64 (2010).

293. J. Ye, "Precision Quantum Metrology & Optical Clocks," Graduate Student Symposium – Celebrating the 50th anniversary of laser, 41st Annual Meeting of the Division of Atomic, Molecular & Optical Physics (DAMOP), APS, Houston, May 25 – 29, 2010.

294. D. Meiser, J. Ye, and M. J. Holland, "Prospects for milli-hertz linewidth lasers using collective emission," 2010 IEEE International Frequency Control Symposium (IFCS), Newport Beach, California, June 1 – 4, 2010.

295. J. Ye, "VUV and XUV frequency combs," 2010 Gordon Research Conference on Multiphoton Processes, Tilton School, Tilton, New Hampshire, June 6 – 11, 2010.

296. D. Wang, D. Jin, and J. Ye, "Quantum gas of polar molecules," 2010 Annual Los Alamos Center for Nonlinear Studies Conference: *Complexity and Disorder at Ultra-low Temperatures*, Santa Fe, New Mexico, June 21 – 25, 2010.

297. J. Ye, "Precision Quantum Metrology and many-body physics," The 4th International Symposium on Cold Atom Physics (ISCAP-IV), Zhoushan, China, July 5 – 8, 2010.

298. D. Felinto and J. Ye, "Direct frequency comb spectroscopy," Latin America Optics and Photonics Conference (LAOP), Recife, Brazil, September 27 – 30, 2010.

299. T. Allison, D. C. Yost, A. Cingöz, A. Ruel, and M. E. Fermann, I. Hartl, and J. Ye, "The Extreme Ultraviolet Frequency Comb and Prospects for X-ray Combs," Workshop on Evolution and Control of Complexity: Key Experiments Using Sources of Hard X-rays, The Advanced Photon Source/Argonne National Laboratory, October 11 – 13, 2010.

300. J. Ye, "Polar molecules in the quantum regime," Kavli Institute for Theoretical Physics Conference: *Frontiers of Ultracold Atoms and Molecules*, Santa Barbara, October 11 – 15, 2010.

301. J. Ye, "Optical clock with collisional shift at 10^{-17}," NASA ISS (International Space Station) Workshop on Fundamental Physics, Dana Point, California, Oct. 13 – 15, 2010.

302. J. Ye, "Optical clock with lattice-confined Sr atoms," Optical Society of America Annual Meeting: Frontiers in Optics 2010, Rochester, New York, October 24 – 28, 2010.

303. J. Ye, "Polar molecules - dipolar collisions and ultracold chemistry," Physics and Mathematics Colloquium, University of New Mexico, October 29, 2010.

304. J. Ye, "Polar molecules in the quantum regime," Physics Colloquium, University of Delaware, November 3, 2010.

305. J. Ye, “Precision quantum metrology and optical atomic clock,” Physics Colloquium, Michigan State University, November 4, 2010.

306. J. Ye, “Molecular quantum gas,” Chemistry Colloquium, Princeton University, Nov. 23, 2010.

307. J. Ye, “Molecules in the quantum regime,” 15th Laser Science Workshop, Hainan, Dec. 1–5, 2010.

308. B. Neyenhuis, D. Jin, and J. Ye, “Quantum gas of polar molecules,” 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem), Honolulu, Hawaii, December 15 – 20, 2010.

309. J. Ye, “Suppression of clock shifts at 1E-17 due to strong-interactions,” International Conference on Ultracold Atoms and Molecules (ERATO Macroscopic Quantum Control), University of Tokyo, January 24 – 26, 2011.

310. J. Ye, “Molecules in the quantum regime,” Quantum Optics and New Materials (IV), Beijing Computational Science Research Center, Beijing, January 26 – 30, 2011.

311. J. Ye, “Polar molecules in the quantum regime,” Department of Chemistry, California Institute of Technology, February 15, 2011.

312. A. Ruehl, M. E. Fermann, I. Hartl, A. Cingöz, D. C. Yost, and J. Ye, “High Power Fiber Laser Frequency Combs for XUV Spectroscopy,” Optical Society of America, Fiber Laser Applications (FILAS), Istanbul, Turkey, February 16 – 17, 2011.

313. J. Ye, “Cold molecules,” Lectures in Modern Chemistry Series, University of British Columbia, Simon Fraser University, and University of Victoria, March 7, 8, & 9, 2011.

314. J. Ye, “A strongly interacting optical lattice clock,” The Optical Society of America Boulder Chapter, University of Colorado, March 17, 2011.

315. J. Ye, “New opportunities for precision spectroscopy,” Faraday Discussions on “Frontiers in Spectroscopy” University of Basel, Switzerland, April 6 – 8, 2011.

316. J. Ye, “Dipolar quantum matter,” IFRAF-Fermi Mixture Workshop, École Normale Supérieure, Paris, April 13 – 15, 2011.

317. J. Ye, “Suppression of collisional shifts in a strongly interacting lattice clock,” Joint IEEE International Frequency Control Symposium (IFCS) and European Frequency and Time Forum (EFTF), San Francisco, California, May 1 – 5, 2011.

318. J. Ye, “Frequency comb spectroscopy – from IR to XUV,” OSA/SPIE Student Chapter, Stanford University, Stanford, California, May 5, 2011.

319. P. Maslowski, A. Foltynowicz, F. Adler, K. C. Cossel, T. C. Briles, T. Ban, and J. Ye, “Mid-infrared frequency comb spectroscopy,” Conference on Lasers and Electro-Optics (CLEO), Baltimore, Maryland, May 2 – 6, 2011.

320. J. Ye, “Molecules in the quantum regime,” 66th OSU International Symposium on Molecular Spectroscopy, Columbus, Ohio, June 20 – 24, 2011. (Plenary)

321. A. Foltynowicz and J. Ye, “Cavity-enhanced optical frequency comb spectroscopy,” Cavity Enhanced Spectroscopy Conference, Kingston, Canada, June 26 – 29, 2011. (Plenary)

322. J. Ye, “Frequency combs and spectroscopy - from IR to XUV,” Extreme Photonics Summer School, Ottawa, Canada, June 24 – 30, 2011.

323. J. Ye, “Quantum metrology with ultracold atoms – a strongly interacting optical lattice clock,” The Forty Third Conference of the European Group on Atomic Systems (EGAS-43), Fribourg, Switzerland, June 28 – July 2, 2011. (Plenary Talk, pp.02)

324. D. S. Jin and J. Ye, “Molecular collisions and reactions in the quantum regime,” Dynamics of Molecular Collisions Conference, Snowbird, Utah, July 10 – 15, 2011.

325. T. Ban, A. Foltynowicz, P. Maslowski, D. Aumiler, G. Pichler, and J. Ye, "Direct frequency comb spectroscopy: time and frequency domain approach," The Forty Third Conference of the European Group on Atomic Systems (EGAS-43), Fribourg, Switzerland, June 28 – July 2, 2011. (pp.19)

326. J. Ye, "Frequency combs from mid-IR to XUV," OSA Topical Meeting on Nonlinear Optics, Kaua'I Marriott resort, Lihue-Kauai, Hawaii, July 17 – 22, 2011.

327. J. Ye, "Coherent control for cold molecules," Gordon Research Conference on Quantum Control of Light and Matter, Mt. Holyoke College, Massachusetts, Jul. 31 – Aug. 5, 2011.

328. J. Ye, "Frequency combs and spectroscopy - from IR to XUV," OSA Traveling Lecture, OSA Student Chapter of Griffith University, Brisbane, Australia, August 22, 2011.

329. J. Ye, "Polar molecules in the quantum regime," Physics Colloquium, Swinburne University, Australia, August 24, 2011.

330. J. Ye, "Molecules are quantum – chemistry near Absolute Zero," Director's Colloquium, College of Physical & Mathematical Sciences, Australian National University, Canberra, Australia, August 25, 2011.

331. J. Ye, "Outlook of quantum optics for precision measurement," Symposium of QUANTUM OPTICS – The Next 25 Years, Australian National University, Canberra, Australia, August 27, 2011.

332. J. Ye, "Quantum metrology – optical atomic clocks and many-body physics," International Conference on Quantum Electronics/Conference on Lasers and Electro-Optics Pacific Rim (IQEC/CPR 2011), Sydney, Australia, August 29 – September 1, 2011. (Plenary)

333. J. Ye, "Molecules in the quantum regime," Colloquium, The University of New South Wales, Sydney, Australia, August 30, 2011.

334. J. Ye, "Molecular collisions and reactions near Absolute Zero," Conference on Molecular Energy Transfer (COMET), Oxford University, UK, September 11 – 16, 2011.

335. A. Foltynowicz-Matyba and J. Ye, "Frequency comb spectroscopy and applications," Field Laser Applications in Industry and Research (FLAIR) Conference, Murnau Germany, Sept 13 – 17, 2011.

336. K. C. Cossel, A. Foltynowicz, P. Masłowski, T. Ban, F. Adler, and J. Ye, "Mid-infrared and cavity-enhanced FTIR frequency comb spectroscopy," Symposium on *A Revolution in Spectroscopy by the Optical Frequency Combs*, Tsukuba, Japan, September 26, 2011.

337. J. Ye, "Precision measurements in many-particle systems," Annual Meeting, the Four Corners Section, American Physical Society, Tucson, Arizona, October 21 – 22, 2011.

338. J. Ye, "Optical Atomic Clocks & Absolute-Zero Chemistry – Probing Quantum Matter with Precision Light," The 25th Year Celebration of the Multi-University Research Initiative Program, Department of Defense, Washington D.C., Nov. 9, 2011.

339. J. Ye, "Frequency comb spectroscopy - from IR to extreme ultraviolet," Joint Seminar Series at Lund Laser Centre (LLC), "Quantum metrology with ultracold atoms - Optical atomic clocks," Physics Seminar, Lund University, Sweden, November 14 – 15, 2011.

340. J. Ye, "Quantum metrology–optical atomic clocks with ultracold matter," OSA Traveling Lecture, OSA Student Chapter, Autonomous University of San Luis Potosi, Mexico, November 23, 2011.

341. J. Ye, "Optical atomic clocks and chemistry near absolute zero – probe and control quantum matter with light," Colloquium, International Center for Quantum Materials, Peking University, December 23, 2011. East China Normal University, Dec. 29, 2011.

342. J. Ye, "Direct frequency comb spectroscopy in the XUV," Atomic and Molecular Physics Program, AFOSR, Arlington, VA, January 5 – 6, 2012.

343. J. Ye, "Ultracold physics and ultrafast technology," Inaugural Winter School on Atomic, Molecular and Optical Physics, B2 Institute, Biosphere 2 Campus, University of Arizona, Tucson, Arizona, January 8 – 13, 2012. (Organized by: ITAMP & B2 Institute)

344. J. Ye, "Ultracold molecules," Purdue University Physical Chemistry Series, Feb. 22, 2012.

345. J. Ye, "Precision quantum metrology with optical clocks and many-body physics," Tutorial, American Physics Society March Meeting, Boston, MA, Feb. 26, 2012.

346. J. Ye, "Many-body physics with ultracold alkaline-earth fermions in optical lattices," American Physics Society March Meeting, Boston, MA, Feb. 28, 2012.

347. F. Adler, P. Maslowski, A. Foltynowicz, T. Ban, K. C. Cossel, and J. Ye, "Frequency comb spectroscopy in the mid-infrared for gas analysis," PITTCON, Specialty Gas Analysis Session, Philadelphia, PA, March 17 – 21, 2012.

348. J. Ye, "Probing and controlling quantum matter with precision light," Department of Physics, Columbia University, New York, March 29, 2012.

