Prof. Dr. Fedor Jelezko | CV

Date of birth: 12.05.1971, male, German
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Professor (W3), Ulm University & Director, Institute of Quantum Optics
Albert Einstein Allee 11
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Cluster-relevant Expertise

Solid-state quantum toptics, Quantum sensing, NV centers in diamond

University Education

1988-94 Study of Physics, Belarus State University, Minsk, Belarus. Diploma with excellence award

Scientific Degrees

1995-98 PhD at University of Bordeaux I and Belarus State University

Professional Experience

1999 Research Assistant, Technical University of Chemnitz
1999 – 2007 Research Assistant, 3. Physical Institute, University of Stuttgart
2007 – 2010 Senior lecturer (tenured): Physics Department, University of Stuttgart
2010 Habilitation, Experimental Physics, University of Stuttgart
2011 – University Professor (chair in Quantum Optics), University of Ulm

International Activities and Awards

Fellowship of French Government, 1995
Eliteförderung der Landesstiftung Baden-Württemberg, 2004
Walter-Schottky Prize of German Physical Society (DPG), 2008
ERC Synergy Grant (together with Martin Plenio and Tanja Weil), 2013
Member of Heidelberg academy of Sciences (2014)
Highly cited researcher (Reuters), 2014, 2015, 2016, 2017, 2018
Otto Mønsted – Professorship Award (2015)
Zeiss Research Award (2016)
Landesforschungspreis (2016)
Shpol'skii-Rebane-Personov Prize (2018)

306 publications in ISI-listed journals
h-index (Thomson Reuters): 69

Prof. Dr. Fedor Jelezko | Most Important Publications

Balasubramanian, G., I. Y. Chan, R. Kolesov, M. Al-Hmoud, J. Tisler, C. Shin, C. Kim, A. Wojcik, P. R. Hemmer, A. Krueger, T. Hanke, A. Leitenstorfer, R. Bratschitsch, F. Jelezko, and J. Wrachtrup. "Nanoscale Imaging Magnetometry with Diamond Spins under Ambient Conditions." *Nature* 455, no. 7213 (2008): 648-U46. http://dx.doi.org/10.1038/nature07278.

Ermakova, A., G. Pramanik, J. M. Cai, G. Algara-Siller, U. Kaiser, T. Weil, Y. K. Tzeng, H. C. Chang, L. P. McGuinness, M. B. Plenio, B. Naydenov, and F. Jelezko. "Detection of a Few Metallo-Protein Molecules Using Color Centers in Nanodiamonds." *Nano Letters* 13, no. 7 (2013): 3305-09. http://dx.doi.org/10.1021/nl4015233.

Jelezko, F., T. Gaebel, I. Popa, M. Domhan, A. Gruber, and J. Wrachtrup. "Observation of Coherent Oscillation of a Single Nuclear Spin and Realization of a Two-Qubit Conditional Quantum Gate." *Physical Review Letters* 93, no. 13 (2004). http://dx.doi.org/ARTN 130501

10.1103/PhysRevLett.93.130501.

Jelezko, F., T. Gaebel, I. Popa, A. Gruber, and J. Wrachtrup. "Observation of Coherent Oscillations in a Single Electron Spin." *Physical Review Letters* 92, no. 7 20 2004). http://dx.doi.org/ARTN 076401

10.1103/PhysRevLett.92.076401.

London, P., J. Scheuer, J. M. Cai, I. Schwarz, A. Retzker, M. B. Plenio, M. Katagiri, T. Teraji, S. Koizumi, J. Isoya, R. Fischer, L. P. McGuinness, B. Naydenov, and F. Jelezko. "Detecting and Polarizing Nuclear Spins with Double Resonance on a Single Electron Spin." *Physical Review Letters* 111, no. 6 (2013). http://dx.doi.org/ARTN 067601

10.1103/PhysRevLett.111.067601.

Lovchinsky, I., A. O. Sushkov, E. Urbach, N. P. de Leon, S. Choi, K. De Greve, R. Evans, R. Gertner, E. Bersin, C. Muller, L. McGuinness, F. Jelezko, R. L. Walsworth, H. Park, and M. D. Lukin. "Applied Physics Nuclear Magnetic Resonance Detection and Spectroscopy of Single Proteins Using Quantum Logic." *Science* 351, no. 6275 (2016): 836-41. http://dx.doi.org/10.1126/science.aad8022.

Neumann, P., J. Beck, M. Steiner, F. Rempp, H. Fedder, P. R. Hemmer, J. Wrachtrup, and F. Jelezko. "Single-Shot Readout of a Single Nuclear Spin." *Science* 329, no. 5991 (2010): 542-44. http://dx.doi.org/10.1126/science.1189075.

Neumann, P., N. Mizuochi, F. Rempp, P. Hemmer, H. Watanabe, S. Yamasaki, V. Jacques, T. Gaebel, F. Jelezko, and J. Wrachtrup. "Multipartite Entanglement among Single Spins in Diamond." *Science* 320, no. 5881 (2008): 1326-29. http://dx.doi.org/10.1126/science.1157233.

Schmitt, S., T. Gefen, F. M. Sturner, T. Unden, G. Wolff, C. Muller, J. Scheuer, B. Naydenov, M. Markham, S. Pezzagna, J. Meijer, I. Schwarz, M. B. Plenio, A. Retzker, L. P. McGuinness, and F. Jelezko. "Submillihertz Magnetic Spectroscopy Performed with a Nanoscale Quantum Sensor." *Science* 356, no. 6340 (2017): 832-36. http://dx.doi.org/10.1126/science.aam5532.

Siyushev, P., M. Nesladek, E. Bourgeois, M. Gulka, J. Hruby, T. Yamamoto, M. Trupke, T. Teraji, J. Isoya, and F. Jelezko. "Photoelectrical Imaging and Coherent Spin-State Readout of Single Nitrogen-Vacancy Centers in Diamond." *Science* 363, no. 6428 (2019): 728-+. http://dx.doi.org/10.1126/science.aav2789.