

Summary of Publications

200 peer reviewed scientific publications since 2002 including 162 journal publications, 20 book chapters, 6 refereed conference proceedings, 5 theses, 7 monographs/books; designed and contributed to 29 journal and book covers. h-index of 38 with +6000 citations, <http://scholar.google.com/citations?user=dKpz7QkAAAAJ>

Summary of Presentations

144 presentations since 2003 including 80 invited presentations total (conferences, symposia, colloquia) and 5 invited general audience presentations.

Journal Covers



Journal Articles

1. J. Xu, E. S. Rasmussen, F. Berthias, J. Schmidt, H. Mouritsen, O. N. Jensen, and I. A. Solov'yov. A Charge-Reversal Point Mutation Completely Depletes Flavin Chromophore from European Robin Cryptochrome 4a Protein. *Journal of Physical Chemistry Letters* **17**, pp. 3742–3748 (2026).
2. G. Musabirova, O. B. Morozova, A. S. Kiryutin, I. S. Anisimova, I. V. Zhukov, T. Theiss, L. Gerhards, B. G. E. Zoller, T. Gulder, J. Matysik, I. A. Solov'yov, and A. V. Yurkovskaya. Conformational Switching Controls Biradical Spin Dynamics in Flavin-Tryptophan Dyads. *Journal of the American Chemical Society* **148**, pp. 15897–15910 (2026).
3. G. Grüning, L. Gerhards, C. Sampson, D. R. Kattinig, and I. A. Solov'yov. Spin Relaxation Does Not Preclude Magnetic Field Effects on Lipid Autoxidation. *ACS Central Science* **12**, pp. 49–62 (2026).
4. I. Patmanidis, B. Leberecht, M. Fränzle, D. Lentink, I. A. Solov'yov, and H. Mouritsen. Directionality range in Emlen funnels. *Journal of the Royal Society Interface* **23**, pp. 20250225–(1–12) (2026).
5. A. C. Wickramaratne, E. S. Rasmussen, Y. Chelliah, F. Schuhmann, I. A. Solov'yov, H. Mouritsen, C. B. Green, B. D. Zoltowski, and J. S. Takahashi. Structure of European robin cryptochrome 1 reveals a role in circadian rhythms, not magnetoreception. *iScience* **28**, pp. 114015–(1–11) (2025).
6. J. Luo, J. Hungerland, I. A. Solov'yov, J. E. Subotnik, and S. Hammes-Schiffer. Protein and Solvent Reorganization Drives Radical Pair Stability in Avian Cryptochrome 4a. *Journal of the American Chemical Society* **147**, pp. 43934–43945 (2025).
7. S. A. Chandler, A. S. Gehrckens, L. M. Shah, K. E. Buckton, G. Cao, N. Sen, T. Zollitsch, R. Rodriguez, I. A. Solov'yov, E. Schleicher, S. Weber, P. Hore, C. R. Timmel, S. R. Mackenzie, and J. L. Benesch. Light-induced conformational switching and magnetic sensitivity of Drosophila cryptochrome. *Structure* **33**, pp. 1930–1943 (2025).
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9. L. Gerhards, A. Deser, D. R. Kattinig, J. Matysik, and I. A. Solov'yov. Weak Radiofrequency Field Effects on Biological Systems Mediated through the Radical Pair Mechanism. *Chemical Reviews* **125**, pp. 8051–8088 (2025). Paper selected for a cover.
10. P. L. Benjamin, L. Gerhards, I. A. Solov'yov, and P. J. Hore. Magnetosensitivity of Model Flavin-Tryptophan Radical Pairs in a Dynamic Protein Environment. *Journal of Physical Chemistry B* **129**, pp. 5937–5947 (2025).
11. J. M. Kornblueh, and I. A. Solov'yov. Fast-Track Signaling: A Non-Adiabatic Photoactivation Pathway in Plant Cryptochromes. *ACS Central Science* **11**, pp. 1026–1028 (2025).
12. P. Mentzel, L. Gerhards, D. Koppenhöfer, A. Schmiedel, M. Holzapfel, N. N. Lukzen, I. A. Solov'yov, U. E. Steiner, and C. Lambert. Revealing the Impact of g-Tensor Anisotropy on the Charge Recombination in Donor-Acceptor Dyads under High Magnetic Fields. *Journal of the American Chemical Society* **147**, pp. 23068–23078 (2025).
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24. A. V. Solov'yov, A. V. Verkhovtsev, N. J. Mason, R. A. Amos, I. Bald, G. Baldacchino, B. Dromey, M. Falk, J. Fedor, L. Gerhards, M. Hausmann, G. Hildenbrand, M. Hrabovský, S. Kadlec, J. Kočíšek, F. Lépine, S. Ming, A. Nisbet, K. Ricketts, L. Sala, T. Schlathölter, A. E. H. Wheatley, and I. A. Solov'yov. Condensed Matter Systems Exposed to Radiation: Multiscale Theory, Simulations, and Experiment. *Chemical Reviews* **124**, pp. 8014–8129 (2024). Paper selected for a cover.
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Book Chapters

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