349. J. Ye, "Molecules are quantum: chemistry near absolute zero," Northwestern University Colloquium, March 30, 2012.

350. J. Ye, "Ultracold molecules," 4th annual Kent R. Wilson Lecture (Physical Chemistry), University of California at San Diego, April 3, 2012.

351. J. Ye, "Precision metrology and control of quantum matter with light," Annual Meeting, National Academy of Sciences, Washington DC, US, April 28, 2012.

352. J. Ye, "Frequency comb spectroscopy from mid-infrared to extreme ultraviolet," Conference Tutorial, Conference on Lasers and Electro-Optics (CLEO), San Jose, California, May 6-11, 2012.

353. J. Ye, "Precision metrology and many-body quantum physics," *Frontier of Cold Atoms and Related Topics*, The Chinese University of Hong Kong and Hong Kong University of Science and Technology, Hong Kong, May 14 – 17, 2012.

354. A. M. Rey, M. J. Martin, M. D. Swallows, M. Bishof, C. Benko, S. Blatt, J. Von Stecher, A. Gorshkov, and J. Ye, "Probing many-body spin interactions with an optical lattice clock," IEEE International Frequency Control Symposium, Baltimore, May 21 – 24, 2012.

355. P. Maslowski, A. Foltynowicz, T. Ban, K. C. Cossel, and J. Ye, "Optical frequency comb as a new tool for broadband high resolution spectroscopy," 21st International Conference on Spectral Line Shapes (ICSLS), St. Petersburg, Russia, June 3 – 8, 2012.

356. M. J. Martin, M. D. Swallows, M. N. Bishof, C. A. Benko, J. von Stecher, A. M. Rey, J. Ye, T. Kessler, C. Hagemann, U. Sterr, and F. Riehle, "Ultrastable lasers for precision spectroscopy in a ^{87}Sr optical lattice clock," 43rd Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics (DAMOP), Anaheim, California, June 4 – 8, 2012. Bulletin Am. Phys. Soc. **57**, pp. 35 (2012).

357. A. Cingöz, T. Allison, D. Yost, C. Benko, A. Ruehl, M. Ferman, I. Hartl, and J. Ye, "Frequency combs and precision spectroscopy in the extreme ultraviolet," 43rd Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics (DAMOP), Anaheim, California, June 4 – 8, 2012. Bulletin Am. Phys. Soc. **57**, pp. 198 (2012).

358. J. Ye, "Precision metrology and quantum many-body physics," 3rd Meeting on "Quantum Science", Monte Verita, Ascona, Switzerland, June 17 – 22, 2012.

359. T. Allison, A. Cingöz, C. Benko, D. Yost, A. Ruehl, M. Fermann, I. Hartl, J. Ye, "High Brightness XUV Frequency Combs via Intracavity High Harmonic Generation," 18th International Conference on Ultrafast Phenomena (UP2012), University of Lausanne, Lausanne, Switzerland, July 8 – 13, 2012.

360. J. Ye, “Quantum metrology and optical atomic clocks,” The 23rd International Conference on Atomic Physics (ICAP 2012), Palaiseau, Paris, France, July 23 – July 27, 2012.

361. J. Ye, “Metrology,” The 23rd International Conference on Atomic Physics (ICAP 2012), Student Summer School, Palaiseau, Paris, France, July 17 – July 21, 2012.

362. J. Ye, “Quantum metrology with optical clock and many-body physics,” Gordon Research Conference on Quantum Science, Stonehill College Easton, Massachusetts, August 12 – 17, 2012.

363. J. Ye, “Atomic, Molecular, and Optical Physics: Scientific visions and instrumentation,” The 78th Shuang-Qing Forum, *Development of Major Instrumentations for Scientific Research*, National Science Foundation of China, Beijing, August 29 – 30, 2012.

364. J. Ye, “Precision quantum metrology and many-body physics,” Physics Colloquium, Washington State University, Pullman, Washington, September 4, 2012.

365. J. R. Williams and J. Ye, “Precision Metrology and Many-Body Quantum Physics in ^{87}Sr Atomic Clocks,” XXXVI International Conference of Theoretical Physics Correlations & Coherence at Different Scales, Ustroń, Poland, September 13 – 18, 2012.

366. J. R. Williams and J. Ye, “Precision Metrology and Many-Body Quantum Physics in ^{87}Sr Atomic Clocks,” 6th International Symposium on Metrology of Time and Space, Moscow, Russia, September 17 – 19, 2012.

367. J. Ye, “A *B*-to-*Z* guide for life on the quantum land,” Symposium on “*Frontiers of Quantum Physics*”, on the occasion of the 60th birthdays of R. Blatt & P. Zoller, University of Innsbruck, Austria, September 20 – 21, 2012.

368. M. J. Martin, M. Bishof, T. Nicholson, M. D. Swallows, J. Williams, B. Bloom, X. Zhang, S. Campbell, J. Von Stecher, A. V. Gorshkov, A. M. Rey, and J. Ye, “Demonstrating many-body effects and quantum-limited performance in ^{87}Sr optical lattice clocks,” The 5th International Workshop on Ultracold Group II Atoms: Theory and Applications, National Institute of Information and Communications Technology, Japan, Oct 10 – 12, 2012.

369. A. M. Rey, M. J. Martin, M. D. Swallows, M. Bishof, C. Benko, S. Blatt, J. Von Stecher, A. Gorshkov, and J. Ye, “Probing many-body spin interactions with an optical lattice clock,” The 5th International Workshop on Ultracold Group II Atoms: Theory and Applications, National Institute of Information and Communications Technology, Japan, Oct 10 – 12, 2012.

370. J. Ye, “Quantum metrology and optical clocks,” Optical Society of America (OSA) and American Physical Society division of laser science (APS-DLS) 28th annual meeting, LASER SCIENCE XXVIII, Rochester, New York, October 14 – 18, 2012.

371. J. Ye, “Ultraprecise meets ultrafast – control from mid-IR to XUV,” *Lasers Workshop 2012*, IEEE Photonics Society (Boston Chapter), MIT Lincoln Laboratory, October 24, 2012.

372. J. Ye, “Using a precision atomic clock to probe a strongly interacting many-body spin system,” Joint Atomic Physics and Quantum Optics Colloquium series (JAPQuOC), ITAMP and Harvard Quantum Optics Center, Cambridge, October 24, 2012.

373. J. Ye, “Probing and controlling quantum matter with precision light,” 16th Laser Science Workshop, Yichang, October 30 – November 3, 2012.

374. J. Ye, “Explore the Nature with finer microscopes,” Department of Physics, Shanghai Jiao Tong University, November 5, 2012.

375. J. Ye, “Ultracold polar molecules – MOT, evaporation, and the quantum regime,” European Science Foundation Workshop on “Cold and Ultracold Molecules”, Obergurgl, Austria, November 18 – 23, 2012.

376. J. Ye, “Molecules are quantum – chemistry near absolute zero,” Physics Colloquium, University of Alabama, Tuscaloosa, Alabama, January 9, 2013.

377. J. Ye, “Ultracold molecules - new frontiers in quantum & chemical physics,” Physics Colloquium, University of Chicago, January 24, 2013.

378. J. Ye, “Precision metrology and many-body quantum physics,” Colloquium, Argonne National Laboratory, January 25, 2013.

379. B. Bjork, A. J. Fleisher, and J. Ye, “Cavity-enhanced direct frequency comb spectroscopy,” Quantum Sensing and Nanophotonic Devices Conference, SPIE/Photonics West, San Francisco, California, February 2 – 7, 2013.

380. J. Ye, “Ultracold molecules - New frontiers in quantum & chemical physics,” The twelfth French-Israeli Conference on Nonlinear and Quantum Optics (FRISNO-12), Ein Gedi, Israel, February 24 – March 1, 2013.

381. C. Benko, T. Allison, A. Cingöz, D. C. Yost, A. Ruehl, M. Fermann, I. Hartl, and J. Ye, “Direct measurement of the XUV frequency comb phase coherence,” Ultrafast Optics 2013 (UFO IX) Conference, Davos, Switzerland, March 4 – 8, 2013.

382. J. Ye, “Ultracold molecules – MOT, evaporative cooling, and the quantum regime,” Kavli Institute for Theoretical Physics, *NEW SCIENCE WITH ULTRACOLD MOLECULES*, University of Santa Barbara, California, March 11 – 15, 2013.

383. A. J. Fleisher and J. Ye, “Frequency comb spectroscopy for molecular trace and dynamics detections,” Symposium on *frequency comb application for spectroscopy*, PITTCON, Philadelphia, March 17 – 23, 2013.

384. J. Ye, “From Optical atomic clocks to dipolar quantum gases,” The 11th Japan-US Joint Seminar on Quantum Electronics and Laser Spectroscopy, *Ultimate Quantum Systems of Light and Matter-Control and Applications*, Nara, Japan, April 9 – 12, 2013.

385. J. Ye, “Exotic quantum matter probed with clock precision,” The Inaugural Symposium *Quantum Matter*, Pitt Quantum Initiative, University of Pittsburgh, April 18 – 19, 2013.

386. J. Ye, “Ultracold molecules for exotic quantum matter,” Physics Colloquium, Stony Brook University, Stony Brook, New York, April 23, 2013.

387. J. Ye, “Precision quantum metrology and control of quantum matter,” A Symposium of *Physics Applied to Advances in Measurement Technology* in honor of Katharine Gebbie, NIST Boulder Laboratories, Colorado, May 10, 2013.

388. J. Ye, “Exotic quantum matter probed with clock precision,” Optics Days, Finnish Optical Society and City of Helsinki, May 20 – 21, 2013.

389. J. Ye, “Ultracold molecules – a new frontier for quantum and chemical physics,” University of Helsinki, May 22, 2013.

390. T. Nicholson and J. Ye, “Comparison of Two Independent Sr Optical Clocks with 1 x 10^{-17} Stability at 10^3 s,” 44th Annual Meeting of the APS Division of Atomic, Molecular and Optical Physics (DAMOP), Quebec City, Canada, June 3 – 7, 2013.

391. J. Ye, “Exotic quantum matter with polar molecules - a lattice spin model,” 21st International Conference on Laser Spectroscopy (ICOLS’13), Berkeley, June 9 – 14, 2013.

392. A. J. Fleisher, B. Bjork, K. C. Cossel, and J. Ye, “Transient Absorption Frequency Comb Spectroscopy,” Cavity Enhanced Spectroscopy, International Meeting and Summer School, Naples, Italy, June 10 – 13, 2013.

393. W. Zhang, G. D. Cole, M. J. Martin, M. Aspelmeyer, and J. Ye, "Crystalline coatings for thermal noise reduction in optical interferometers," American Control Conference, Washington, D. C., June 17 – 19, 2013.

394. A. J. Fleisher, B. Bjork, K. C. Cossel, and J. Ye, "Fourier Transform Direct Frequency Comb Spectroscopy in the Near- and Mid-Infrared," Optical Society of America (OSA) Topical Meeting on Fourier Transform Spectroscopy, *Imaging and Applied Optics Congress Meetings*, Arlington, Virginia, June 23 – 27, 2013.

395. J. Ye, "Precision measurement and quantum physics," Atomic Physics Gordon Conference, Salve Regina University, Newport, Rhode Island, June 23 – 28, 2013.

396. J. Ye, "Dipolar quantum matter," The Second International Conference on Quantum Technologies, Moscow, Russia, July 20 – 24, 2013.

397. T. Nicholson and J. Ye, "Optical lattice clocks near the QPN limit: A tenfold improvement in optical clock stability," The joint 2013 UFFC Symposium with European Frequency and Time Forum (EFTF), Prague, Czech Republic, July 21 – 25, 2013.

