

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
Web: <https://jila.colorado.edu/Yelabs>, Phone 303-735-3171, Email Ye@jila.colorado.edu

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

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
Clarivate Analytics/Thomson Reuters, Highly Cited Researcher (Top 1%), every year from 2014 to 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 Wilhelm 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 Guest Professorships

Jack Munushian Lecture, University Southern California, 2023; Hans Jensen Lecture, Heidelberg University, 2023; Lauritsen Memorial Lecture, Caltech, 2022; Emmett Hudspeth Centennial Lecture,

University of Texas Austin, 2022; C.N. Yang Lecture, CUHK, 2022; Rydberg Lecture, Lund University, Sweden, 2022; Hinshelwood Lecture, University of Oxford, 2019; George Rochester Public Lecture, University of Durham, 2019; Morris Loeb Lectures, Harvard, 2018; Robert M. Walker Distinguished Lecture, Washington University St. Louis, 2017; Einstein Colloquium, Weizmann Institute of Science, 2017; Lord Lecture, MIT, 2016; Rice University Quantum Center Distinguished Lecture, 2017; Hanan Rosenthal Memorial Lecture, Yale University, 2014; Heidelberg University Public Lecture, Klaus-Georg & Sigrid Hengstberger Foundation, 2014; Kent R. Wilson Lecture in Physical Chemistry, Univ. California San Diego, 2012; Niels Bohr Lecture, University of Copenhagen, 2009; R. B. Woodward Lecture in Chemical Sciences-Physical Chemistry, Harvard University, 2009; Henri Sack Memorial Lecture, Cornell University, 2007; Optical Society of America (OSA) Traveling Lecturer, 2006 – 2010; Guest Professors, Shanghai JiaoTong Univ, East China Normal Univ, 2006; Guest Professor, Universität Innsbruck, 2004.

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)
Department of Physics, University of Colorado: Assistant Professor Adjoint (1999 – 2003), Associate Professor Adjoint (2004 – 2006), Professor Adjoint (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, & applications*, 2001 Photonics West
Co-organizer – Special session on precision measurement, 2002 APS – DAMOP Annual Meeting
Principle 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, Garching; 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

684 invited talks (Colloquia, Keynote Speeches, Invited Talks, and Seminars)
Web of Science: 38,126 citations (Avg. 111), H-index 102. Google Scholar: 61,868 citations; H-index 130
422 publications: *Science* (26), *Nature* (14), *Nature journals* (23), *Phys. Rev. Lett. / Phys. Rev. X* (84)
2 edited books; 2 edited conference proceedings & special issues; 1 NAS report; 4 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

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. Bureau, Q. Liang, M. Miklos, Y. M. Tso, C. Miller, K. Mehling, A. Carroll, W. Warfield, Z. Hu, M. Frankel, T. Ooi, M. Chen

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

U.S. patents (4)

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: 1×10^{-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.