398. J. Ye, "Ultracold molecules – a new frontier for quantum and chemical physics," XXVIII International Conference on Photonic, Electronic and Atomic Collision (ICPEAC), Lanzhou, China, July 24 – 30, 2013.

399. J. Ye, "Dipolar quantum matter in optical lattices," Conference on Bose-Einstein Condensation: Frontiers in Quantum Gases (BEC2013), in Sant Feliu de Guixols (Costa Brava), Spain, September 7 – 13, 2013.

400. J. Ye, "Realizing exotic quantum matter with polar molecules," Symposium of *Spectroscopy and molecular dynamics at the limit*, ETH Zurich, Switzerland, September 11 – 13, 2013.

401. J. Ye, "Exotic quantum matter probed with clock precision," International Conference on *Fundamentals and applications of Ultracold Matter*, Research Training Group 1729, Hannover, Germany, September 16 – 19, 2013.

402. J. W. Thomsen, R. Martin, B. T. R. Christensen, J. Ye, and P. G. Westergaard, "Active suppression of thermal noise in optical cavities," International Conference on *Fundamentals and applications of Ultracold Matter*, Research Training Group 1729, Hannover, Germany, September 16 – 19, 2013.

403. F. Labaye and J. Ye, "Femtosecond enhancement cavity," Accelerator Physics Workshop, Chicago, September 26 – 27, 2013.

404. B. Bloom, T. L. Nicholson, J. R. Williams, S. Campbell, M. Bishof, X. Zhang, W. Zhang, S. Bromley, and J. Ye, "The state-of-the-art Sr optical clock," Optical Society of America Annual Meeting, Frontier in Optics /Laser Science (FiO/LS), Orlando, Florida, October 6 – 10, 2013.

405. J. Ye, "A New Generation of Atomic Clocks: Accuracy and Stability at the 10^{-18} Level," 3rd Humboldt Award Winners' Forum 2013, *Frontiers in Quantum Optics: Taming the World of Atoms and Photons – 100 years after Niels Bohr*, Bonn, Germany, October 9 – 12, 2013.

406. J. Ye, "Dipolar quantum matter in lattice," Atomic, Molecular & Optical Science (AMOS) Research Meeting, Department of Energy, Potomac, Maryland, October 27 – 30, 2013.

407. B. Bloom, T. L. Nicholson, J. R. Williams, S. Campbell, M. Bishof, X. Zhang, W. Zhang, S. Bromley, and J. Ye, "A new generation of atomic clocks with both accuracy and stability at the 10^{-18} level," NIST Time and Frequency Division Seminar, Boulder, Colorado, October 31, 2013.

408. C. Benko and J. Ye, "XUV Combs with Phase Coherence Time Beyond 1 s," 2013 Advanced Solid-State Lasers Congress (2013 ASSL), Marriott Paris Rive Gauche Hotel and Convention Center in Paris, France, 27 October 27 – November 1, 2013.

409. J. Ye, “The best atomic clock and ultracold molecules,” Special Colloquium, Jiao Tong University, Shanghai, Nov. 20, 2013; Fudan University, Nov. 21, 2013.

410. J. Ye, “The best atomic clock and many-body quantum physics,” Colloquium, Department of Physics and Astronomy, University of Waterloo, Canada, December 12, 2013.

411. J. Ye, “Making a clock,” Colloquium, University of Colorado, Boulder, Jan. 15, 2014.

412. J. Ye, “Making the best atomic clock,” Optical Society of America Traveling Lecture, Kansas Optical Society, January 21, 2014.

413. J. Ye, “AMO experiments for condensed matter problems,” Moore Workshop on Quantum Materials in Atomic, Molecular, Optical, and Condensed Matter Physics, Carmel Valley, California, January 30 – February 2, 2014.

414. J. Ye, “Ultracold molecules,” Physics Colloquium, Princeton University, Princeton, New York, Feb. 20, 2014.

415. J. Ye, “AMO Science and Technology,” DARAP New Science and Technologies Initiative, Washington D.C., Feb. 21, 2014.

416. J. Ye, “Building the most accurate atomic clock,” Hanan Rosenthal Memorial Lecture, Yale University, New Haven, Feb. 24, 2014.

417. J. Ye, “Ultracold molecules - New frontiers in quantum & chemical physics,” “Optical frequency combs - from infrared to extreme ultraviolet,” “Making the world’s best clock,” OSU Lecture Series on *Frontiers in Molecular Spectroscopy*, Ohio State University, Columbus, Feb. 27 – 28, 2014.

418. J. Ye, “Many-body quantum physics and precision metrology,” Ruperto Carola Symposium, *Shedding Light on Emergent Quantum Phenomena*, Heidelberg, Germany, March 9 – 12, 2014.

419. J. Ye, “Making a clock,” Public Lecture, Klaus-Georg and Sigrid Hengstberger Foundation, Heidelberg Graduate School of Fundamental Physics (HGSFP), Heidelberg Center for Quantum Dynamics, Heidelberg University, Germany, March 12, 2014.

420. J. Ye, “The most accurate atomic clock and quantum many-body physics,” Physics Colloquium, University of Strathclyde, Glasgow, United Kingdom, March 13, 2014.

421. J. Ye, “Making a clock and so much more,” NIST Colloquium, *Entrepreneurship Pathways at NIST*, Gaithersburg, March 21, 2014.

422. J. Ye, “Pushing the frontier of atomic clocks,” Physics Colloquium, University of Washington, Seattle, March 31, 2014.

423. J. Ye, “Making the best atomic clock,” Franklin Symposium (in Honor of Daniel Kleppner for the Benjamin Franklin Medal in Physics), University of Delaware, April 23, 2014.

424. J. Ye, “The Kimble ingredients in a new atomic clock,” Frontiers of Quantum Optics (H. Jeff Kimble Symposium), California Institute of Technology, April 25 – 26, 2014.

425. J. Ye, “Making the world’s best clock,” Tenth International Nanotechnology Conference on Communication and Cooperation (INC10), Gaithersburg, Maryland, May 13 – 16, 2014. (Conference KEYNOTE Speech)

426. J. Ye, “Frequency metrology in XUV,” Ultrashort Pulse Laser-Matter Interactions Program, AFOSR, Arlington, Virginia May 29, 2014.

427. J. Ye, “The Julienne factor in atomic clock and polar molecule quantum gas,” *Perspectives on ultracold atoms and molecules*, University of Maryland, College Park, Maryland, May 29 – 30, 2014.

428. J. Ye, "Ultracold molecules - New frontiers in quantum & chemical physics," the 97th Canadian Chemistry Conference and Exhibition, Symposium on *Chemistry at Cold Temperature (and Interstellar Chemistry)*, Vancouver, June 1 – 5, 2014.

429. J. Ye, "Advancing the state-of-the-art of the optical atomic clock," American Physical Society, Division of Atomic, Molecular and Optical Physics (DAMOP'2014), Madison, Wisconsin, June 2 – 6, 2014.

430. J. Ye, "Sr optical atomic clock and applications," US-Israel Workshop, NIST Boulder, Colorado, June 9 – 10, 2014.

431. J. Ye, "Control of light for precision measurement," "Making the best atomic clock and using it to probe quantum matter," "Ultracold molecules – a new frontier in quantum & chemical physics," International School of Physics *Enrico Fermi*, Varenna, Italy, July 6 – 15, 2014.

432. J. Ye, "Search the electron electric dipole moment using molecular ions," Lepton Moments 2014, Cape Cod, Centerville, Massachusetts, July 21 – 24, 2014.

433. D. S. Jin and J. Ye, "Dipolar quantum matter," Gordon Research Conference on Quantum Science, Easton, Massachusetts, July 27 – August 1, 2014.

434. J. Ye, "Optical atomic clock and SU(N)-symmetric interactions," Symposium on Quantum Gases 2014: *Synthetic Gauge Field and Large Spin System*, Tsinghua University, Beijing, China, August 25 – 29, 2014.

435. J. Ye, "Optical atomic clock and applications," Open Lecture, National Institute of Metrology, Beijing, August 27, 2014.

436. J. Ye, "The state-of-the-art in quantum metrology," Chinese Physical Society Annual Meeting, Harbing, September 12, 2014. (Plenary Talk)

437. J. Ye, "Making the world's best atomic clock," Science Keynote Lecture, University of Nevada, Las Vegas, Nevada, Sep. 24, 2014.

438. J. Ye, "A decadal review of ultracold matter," 17th Laser Science Workshop, Taiyuan, October 19 – 22, 2014.

439. C. Benko and J. Ye, "Frequency combs in the extreme ultraviolet," 2014 Latin American Optics and Photonics Conference, Cancun, Mexico, November 16 – 21, 2014.

440. J. Ye, "Optical atomic clock – progresses and future outlook," NASA Fundamental Physics Workshop, Pasadena, California, November 17 – 18, 2014.

441. J. Ye, "Quantum matter based on ultracold molecules," Colloquium, Max Planck Institute for Quantum Optics, Garching, Germany, December 2, 2014.

442. J. Ye, "Frequency combs from mid-infrared to extreme ultraviolet," University of Hamburg, Germany, December 4, 2014.

443. J. Ye, "Atomic clock and quantum matter," University of California at Riverside, Riverside, California, January 15, 2015.

444. J. Ye, "Ultracold molecules – a new frontier for quantum physics and chemistry," Colloquium, Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, January 26, 2015.

445. J. Ye, "Making the world's best atomic clock," Annual Meeting of Physical Society of Republic of China (PSROC), Hsinchu, Taiwan, Jan. 28 – 30, 2015.

446. J. Ye, "Quantum matter based on ultracold molecules," American Physical Society March Meeting, San Antonio, Texas, March 4, 2015.

447. S. A. Moses, J. P. Covey, M. T. Miecnikowski, D. S. Jin, and J. Ye "A highly filled optical lattice of polar molecules of KRb," *Quantum Many-Body Systems Far from Equilibrium*, National Institute for Theoretical Physics, Stellenbosch, South Africa, March 9 – 13, 2015.

448. J. Ye, "Making the world's best atomic clock," University of California at Irvine, Irvine, California, March 19, 2015.

449. J. Ye, "A low-entropy lattice of polar molecule quantum gas," Aspen Winter Conference *Non-equilibrium quantum matter*, Aspen, Colorado, March 23 – 29, 2015.

450. S. Campbell and J. Ye, "Making a clock," AnomalyCon (Denver's premier Science Fiction, Steampunk and Alternate History Convention), Denver, Colorado, March 27, 2015.

451. J. Ye, "Ultracold molecules - New frontiers in quantum & chemical physics," Colloquium, the International Solvay Institutes, and Workshop on *Atomic and molecular Collision Mechanisms*, Brussels, Belgium, March 30 – April 2, 2015.

452. J. Ye, "Ultracold molecules," Colloquium and OSA Traveling Lecture, University of Virginia, Charlottesville, April 24, 2015.

453. J. Ye, "Frequency combs – probe and control quantum matter with light," Optics Seminar, University of Colorado, Boulder, Colorado, April 27, 2015.

454. J. Ye, "Optical atomic clock," Conference Tutorial, Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science (CLEO/QELS), San Jose, California, May 10 – 15, 2015.

455. J. Ye, "Using optical lattice clock to investigate quantum many-body physics," Atomic Physics Gordon Conference, Salve Regina University, Newport, Rhode Island, June 14 – 19, 2015.

456. J. Ye, "Cavity-enhanced frequency comb spectroscopy – from 50 nm to 5 μm," *Conference on Cavity Enhanced Spectroscopy*, Boulder, Colorado, June 16 – 19, 2015.

457. J. Ye, "Making the best atomic clock and using it to explore quantum many-body physics," Conference on Lasers and Electro-Optics Europe (CLEO/Europe) and the European Quantum Electronics Conference (EQEC), Munich, Germany, June 21 – 25, 2015.

458. J. Ye, "Optical lattice clock and SU(N) symmetry," 22nd International Conference on Laser Spectroscopy (ICOLS), Singapore, June 28 – July 3, 2015.

459. C. Benko and J. Ye, "Extreme ultraviolet frequency comb," 5th International Conference on Attosecond Physics – ATTO15, Saint-Sauveur, Quebec, Canada, July 6 – 10, 2015.

460. J. Ye, "Developing tools for cold chemical physics," Workshop on *Defining New Directions in Cold Chemical Physics*, Boulder, Colorado, July 8 – 10, 2015.

461. J. Ye, "Optical atomic clock," International OSA Network of Students (IONS) Conference, Optical Society of America, Boulder, Colorado July 21 – 25, 2015.

462. J. Ye, "XUV frequency comb," Optical Society of America Topical Meeting on Nonlinear Optics (NLO 2015), Kauai, Hawaii, July 26 – 31, 2015.

463. C. Benko and J. Ye, "XUV frequency comb for attosecond physics," Ultrafast Optics X Beijing, August 16 – 21, 2015.

464. J. Ye, "Cavity-enhanced frequency comb spectroscopy," 24th Colloquium on High-Resolution Molecular Spectroscopy, Dijon, France, August 24 – 28, 2015.

465. S. A. Moses, J. P. Covey, M. T. Miecnikowski, D. S. Jin, and J. Ye, "Highly filled optical lattice with polar molecules," Workshop on *Synthetic Quantum Magnetism*, Max-Planck Institute for Physics of Complex Systems, Dresden, Germany, Aug. 31 – Sept. 4, 2015.

466. J. Ye, "Let There Be Light (and Thus, Time)," *Wait, What? A Technology Forum*, DARPA, St. Louis, September 9 – 11, 2015. (Plenary Speech)

467. J. Ye, "Low entropy quantum gas of polar molecules," the 12th US-Japan Joint Seminar on Quantum Electronics and Laser Spectroscopy, Madison, Wisconsin, September 21 – 24, 2015.

468. J. Ye, "High accuracy clock and quantum many-body physics," The 8th Symposium on Frequency Standards and Metrology, Potsdam, Germany, October 12 – 16, 2015.

469. B. Spaun, P. B. Changala, B. J. Bjork, O. H. Heckl, J. Ye, D. Patterson, and J. M. Doyle, "Probing Buffer-Gas Cooled Molecules with Direct Frequency Comb Spectroscopy in the Mid-Infrared," Frontiers in Optics / Laser Science, Optical Society of America, San Jose, California, October 18 – 22, 2015.

470. J. Ye, "Making the world's best atomic clock," The Master Forum Lecture, Shanghai Jiao Tong University, November 8, 2015.

471. J. Ye, "Optical atomic clock and quantum many-body physics," Joint Quantum Institute Seminar, NIST and University of Maryland, College Park, Maryland, November 23, 2015.

472. J. Ye, "Quantum gas of polar molecules," Physics Colloquium, University of Maryland, College Park, Maryland, November 24, 2015.

473. R. Huston and J. Ye, "Highly precise and accurate optical clock," ISSI Workshop, *Accurate Clocks in Space Science*, International Space Science Institute, Bern, Switzerland, November 30 – December 4, 2015.

474. J. Ye, "Optical atomic clock and quantum science," Physics Colloquium, Temple University, Philadelphia, Pennsylvania, January 11, 2016.

475. J. Ye, "Making the world's best atomic clock," Workshop on *Challenges in Precision Science*, University of Tokyo, Japan, January 25 – 27, 2016.

476. J. Ye, "Molecular quantum gas – a new frontier for quantum physics and chemistry," Colloquium, Institute for Molecular Science, Okazaki, Japan, January 28, 2016.

477. J. Ye, "Making the best atomic clock," Colloquium, University of Vienna, Austria, February 29, 2016.

478. J. Ye, "Quantum gas of polar molecules," German Physical Society Spring Meeting (Deutsche Physikalische Gesellschaft), Hannover, Germany, February 29 – March 4, 2016.

479. J. Ye, "Making the best atomic clock," Colloquium, School of Physics and Astronomy, University of Birmingham, United Kingdom, March 2, 2016.

480. J. Ye, "Nanomechanics for precision spectroscopy," Gordon Research Conference on *Mechanical Systems in the Quantum Regime*, Ventura, California, March 6 – 11, 2016.

481. J. Ye, "Control of light," and "Ultracold quantum matter," Spring School on Optical Physics, Fudan University, Shanghai, March 23, 2016.

482. J. Ye, "Frequency comb spectroscopy – from mid-IR to XUV," *Lord Lecture* of Modern Optics and Spectroscopy, MIT, Cambridge, Massachusetts, April 5, 2016.

483. J. Ye, "Control of light for spectroscopy from mid-IR to XUV," and "Cold molecules," the *Frontiers in Chemical Research Lecture*, Texas A&M University, April 18 – 19, 2016.

484. J. Ye, "Optical atomic clock and many-body quantum physics," Stanford University, Physics Colloquium, Stanford, California, May 3, 2016.

485. J. Ye, "Quantum matter for metrology and many-body physics," Symposium for *the Center for Quantum Science, Matter and Engineering*, Technion University, Israel, June 1 – 2, 2016.

486. J. Ye, "Using optical clock to probe many-body quantum physics," American Physical Society, Division of Atomic, Molecular and Optical Physics (DAMOP'2016), Providence, Rhode Island, May 23 – 27, 2016.

487. J. Ye, "From the XUV to X-ray frequency combs," Workshop on *Science with an X-ray Free Electron Laser Oscillator*, Stanford University, June 29 – July 1, 2016.

488. J. Ye, "Optical Atomic Clock," Conference on Precision Electromagnetic Measurements (CPEM'2016), Ottawa, Canada, July 10 – 15, 2016. (Conference Plenary Talk)

489. J. Ye, "Optical atomic clock," 25th International Conference on Atomic Physics, Seoul, Korea, July 24 (Sunday) – 29 (Friday), 2016.

490. J. Ye, Chair, Gordon Research Conference on Quantum Science, Stonehill College Easton, Massachusetts, July 31 – August 5, 2016.

491. J. Ye, "Frequency comb spectroscopy and metrology from mid-infrared to XUV," International Conference on *Field Laser Applications in Industry and Research* (FLAIR), Aix-les-Bains, France, September 12 – 16, 2016. (KEYNOTE)

492. J. Ye, "Optical atomic clock and many-body quantum physics," Enrico Fermi Colloquium, LENS (European Laboratory for Nonlinear Spectroscopy), Florence, Italy, Sept.16, 2016.

493. B. Spaun and J. Ye, "Frequency comb spectroscopy of large, cold molecules," Workshop on *Roaming & Cold Molecule Dynamics*, Emory University, October 10 – 12, 2016.

494. J. Ye, "Let there be light – it tells us time," The 18th Laser Science Workshop, Jilin University, October 12 – 16, 2016.

495. J. Ye, "Laser spectroscopy, served with the Hänsch ingredients," *From Laser Spectroscopy to Quantum Science* (T. W. Hänsch Symposium), Max-Planck-Institut für Quantenoptik and Ludwig Maximilian University, Munich, Germany, November 18 – 19, 2016.

496. J. Ye, "Spin-orbit coupled ferminons in an optical lattice clock," The Kavli Institute for Theoretical Physics, Program on *Synthetic Quantum Matter*, Santa Barbara, Nov. 28, 2016.

497. J. Ye, "Follow the Kastler creed: finding things out optically," Alfred Kastler Symposium, Paris, France, December 1, 2016.

498. J. Ye, "Probe many-body quantum physics in an optical clock," Workshop on *Quantum Technologies with Ultracold Atoms*, École Normale Supérieure, Paris, December 2, 2016.

499. J. Ye, "Measurement at the quantum frontier," Conference on *90 Years of Quantum Mechanics*, Singapore, January 23 – 26, 2017.

500. J. Ye, "Building the next generation atomic clock based on quantum material," Distinguished Lecture, Rice Center for Quantum Materials, Rice University, Houston, February 15, 2017.

501. J. Ye, "Ultracold molecules – a new playground for quantum & chemical physics," AMO Seminar, Rice University, Houston, February 16, 2017.

502. J. Ye, "Atomic clock based on quantum matter," Physics Colloquium, Harvard University, March 6, 2017.

503. J. Ye, "Cold molecules – a new playground for quantum & chemical physics," Center for Ultracold Atoms (CUA) Seminar, MIT and Harvard University, March 7, 2017.

504. J. Ye, "Atomic clock and quantum physics," Simons Foundation Public Lecture, New York City, March 8, 2017.

505. B. J. Bjork and J. Ye, "A few atoms too many: unravelling molecular complexities with frequency comb spectroscopy," American Phys. Society March Meeting, New Orleans, March 13–17, 2017.

506. J. Ye, “Atomic clock,” Physics Colloquium, Colorado State University, March 27, 2017.

507. J. Ye, “Atomic clock and quantum science,” Physics Colloquium, Montana State University, April 21, 2017.

508. J. Ye, “Optical Atomic Clocks,” Physics Colloquium, University of New Mexico, Albuquerque, April 28, 2017.

509. J. Ye, “Cold molecules – a new playground for quantum and chemical physics,” Optics Seminar, Weizmann Institute of Science, Israel, May 9, 2017.

510. J. Ye, “Quantum metrology and fundamental physics,” Colloquium, Ben Gurion University, Israel, May 9, 2017.

511. J. Ye, “Spin-orbit coupled, interacting fermions in an optical lattice clock,” Condensed-Matter Seminar, Weizmann Institute of Science, Israel, May 10, 2017.

512. J. Ye, “Atomic clocks and quantum matter,” Einstein Colloquium, Weizmann Institute of Science, Israel, May 11, 2017.

513. J. Ye, “Interacting fermions under spin-orbit coupling in an optical lattice clock,” Colloquium, Bar Ilan University, Israel, May 11, 2017.

514. J. Ye, “Katharine’s Time,” Katharine Gebbie Symposium, National Institute of Standards and Technology, Gaithersburg, May 17 – 18, 2017.

515. J. Ye, “Measurement at the quantum frontier,” Huellas que Inspiran, Universidad Nacional Bogota, Colombia, May 23 – 24, 2017.

516. J. Ye, “Atomic clock based on quantum matter,” Canadian Association of Physicists Annual Congress, Kingston, Ontario, Canada, May 29 – June 1, 2017. (Plenary)

517. J. Ye, “Mastering quantum coherence for fundamental physics – from atomic clock to electron EDM,” Atomic Physics Gordon Conference, Salve Regina University, Newport, Rhode Island, June 11 – 16, 2017.

518. R. Hutson and J. Ye, “Optical atomic clock,” ACES Workshop F*undamental and Applied Science with Clocks and Cold Atoms in Space*, University of Zürich, Switzerland, June 29 – 30, 2017.

519. J. Ye, “Atomic clock and quantum matter,” 23rd International Conference on Laser Spectroscopy (ICOLS), Arcachon, France, July 2 – July 8, 2017.

520. D. G. Matei, T. Legero, S. Häfner, C. Grebing, F. Riehle, U. Sterr, W. Zhang, J. M. Robinson, L. Sonderhouse, and J. Ye, “Ultrastable Lasers with 10 mHz Linewidth,” European Frequency and Time Forum & International Frequency Control Symposium (EFTF/IFCS), Besançon, France, July 10 – July 13, 2017.

521. J. Ye, “Optical atomic clock,” The 49th Conference of the European Group on Atomic Systems (EGAS), Durham University, United Kingdom, July 17 – 21, 2017. (Plenary)

522. J. Ye, “Measurement at the Quantum Frontier,” The Onassis Foundation Science Lecture Series, *Quantum Physics Frontiers Explored with Cold Atoms, Molecules, and Photons*, Heraklion Crete, July 24 – 28, 2017.

523. D. N. Gresh, W. B. Cairncross, M. Grau, K. C. Cossel, Y. Ni, T. Roussy, Y. Zhou, Y. Shagam, J. Ye, and E. A. Cornell, “A precision measurement of the electron's electric dipole moment using trapped molecular ions,” North American Conference on Trapped Ions (NACTI), Boulder, Colorado, August 14 – 18, 2017.

524. G. E. Marti and J. Ye, “Optical atomic clock and fundamental physics,” Workshop on *Experimental Techniques in Table-Top Fundamental Physics*, Perimeter Institute for Theoretical Physics, Waterloo, Canada, August 21 – 25, 2017.

525. J. Ye, “The making of a quantum gas of polar molecules,” BEC 2017 Conference, Sant Feliu, Spain, September 2 – 8, 2017.

526. J. Ye, “Atomic clock and quantum matter,” Lincoln Laboratory, MIT, Cambridge, Massachusetts, September 19, 2017.

527. J. Ye, “Precision measurement based on quantum matter,” American Physics Society Four Corners Section Annual Meeting, Fort Collins, Colorado, October 20 – 21, 2017. (Plenary)

528. J. Ye, “Ultracold molecules,” “Atomic clock and fundamental physics,” Robert M. Walker Distinguished Lectures, Washington University in St. Louis, October 25 – 26, 2017.

529. J. Ye, “Optical atomic clock and applications,” Arkansas INBRE (Idea Networks of Biomedical Research Excellence) 2017 Keynote Speech, Fayetteville, Arkansas, October 27 – 28, 2017.

530. J. Ye, “Sensor based on quantum matter,” Workshop on *Opportunities for Basic Research for Next-Generation Quantum Systems*, Gaithersburg, Maryland, October 30 – 31, 2017.

531. J. Ye, “Quantum matter for atomic clock,” Quantum Applied Science and Technology Workshop, Boulder, Colorado, November 1 – 2, 2017.

532. J. Ye, “Atomic clock based on quantum matter,” Physics Colloquium, Dartmouth College, Hanover, NH, November 17, 2017.

533. J. Ye, “Explore the frontiers of unknown,” *Forum of Great Minds*, University of Science and Technology of China, Hefei, November 29, 2017.

534. J. Ye, “A new horizon in light-matter control,” Horizons Lecture Series, Air Force Office of Scientific Research, Arlington, Virginia, January 11, 2018.

535. J. Ye, “Quantum matter and atomic clock,” Physics Division Colloquium, Argonne National Laboratory, January 12, 2018

536. J. Ye, “New tools to probe cold molecules and their interactions,” Symposium on *Cold Molecules for Chemistry*, American Chemical Society (ACS) Spring Meeting, New Orleans, March 18 – 22, 2018.

537. J. Ye, “Exploring a new frontier of molecular structure and interactions,” Conference on *Cold and controlled molecules and Ions* (CCMI), University of Georgia, Athens, Georgia, March 25 – 29, 2018.

538. J. Ye, “Optical atomic clock: a case study for the quantum technology revolution,” Physics Colloquium, University of Colorado, Boulder, April 18, 2018.

539. J. Ye, “Optical atomic clock based on quantum matter,” Heraeus Workshop on *Fundamental constants: Basic physics and units*, Bad Honnef, Germany, May 14 – May 18, 2018.

540. J. Ye, “Quantum matter and atomic clocks,” Heidelberg Center for Quantum Dynamics Colloquium, Heidelberg University, Germany, May 16, 2018.

541. J. Ye, “Steven Chu and Atomic Clocks,” *Chu70 – Symposium*, Stanford University, May 19 – 20, 2018.

542. J. Ye, “Optical lattice clocks with thermal or quantum degenerate atoms,” 2018 International Frequency Control Symposium (IFCS), Squaw Creek Resort, Olympic Valley, California, May 21 – 24, 2018.

543. J. Ye, “Optical atomic clocks for dark matter search,” Workshop *Precision-measurement searches for new physics*, DAMOP2018, Fort Lauderdale, Florida, May 28, 2018.

544. J. Ye, “A Fermi degenerate gas of polar molecules,” Division of Atomic, Molecular and Optical Physics (DAMOP), Fort Lauderdale, Florida, May 28 – June 1, 2018.

545. J. Ye, “Quantum metrology,” Colloquium, University of California, San Diego, June 14, 2018.

546. J. Ye, “Understanding molecules with new tools,” 73nd International Symposium on Molecular Spectroscopy, University of Illinois at Urbana-Champaign, June 18 – 22, 2018. (Plenary Lecture)

547. J. Ye, “Measurement at the quantum frontier with ultracold atoms and molecules,” Boulder Summer School for Quantum Information Science, Boulder, Colorado, July 2 – 27, 2018.

548. J. Ye, “Measurement at the quantum frontier,” The 26th International Conference on Atomic Physics (ICAP 2018), Student Summer School, Barcelona, July 16 – 20, 2018.

549. J. Ye, “Sensing with a quantum gas atomic clock,” Quantum Science Gordon Conference, Stonehill College, Easton, Massachusetts, July 29 – August 3, 2018.

550. J. Ye, “Following the footsteps of light,” Colloquium, National Tsing Hua University, Taiwan, ROC, August 13, 2018.

551. J. Ye, “New perspectives on molecules,” Colloquium, Institute of Atomic and Molecular Sciences, Academia Sinica, Taiwan, ROC, August 14, 2018.

552. J. Ye, “Quantum physics and measurement frontier,” 21st *CS Wu* Science Camp, Chitou, Taiwan, ROC, August 13 – 18, 2018.

553. M. Weichman, B. Changala, and J. Ye, “Comb spectroscopy on C_{60},” *New Spectroscopic Techniques in Astrochemistry*, American Chemical Society Fall National Meeting, Boston, Massachusetts, August 19 – 23, 2018.

554. J. Ye, “Impact of laser physics on quantum sciences,” 19th Laser Science Workshop, QingHai, September 13 – 15, 2018.

555. J. Ye, “Perspectives on fundamental physics and quantum sensing,” NIST Quantum Information Science Meeting, Winter Park, Colorado, September 25 – 27, 2018.

556. A. Goban and J. Ye, “New development in optical atomic clock and quantum many body physics,” 13th Japan-US Joint Seminar on Quantum Electronics and Laser Spectroscopy, Kanazawa, Japan, September 25 – 28, 2018.

557. J. Ye, “Frequency comb spectroscopy and applications,” Ball Aerospace Engineering Seminar, Boulder, Colorado, September 28, 2018.

558. J. Ye, “Emergence of multi-body interactions in a fermionic lattice clock,” Workshop on *Quantum Phases of Fermions in Optical Lattices*, Institute for Theoretical Atomic, Molecular and Optical Physics (ITAMP), Harvard University, Cambridge MA, October 8 – 10, 2018.

559. J. Ye, “Following the path lit by the Schawlow-Townes torch - a story of pursuing extreme coherence,” Schawlow-Townes Symposium, University of Ottawa, October 11, 2018.

560. J. Ye, “Atomic clocks,” “Ultracold molecules,” “Frequency combs and applications,” Loeb Lectures in Physics, Harvard University, October 22 – 24, 2018.

561. J. Ye, “Optical atomic clocks – opening new perspectives on the quantum world,”26th General Conference of Weights and Measures (CGPM), Versailles, France, November 13 – 16, 2018.

562. J. Ye, “Optical atomic clocks and quantum physics,” 22nd Conference on Quantum Information Processing (QIP), University of Colorado, Boulder, January 14 – 18, 2019.

563. J. Ye, “Engineering quantum matter for atomic clocks,” Spezialforschungsbereich SFB FoQuS, Austrian Science Foundation, University of Innsbruck, Austria, February 4 – 8, 2019.

564. J. Ye, “Search for dark matter based on a crystal cavity and an optical lattice clock,” Symposium on Table Top Dark Matter Experiments, Kavli Institute for the Physics and Mathematics of the Universe (Kavli IPMU), University of Tokyo, February 26 – 27, 2019.

565. J. Ye, “Engineering quantum matter for atomic clocks,” the 2019 March Meeting of the American Physical Society Boston, March 4 – 8, 2019.

566. J. Ye, “Quantum matter and atomic clocks,” Georgia Institute of Technology, Atlanta, Georgia, March 11, 2019.

567. J. Ye, “Quantum sensing and fundamental physics,” Workshop on *Building Entanglement for Quantum Information Processing: Opportunities and Challenges*, Virginia Tech Executive Briefing Center, Arlington, Virginia, March 28 – 29, 2019.

568. J. Ye, “Quantum matter and atomic clocks,” *International Symposium on Quantum Science and Technology*”, Purdue University, West Lafayette, IN, April 21 – 23, 2019.

569. J. Ye, “Shedding new lights to light-matter interactions,” Lecture 1: “Control of light: frequency comb spectroscopy from IR to XUV,” Lecture 2: “A quantum gas of polar molecules,” Lecture 3: “Quantum matter and atomic clocks,” Lecture 4: “Search for the electron EDM using molecular ions,” Hinshelwood Lectures, University of Oxford, United Kingdom, April 26 – May 8, 2019.

570. J. Ye, “Quantum matter and atomic clocks,” Rochester Lecture, Durham University, Durham, United Kingdom, May 3, 2019.

571. J. Ye, “Towards a 2D molecular Fermi gas,” ITAMP Workshop *New frontiers in cold molecules*, Cambridge, Massachusetts, May 21 – 23, 2019.

572. J. Ye, “Quantum matter and atomic clock,” American Physical Society Division of Atomic Molecular and Optical Physics (DAMOP) annual meeting, Milwaukee, May 27 – 31, 2019.

573. J. Ye, “Cold molecules,” International Conference on Laser Spectroscopy (ICOLS 2019), Queenstown, New Zealand, July 8 – 12, 2019.

574. J. Ye, “Thermalization and reaction in a degenerate Fermi gas of molecules,” BEC2019 Conference, Sant Feliu de Guixols, Spain, September 7 – 13, 2019.

575. J. Ye, “Quantum matter and atomic clock,” NNV Annual Physical Society AMO Meeting, Lunteren, the Netherlands, October 8 – 9 (2019). (Plenary)

576. J. Ye, “Quantum sensing, simulation, and fundamental physics,” 2nd Conference on Quantum Gases, Fundamental Interactions, and Cosmology, Pisa, Italy, October 23 – 26, 2019. (Keynote)

577. J. Ye, “Quantum matter, clocks, and fundamental physics,” Symposium on *Gravity, Information and Fundamental Symmetries*, Max-Planck-Institute for Quantum Optics, Garching, Munich, Nov 4 – 6, 2019.

578. J. Ye, “Quantum matter, clocks, and fundamental physics,” Symposium on *Quantum Technologies*, Cavendish Laboratory, University of Cambridge, London, November 7, 2019.

579. J. Ye, “Pushing the limit of quantum sensing,” DARPA Defense Science Office (DSO) Futures Meeting, San Diego, CA, November 19, 2019.

580. J. Ye, “Clocks, quantum, and space physics,” Clocks in Space Workshop, NIST, Boulder, CO, January 7, 2020.

581. J. Ye, “Rebirth of light – coherent state meets fermi statistics,” Roy Glauber Memorial Workshop, Harvard University, January 15 – 16, 2020.

582. J. Ye, “Quantum matter, clocks, and fundamental physics,” Colloquium, University of Kentucky, Lexington, January 17, 2020.

583. J. Ye, “Quantum matter, clocks, and fundamental physics,” Annual Meeting of the Israel Physics Society IPS 2020, Weizmann Institute, Israel, February 17, 2020. (Opening Keynote Talk)

584. J. Ye, “Quantum simulation, sensing, and fundamental physics,” Weizmann Institute of Physics, Israel, February 18, 2020.

585. J. Ye, “A Fermi gas of polar molecules from 3D to 2D,” Virtual Quantum Science Seminar, online, June 18, 2020.

586. J. Ye, “Quantum gas of reactive molecules: evaporation, collision resonance, and long lifetime,” Virtual AMO Seminar, online, August 28, 2020.

587. J. Ye, “Quantum matter and atomic clock,” Quantum 2.0 Conference, OSA, Virtual Meeting September 14 – 17, 2020.

588. J. Ye, “Clock, quantum matter, and precision physics,” Virtual Seminar on Precision Physics and Fundamental Symmetry, online, September 24, 2020.

589. J. Ye, “Q-SEnSE: Quantum Systems through Entangled Science and Engineering,” NSF Quantum Leap Grantees Meeting, September 29 – 30, 2020. (Plenary)

590. J. Ye, “A dipolar quantum gas of reactive molecules,” *Quantum 2020*, Virtual Conference, October 19 – 22, 2020. (Plenary)

591. J. Ye, “New opportunities for fundamental physics using atomic clocks,” Workshop on *Developing New Directions in Fundamental Physics*, TRIUMF Laboratory and University of Washington, November 4 – 6, 2020.

592. J. Ye, “Quantum sensing, simulation, and information science,” Chicago Quantum Summit, November 11 – 13, 2020.

593. J. Ye, “Frequency combs and applications from the extreme ultraviolet to mid infrared,” High Brightness Congress, OSA, Virtual Conference, November 16 – 19, 2020. (Plenary)

594. J. Ye, “Atomic clocks, quantum matter, and fundamental physics” Colloquium, University of Victoria, December 2, 2020. (Online)

595. J. Ye, “A degenerate Fermi gas of interacting molecules,” 735 WE-Heraeus-Seminar on *Exploring Quantum Many-Body Physics with Ultracold Atoms and Molecules*, Physikzentrum Bad Honnef, Bonn, Germany, (Virtual conference) December 14 – 18, 2020.

596. J. Ye, “Quantum matter and atomic clock – a new frontier of Quantum 2.0,” Distinguished Speaker Series, Aerospace Corporation, January 26, 2021.

597. J. Ye, “A Fermi gas of molecules with tunable dipolar interactions,” Colloquium, Munich Center for Quantum Science and Technology (MCQST), Max Planck Institute of Quantum Optics, Garching, February 23, 2021.

598. J. Ye, “Atomic clocks, quantum matter, and fundamental physics,” Brigham Young University, Salt Lake City, March 11, 2021.

599. J. Ye, “Degenerate Fermi molecules with tunable interactions,” Physics Colloquium University of Innsbruck, March 23, 2021.

600. J. Ye, “Clock, quantum matter, and fundamental physics,” Physics Colloquium, University of Oklahoma, April 8, 2021.

601. J. Ye, “Probing fundamental physics with atomic clocks,” *Novel Experiments for Tests of Fundamental Physics*, KITP, May 3 – 5, 2021.

602. J. Ye, “Quantum information science and sensing,” Panel for Special Director’s Colloquium in honor of Argonne National Laboratory’s 75th anniversary, Chicago, May 5, 2021.

603. J. Ye, “Quantum gas of interacting molecules,” AMO Summer School, International Centre for Theoretical Sciences, Bangalore, India, May 10 – 19, 2021.

604. J. Ye, "SU(*N*) spin symmetry and optical atomic clocks," 52nd Annual Meeting of the Division of Atomic, Molecular & Optical Physics (DAMOP), American Physical Society, Virtual, May 31 – June 4, 2021.

605. J. Ye, "A molecular quantum gas with tunable interactions," The 52nd Conference of the European Group on Atomic Systems (EGAS-52), Zagreb, Croatia, July 6 – 8, 2021. (Online)

606. J. Ye, "Molecules, clocks, and quantum metrology," Boulder Summer School for Condensed Matter and Materials Physics (Boulder-2020), "*Ultracold Matter*", Boulder, Colorado, July 6 – 31, 2021. (Online, July 5 & 7)

607. J. Ye, "Optical atomic clocks," Chilloquium, Harvard-Radcliffe Physics Society, August 30, 2021.

608. J. Ye, "Clock, quantum matter, and fundamental physics," Workshop *Time in Quantum Theory*, ETH Zurich, August 30 – September 3, 2021.

609. J. Ye, "Quantum matter, optics, and metrology," Quantum Optics X Conference, Torun, Poland, September 5 – 11, 2021.

610. J. Ye, "Tuning interactions in a molecular quantum gas," BEC2021, Sant Feliu, Spain, September 11 – 17, 2021.

611. J. Ye, "Measuring the gravitational red shift within a mm-scale atomic ensemble," Julius Springer Prize in Applied Physics Colloquium, October 5, 2021.

612. J. Ye, "Quantum matter, clocks, and fundamental physics," 4th Yanqi-Lake Meeting, Beijing October 13 – 15, 2021. (Plenary)

613. J. Ye, "Quantum matter, simulation, and clock," 67th Annual AVS International Symposium and Exhibition (AVS 67), Charlotte, North Carolina, October 24 – 29, 2021.

614. J. Ye, "Clock, quantum matter, and fundamental physics," Colloquium, University of North Carolina, Chapel Hill, November 15, 2021.

615. J. Ye, "A new horizon in light-matter control," Future Science Prize Ceremony, November 19, 2021. (Keynote)

616. J. Ye, "University of Colorado Boulder quantum research highlights," The CU Foundation Trustees Annual Meeting, November 19, 2021.

617. J. Ye, "Advancing clock measurement precision to the 21st digit," the 6th European Conference on Trapped Ions (ECTI), November 22 – 26, 2021.

618. J. Ye, "Clock, quantum matter, and fundamental physics," OCPA Colloquium, December 3, 2021.

619. J. Ye, "Tuning interactions in a dipolar Fermi gas of molecules," IAS Focused workshop on *Quantum simulation of novel phenomena with ultracold atoms and molecules*, Hong Kong University of Science and Technology (HKUST), Dec. 13 – 16, 2021.

620. J. Ye, "Quantum matter, clock, and fundamental physics," Colloquium, Max Planck Institute for Nuclear Physics, Heidelberg, Germany, January 13, 2022.

621. J. Ye, "Measuring gravitational redshift within 1 mm," Seminar series on *Relativistic Effects in Atomic Clocks*, Leibniz Universität Hannover, January 14, 2022.

622. K. Matsuda, J.-R. Li W. Tobias, C. Miller, A. Carroll, "Tunable, dipolar-exchange-mediated interactions in a quantum gas of KRb molecules," Workshop on *Understand and control collisions of ultracold molecules*, Max-Planck-Institut für Quantenoptik, February 17 – 18, 2022.

623. J. Ye, "Atomic clocks and quantum matter," Colloquium, Department of Physics and Astronomy, Johns Hopkins University, February 24, 2022.

624. J. Ye, “Bohr’s certainty and modern atomic clock,” Bohr Centennial New Frontiers in Physics, Niels Bohr Institute, Copenhagen, March 2 – 4, 2022.

625. J. Ye, “Quantum simulation with molecules,” APS March Meeting, Chicago, March 14 – 18, 2022.

626. J. Ye, “Amazing light that brightens our research,” DPG AMOP Conference, German Physical Society, March 16, 2022.

627. J. Ye, “Quantum metrology frontier,” Ohio State University Physics Colloquium, April 5, 2022.

628. J. Ye, “Quantum matter and clocks,” Kavli Distinguished Lecture, Cornell University, April 6, 2022.

629. J. Ye, “Quantum matter and clocks,” Physics Colloquium, Yale University, April 11, 2022.

630. J. Ye, “Tuning interactions between 2D planes – from atomic clock to dipolar quantum gas,” Joint Quantum Seminar, Harvard University, April 13, 2022.

631. J. Ye, “Tuning interactions in 2D geometry – from atomic clock to dipolar quantum gas,” Princeton Quantum Initiative colloquium, Princeton University, April 25, 2022.

632. J. Ye, “Amazing light that brightens research,” Gateway to Colorado Life Sciences Roadshow, Boulder, April 27, 2022.

633. J. Ye, “Quantum system engineering and sensing for fundamental physics,” WE-Heraeus-Seminar on *High-precision measurements and searches for New Physics*, Physikzentrum Bad Honnef, Bonn, Germany, May 9 – 13, 2022.

634. J. Ye, “Tick atoms in unison,” 2020 Rydberg Lecture, Lund University, Sweden, May 10, 2022.

635. J. Ye, “Novel applications of optical frequency comb spectroscopy,” CLEO 2022 Conference, San Jose, California, May 15 – 20, 2022.

636. J. Ye, “Technology innovations in the rapidly evolving world,” The United States Patent and Trademark Office Panel Presentations, May 17, 2022.

637. J. Ye, “Quantum matter, clock, and fundamental physics,” APS DAMOP Annual Meeting, Orlando, Florida, May 31 – June 3, 2022. (Plenary)

638. J. Ye, “Quantum gas of polar molecules,” 11th International Meeting on Atomic and Molecular Physics and Chemistry – IMAMPC 2022, Prague, Czech Republic, June 13 – 17, 2022. (Keynote)

639. J. Ye, “Building a microscope for quantum science and a telescope for fundamental physics,” Symposium *Humboldt meets Leibniz: Emerging Topics in Optics and Photonics*, Leibniz University, Hannover, Germany, June 12 – 14, 2022. (Plenary)

640. J. Ye, “An itinerant spin system – tunable dipolar molecule quantum gas,” 27th International Conference on Atomic Physics (ICAP-27), Toronto, Canada, July 19 – 24, 2022.

641. J. Ye, “JILA's time–A brief history of the Sr atomic clock,” JILA 60th Anniversary, Aug. 12, 2022.

642. J. Ye, “Quantum science and metrology,” Optics + Photonics Meeting, SPIE – the international society for optics and photonics, San Diego, August 21, 2022. (All-Symposium PLENARY)

643. J. Ye, “Clock based on quantum matter,” Nobel Symposium NS166, *Emerging Quantum Technologies*, Örenäs Castle, Lund and Malmö, Sweden, August 25 – 28, 2022.

644. Q. Liang and J. Ye, “Breath detection of COVID-19 via an optical frequency comb,” The 27th International Conference on Optical Fiber Sensors (OFS2022), Alexandria, Virginia, August 29 – September 2, 2022.

645. J. Ye, “Precision engineering of light-matter interactions for fundamental physics and new applications,” The 25th Congress of the International Commission on Optics (ICO-25) and the 16th

International Conference on Optics in the Life Sciences (OWLS-16), TU Dresden, Germany, September 5 – 9, 2022. KEYNOTE

646. J.-R. Li, K. Matsuda, C. Miller, A. Carroll, J. Higgins, and J. Ye, "Dipole-mediated itinerant spin dynamics with polar molecules," 7th Workshop on *Long-range interactions in the ultracold*, Innsbruck, Austria, September 7 – 9, 2022.

647. J. Ye, "Quantum matter, clocks, and fundamental physics," C.N. Yang Lecture, The Chinese University of Hong Kong, September 24, 2022. (Online)

648. J. Ye, "Spin squeezed optical lattice clocks," International Conference on *Quantum sensors and tests of new physics*, Hannover, October 5 – 7, 2022.

649. J. Ye, "Search for ultralight dark matter with clocks and cavities," FIPs Workshop (Feebly-Interacting Particles), CERN, Switzerland, October 17 – 21, 2022.

650. J. Ye, "Tuning interactions in a quantum gas of molecules," Symposium on Quantum Science and Chemistry with Cold Molecules, ACS Western Regional Meeting in Las Vegas, October 19 – 22, 2022.

651. K. Kim, A. Aeppli, T. Bothwell, C. J. Kennedy, and J. Ye, "Evaluation of the JILA 1D Wannier-Stark optical lattice clock," ACES Workshop, ENS, Paris, October 20 – 21, 2022.

652. J. Burau, P. Aggarwal, K. Mehling, J. Ye, "Reaching a new cooling limit with YO molecules," Workshop on *Laser Cooling of Molecules*, ITAMP, Cambridge, MA, Oct. 27 – 28, 2022.

653. J. Ye, "JILA's time - A brief history of the Sr atomic clock," JILA Colloquium, University of Colorado, Boulder, November 10, 2022.

654. J. Ye, "Quantum coherence, entanglement, and clock: from emergent phenomena to fundamental physics," Emmett Hudspeth Centennial Lecture, University of Texas Austin, November 16 – 17, 2022.

655. J. Ye, "Clock for quantum and fundamental physics," Physics Colloquium, University of California at Berkeley, November 28, 2022.

656. J. Ye, "Quantum matter, clocks, and fundamental physics," Lauritsen Memorial Lecture, Caltech, December 1, 2022.

657. J. Ye, "Quantum gas of polar molecules," IQIM seminar, Caltech, Pasadena, December 2, 2022.

658. J. Ye, "Quantum coherence, entanglement, and clock: from emergent phenomena to fundamental physics," NIST Colloquium, NIST, Gaithersburg, Maryland, December 16, 2022.

659. J. Ye, "Coherence, entanglement, and clock," The 53rd Winter Colloquium on the Physics of Quantum Electronics, Snowbird, Utah, January 9 – 13, 2023. (Plenary Talk)

660. J. Ye, "Quantum matter and clock: from emergent phenomena to fundamental physics," Astrophysics Colloquium, NASA Goddard Space Flight Center, January 24, 2023.

661. Q. Liang and J. Ye, "Breath analysis by laser spectroscopy detects SARS-CoV-2 infection," SPIE Photonics West, *Conference LA201 Nonlinear Frequency Generation and Conversion: Materials and Devices XXII*, San Francisco, January 28 – February 2, 2023.

662. D. Kedar and J. Ye, "Cryogenic silicon cavity for record laser frequency stability," SPIE Photonics West, *Conference on Photonic Heat Engines: Science and Applications V*, San Francisco, January 28 – February 2, 2023.

663. J. Ye, "Quantum metrology and clocks," Colloquium, University of Hong Kong, February 1, 2023.

664. J. Ye, "Quantum matter and clock: from emergent phenomena to fundamental physics," Colloquium, Boston College, February 8, 2023.

665. J. Ye, “Quantum gas of molecules with modern twists,” Chemistry Seminar, Stanford University, Palo Alto, California, February 14, 2023.

666. J. Ye, “Quantum matter and clock: from emergent phenomena to fundamental physics,” Q-FARM Seminar, Stanford University, Palo Alto, California, February 15, 2023.

667. J. Ye, “Tunable interactions and entanglement: new ingredients for atomic clocks,” Physics Colloquium, Harvard University, Cambridge, February 27, 2023.

668. J. Ye, “Quantum science of molecules with modern twists,” Center for Ultracold Atoms Seminar, Harvard University and MIT, Cambridge, February 28, 2023.

669. J. Ye, “The birth of a degenerate Fermi gas of molecules,” *From molecular spectroscopy to collisions control at the quantum limit: A symposium honoring Prof. Eberhard Tiemann*, DPG Spring Conference, Hannover, March 9, 2023.

670. J. Ye, “Mid-IR frequency comb spectroscopy and novel applications,” Microsystems Exploratory Council (MEC) workshop, DARPA MTO, March 15, 2023.

671. J. Ye, “Coherence, entanglement, and clock: from emergent phenomena to fundamental physics,” Jack Munushian Lecture, University Southern California, March 31, 2023.

672. J. Ye, “Coherence, entanglement, and clock: from emergent phenomena to fundamental physics,” Hans Jensen Lecture, Heidelberg University, Germany, April 12 – 13, 2023.

673. J. Ye, “Gravitational redshift measurements using an optical lattice clocks,” APS April Meeting Minneapolis, Minnesota, April 15 – 18, 2023.

674. J. Ye, “Quantum coherence, entanglement, and clocks,” Quantum Science Center (QSC) Summer School Lecture, Purdue University, April 27 – 30, 2023.

675. C. Zhang and J. Ye, “Novel comb spectroscopy form mid infrared to extreme ultraviolet,” Topical Review *Frequency comb spectroscopy: from VUV to THz*, CLEO 2023, San Jose, May 7 – 12, 2023.

676. J. Ye, “Pushing the frontiers of quantum metrology and clocks,” ZEISS Colloquium, Carl Zeiss AG, Germany, May 23, 2023.

677. J. Ye, “A new bound of the electron electric dipole moment,” APS DAMOP, Spokane, Washington, June 5 – 9, 2023.

678. J. Ye, “Quantum matter and clock: from emergent phenomena to fundamental physics,” 2023 Atomic Physics Gordon Research Conference, Salve Regina University, Newport, June 11 – 16, 2023.

679. A. Carroll, C. Miller, J.R. Li, H. Hirzler, K. Zamarski, and J. Ye, “Tunable spin dynamics with ultracold molecules,” Workshop on Quantum Science with Ultracold Molecules, St Albans, UK, June 14 – 15, 2023.

680. P. Aggarwal, J. Burau, K. Mehling, and J. Ye, “Laser cooling of YO molecules to achieve high phase-space density,” Workshop on Quantum Science with Ultracold Molecules, St Albans, UK, June 14 – 15, 2023.

681. J. Ye, “Quantum matter, clocks, and fundamental physics,” The 31st Annual International Laser Physics Workshop (LPHYS'23), July 3 – 7, 2023. (Online)

682. J. Ye, “Quantum matter, clocks, and fundamental physics,” 2023 Quantum Sensing Gordon Research Conference, Les Diablerets Conference Center, Switzerland, July 23 – 28, 2023.

683. J. Ye, “Quantum matter and clock: from emergent phenomena to fundamental physics,” CERN Colloquium, CERN, Switzerland, July 27, 2023.

684. J. Ye, “From atomic clock to breath analyzer – Extreme sensing at quantum limit,” DOC Learning & Development (L&D) Lunch-and-Learn Series, Department of Commerce, August 31, 2023.

685. J. Ye, “Quantum matter and clock: Control many-body physics for precision & accuracy,” BEC 2023 Conference, Sant Feliu de Guixoles, Spain, September 9 – 15, 2023.

686. J. Ye, “Quantum science and atomic clocks,” International Conference on Emerging Quantum Technology (ICEQT), Hefei, September 17 – 22, 2023.

687. J. Ye, “A personal perspective on the development of optical atomic clocks,” Micius Salon Public Lecture, Shanghai, September 22, 2023.

688. J. Ye, “Quantum science and atomic clocks,” and “Quantum science of molecules with modern twists,” Columbia Quantum Initiative Distinguished Speaker Lecture, Columbia University, September 28 – 29, 2023.

689. J. Ye, “Quantum science and atomic clocks at CU Boulder,” New Horizons in Science, Council for the Advancement of Science Writing, Science-Writers Conference, University of Colorado, Boulder, October 7 – 9, 2023.

690. J. Ye, “Precise engineering of quantum many-body states for atomic clocks and fundamental physics,” KITP Conference on *Frontiers of Quantum Metrology: Fundamental Physics, Unexpected Connections, and Novel Applications*, Kavli Institute for Theoretical Physics, Santa Barbara, California, October 9 – 12, 2023.

691. J. Ye, “The latest progress on optical lattice clocks,” The 9th Symposium on Frequency Standards and Metrology, Kingscliff, Australia, October 16 – 20, 2023.

692. J. Ye, “Quantum science and atomic clocks,” Annual Quantum Public Lecture, the Institute of Quantum Science and Technology (IQST), the Major Innovation Fund Quantum Project and Quantum City, Alberta Quantum Summit, Canada, November 15 – 17, 2023.

693. J. Ye, “Engineering a quantum frontier for fundamental physics,” Rui-Yuan Science Prize Lecture, Shanghai Jiao Tong University, Shanghai, November 22, 2023.

694. J. Ye, “Molecules under new light,” The 20th Laser Science Workshop, Guiyang, Guizhou Province, November 24 – 26, 2023.

695. J. Ye, “Quantum science and atomic clocks,” Workshop on *Quantum Science and Technology: recent advances and new perspectives*, Pontifical Academy of Sciences, Vatican, Nov. 30 – Dec. 2, 2023.

696. J. Ye, “Molecules under new light,” John E. Willard Chemistry Lecture, Department of Chemistry, University of Wisconsin, Madison, December 5, 2023.

697. J. Ye, “Quantum science and atomic clocks,” Asian American Academy of Science and Engineering (AAASE) Distinguished Lecture, December 11, 2023.

698. J. Ye, “Engineering a quantum frontier for atomic clocks & fundamental physics,” Distinguished Colloquium, Pritzker School of Molecular Engineering, University of Chicago, January 12, 2024.

699. J. Ye, “Engineering a quantum frontier for atomic clocks and fundamental physics,” Quantum West Conference/SPIE, San Francisco, California, January 29, 2024.

700. J. Ye, Lecture I: “Celebrating Dalgarno’s Serendipitous Journey – Building atomic clocks for fundamental physics.” Lecture II: “Quantum gas of dipolar molecules.” Lecture III: “Molecules under new light.” Dalgarno Memorial Lectures, Harvard University, Feb. 5 – 8, 2024.

701. J. Ye, “Quantum science and atomic clocks,” Colloquium, Virginia Commonwealth University, Richmond, February 9, 2024.

702. J. Ye, “Observation of mHz-level cooperative Lamb shifts in an optical atomic clock,” American Physical Society March Meeting, Minneapolis, March 4 – 8, 2024.

703. J. Ye, “Engineering a quantum frontier for atomic clocks,” Intellectual Ventures Seminar, March 25, 2024. (Virtual)

704. J. Ye, “Quantum gas of molecules,” Atoms, Molecules and Clusters in Motion – AMOC 2024, University Gustave Eiffel, France, April 15 – 18, 2024.

705. J. Ye, “Engineering a quantum frontier for atomic clocks and fundamental physics,” The Lise Meitner Distinguished Lecture & Medal, AlbaNova University Center, Stockholm, April 18, 2024.

706. J. Ye, “Optical clocks and frequency combs,” Colloquium, The Belgian National Committee for Pure and Applied Physics, Brussels, April 20, 2024.

707. J. Ye, “Quantum coherence, entanglement, and fundamental physics through the eye of a clock,” CLEO 2024, Charlotte, North Carolina, May 5 – 10, 2024. Conference Plenary

708. J. Ye, “Quantum gas of polar molecules,” DeMille Fest, University of Chicago, May 11 – 12, 2024.

709. C. Zhang and J. Ye, “New scientific opportunities with extended frequency combs from mid-infrared to XUV,” Multiphoton Processes Gordon Research Conference, Bryant University, June 9 – 14, 2024.

710. J. Ye, “Quantum sensing and fundamental physics,” DOE Quantum System Accelerators Annual Meeting, Albuquerque, June 14, 2024.

711. J. Ye, “Quantum gases of atoms and molecules for quantum simulation and metrology,” *Quantum Connection Summer School*, Högberga Gård, Stockholm, Sweden, June 9 – 22, 2024.

712. J. Ye, “Measuring time with quantum uncertainty,” Workshop on Metrology in a Participatory Universe, Dartmouth College, Hanover, NH, June 24 – 26, 2024.

713. J. Ye, “Quantum frontier for clocks & fundamental physics,” International Frontier Science Forum, School of Physics & Optoelectronic Engineering, Hainan University (Virtual), July 3, 2024.

714. J. Ye, “Dawn of a nuclear clock: frequency ratio of the ^{299}Th isometric transition and the ^{87}Sr atomic clock,” Army Research Office Seminar (Virtual), July 12, 2024.

715. J. Ye, “Quantum sensing and fundamental physics,” *US Quantum Summer School*, Oak Ridge National Laboratory, July 19, 2024. (Keynote Lecture)

716. J. Ye, “Measuring time at the quantum frontier,” Quantum Science Gordon Research Conference, Stonehill College, Massachusetts, July 28 – August 2, 2024.

717. J. Ye, “Dawn of nuclear clock: precision metrology meets nuclear physics,” Harvard Physics Colloquium, September 9, 2024.

718. J. Ye, “Laser stabilization 101: some useful tips for metrology and quantum information,” CUA Seminar, Harvard – MIT Center for Ultracold Atoms, September 10, 2024.

719. J. Ye, “Scaling up quantum systems for time,” International Conference on Quantum Optics and Quantum Information, IQOQI, University of Innsbruck, September 17 – 20, 2024.

720. J. Ye, “Atomic clocks and quantum sensing for fundamental physics,” Applied Materials, Santa Clara, California, September 30, 2024. (Online)

721. J. Ye, “Clocks and quantum system scaling,” 3rd ITAMP Workshop on Table-top AMO for Fundamental Physics, Harvard, Cambridge, October 3 – 4, 2024.

722. J. Ye, “Frequency combs for new discoveries,” OPTICA Incubator on Frequency Combs for Chemical, Biological, and Medical, Applications, Washington DC, October 10, 2024.

723. J. Ye, “Nuclear clock,” National Academy of Sciences, Committee on Atomic, Molecular and Optical Sciences (CAMOS), Irvine, California, October 11, 2024. (Online)

724. J. Ye, “Nuclear clock: quantum system scaling for time,” Physics Colloquium, University of Connecticut, Storres, October 18, 2024.

725. J. Ye, “Build optical atomic clocks for fundamental physics,” OPTICA, Optical Design Technical Group Webinar, October 29, 2024.

726. J. Ye, “Quantum clocks and fundamental physics,” Physics Colloquium, University of Minnesota, Minneapolis, October 31, 2024.

727. J. Ye, “Breaking the wall of quantum timekeeping,” The FALLING WALLS Science Summit, Berlin, November 7 – 9, 2024.

728. J. Ye, “Clocks for fundamental physics,” *Breaking the Standard Model: Finding New Physics in Precision and Sensitivity*, Moore Foundation Workshop, Denver, November 16 – 17, 2024.

729. J. Ye, “Nuclear clock: quantum system scaling for time,” PSW Science Lecture (Philosophical Society of Washington), the Cosmos Club, Washington D.C., November 22, 2024.

730. J. Ye, “Nuclear clocks: scaling up quantum systems for time,” PQE, Snowbird, January 6-9, 2025.

731. J. Ye, “Clocks and quantum sensing for fundamental physics,” Colloquium, Pomona College, Claremont, California, February 11, 2025.

732. J. Ye, “Laser-based Mössbauer spectroscopy for nuclear clock,” Colloquium, MIT Laboratory of Nuclear Science, February 24, 2025.

733. J. Ye, “A nuclear clock,” Physics Colloquium, and “Quantum gas of molecules,” Quantum Research Institute Seminar, University of Michigan, Ann Arbor, March 12, 2025.

734. J. Ye, “Nuclear clock: scalable quantum system for time,” APS Global Physics Summit (Joint March Meeting and April Meeting), Anaheim, California, Mar 16 – 21, 2025.

735. T. Ooi, J. F. Doyle, C. Zhang, J. S. Higgins, J. Ye, “Dawn of a solid-state ^{229}Th nuclear clock,” Physics Colloquium, University of Alberta, March 28, 2025.

736. J. Ye, “Lighting a path for clock and fundamental physics,” “Molecules under new light,” Anna I. McPherson Lectures, McGill University, Montreal, April 3 – 4, 2025.

737. J. Ye, “Lighting a path for clock and fundamental physics,” American Physical Society’s Senior Physicists Group (SPG), April 14, 2025. (Virtual)

738. J. Ye, “Light a path for quantum sensing,” Colloquium, CREOL, College of Optics & Photonics, University of Central Florida, Orlando, Florida, April 18, 2025.

739. J. Ye, “Molecules under new light,” Physical Chemistry/Chemical Physics Colloquium, Chemistry Department, University of Colorado Boulder, April 25, 2025.

740. J. Ye, “Precision measurements and atomic clocks,” Board on Physics and Astronomy (BPA) Spring Meeting, National Academy of Sciences, Washington, DC, April 30 – May 1, 2025.

741. J. Ye, “Clocks and fundamental physics,” Center for Fundamental Physics, Northwestern University, May 15, 2025.

742. J. Ye, “Nuclear clock,” Argonne National Laboratory, May 16, 2025.

743. J. Ye, “Scaling quantum systems for clock and fundamental physics,” International Conference on Laser Spectroscopy (ICOLS2025), Elba Island, Tuscany, Italy, June 2 – 7, 2025.

744. J. Ye, “Scaling the clock performance for fundamental physics,” Workshop *Centenary of Quantum Mechanics*, Helgoland Island, Germany, June 9 – 14, 2025. (Centennial of quantum mechanics)

745. J. Ye, “Quantum science, clocks, and fundamental physics,” CLEO/Europe–EQEC Conference, Munich, Germany, June 23 – 27, 2025. (Conference Keynote)

746. J. Ye, “Quantum coherence and system scaling for clock and fundamental physics,” Rochester Conference of Coherence and Quantum Science, Rochester, NY, June 23 – 27, 2025.

747. J. Ye, “Lighting a path for quantum metrology and fundamental physics,” European Conference on Atoms, Molecules and Photons (ECAMP 15), Innsbruck, Austria, June 30 – July 4, 2025. Plenary

748. J. Ye, “Lighting a path for clock and fundamental physics,” Colloquium, ICFO - The Institute of Photonic Sciences, Barcelona, July 4, 2025.

749. J. Ye, “Lattice spin dynamics with quantum gas of molecules,” Summer Program of the Aspen Center for Physics, Aspen, Colorado, July 20 – 27, 2025.

750. Y.-C Chan, D. J. Nesbitt, and J. Ye, “High-resolution spectroscopy and buffer-gas cooling of C_{60},” 37th International Symposium on Free Radicals, Snowbird, Utah, August 3 – 8, 2025.

751. J. Ye, “Coherence, clocks, and fundamental physics,” Plenary Lecture, 29th International Colloquium on High-Resolution Molecular Spectroscopy, Cologne, Germany, August 25 – 29, 2025. (HRMS Molecular Physics Lecture 2025)

752. J. Ye, “Quantum system engineering for clocks and fundamental physics,” Quantum Optics Conference XI, Kraków, Poland, September 1 – 5, 2025.

753. J. Ye, “Engineering a quantum frontier for clocks and fundamental physics,” DPG Quantum Technology Workshop, 100 Years of Quantum Physics, Frankfurt, Germany, Sept. 1 – 4, 2025.

754. J. Ye, “Quantum coherence and system scaling for clock and fundamental physics,” Texas Quantum Summit, Texas A&M University, September 19 – 20, 2025

755. J. Ye, “Quantum system engineering for clocks and fundamental physics,” Colloquium, Colorado School of Mines, Golden Colorado, September 23, 2025.

756. J. Ye, “Laser-driven Mössbauer spectroscopy for nuclear clock,” Editors’ Colloquium, American Physical Society, Physical Review journals, October 16, 2025. (online)

757. J. Ye, “Cavity QED and entangled clocks,” *Viva Quantum*, Workshop to honor Ignacio Cirac’s 60th birthday, Munich, Germany, October 23 – 25, 2025.

758. J. Ye, “Light a quantum path for clock and fundamental physics,” Public Lecture, Universidad de los Andes, Bogotá, November 10, 2025; “Laser frequency stabilization: performance and applications,” Technical Seminar, Universidad de los Andes, Bogotá, November 11, 2025.

759. J. Ye, “Lighting a quantum path for clock and fundamental physics,” AFRL/AFOSR Chief Scientist Distinguished Lecture Series, November 20, 2025

760. J. Ye, “Scaling up quantum systems for clock and fundamental physics,” Fermi-Lab Quantum Symposium - *Exploring the Quantum Universe*, December 4, 2025. Conference Plenary

761. J. Ye, “Scaling up quantum systems for clock and fundamental physics,” Colloquium, JQI, University of Maryland, College Park, December 8, 2025.

762. J. Ye, “Nuclear clock: recent developments,” PQE, Snowbird, January 5 – 9, 2026. (Plenary)

763. J. Ye, “Ligh a quantum path for clock and fundamental physics,” NANOMETA Conference, Seefeld, Austria January 6 – 9, 2026. (Conference Plenary)

764. J. Ye, “Nuclear clock – the latest updates inspired by Steve Girvin,” Steven Girvin Fest, Yale University, New Haven, January 9 – 10, 2026.

765. J. Ye, “Nuclear clock: recent updates,” DRD5 (Detector R&D Collaboration 5) online workshop on *Thorium challenges and opportunities for BSM*, January 15, 2026.

766. J. Ye, “Light a quantum path for clock and fundamental physics,” University of Vienna, January 26, 2026.

767. J. Ye, “Quantum engineering for practical advantages in clock,” Swiss Quantum Days, Engelberg, Switzerland, January 28 – 30, 2026. (Keynote)

768. J. Ye, “Scaling up quantum systems for clocks – from atoms to nuclei,” Colloquium, Department of Physics and Astronomy, Purdue University, February 19, 2026.

769. J. Ye, “Quantum metrology and clocks,” Colloque Scientifique de l'INRS-EMT, Institut National de la Recherche Scientifique (INRS), Montreal, Quebec, March 5 – 6, 2026.

770. J. Ye, “Quantum engineering for clocks and fundamental physics,” MIT Physics Colloquium, March 12, 2026.

771. J. Ye, “Nuclear clocks – recent developments and opportunities with nonlinear optics,” IPG Photonics Workshop, Marlborough, Massachusetts, March 13, 2026.

772. J. Ye, “Precision optical interferometer for laser frequency stabilization and various applications,” *The Cutting Edge of Applied Science*, Global Physics Summit, Denver, Colorado, March 16, 2026.