

David Villeneuve

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Education

Ph.D (Physics): University of Waterloo, 1980
NSERC Postdoctoral Fellowship: University of Rochester, 1980-82.

Employment

Group leader, National Research Council, Attosecond Science, 2006 – present.
Principal Research Scientist, National Research Council, Ottawa, 1982-present.
Adjunct professor, University of Ottawa, 2006--
Adjunct professor, Université du Québec (INRS-EMT), 1991--.

Awards and Honours

NRC Commemorative Centennial Medallion, 2018
IEEE Quantum Electronics Award 2016.
Thomson-Reuters Highly Cited Author 2014 for period 2004-2014.
Fellow, Royal Society of Canada, 2014.
Fellow, Optical Society of America 2011.
Fellow, American Physical Society 2007.
The 125th Anniversary of the Confederation of Canada Medal, 1992.

Committees and Chairs

Ultrafast Phenomena Conference, Santa Fe (program committee) 2016
International Conference on Attosecond Physics, Quebec, July 2015 (international committee)
Ultrafast Dynamic Imaging of Matter Conference, Switzerland (program committee) 2015
APS Rabi Prize Selection Committee, 2014
Ultrafast Phenomena Conference, Japan (program committee) 2014
Attosecond Science Conference, Paris (program committee) 2013
NSERC Appeal Advisor, 2013, 2014
Frontiers in Optics Laser Science Conference (FiO/LS), (General Co-Chair) 2012
Gordon Conference on Multiphoton Processes (conference chair) 2012
Dynamic Molecular Imaging Conference, Banff AB, July 2012 (conference chair)
Ultrafast Phenomena Conference, Lausanne Switzerland (program committee) 2012
CLEO/QELS Program Committee (Committee SC07 Chair) 2010
CLEO/QELS Program Committee (Committee SC07 Chair) 2011
NSERC Grant Evaluation Committee 2010-2014

NSERC Grant Evaluation Committee section chair 2011
Gordon Conference on Multiphoton Processes, vice-chair 2010
CLEO/QELS Program Committee 2008, co-chair 2009
Ultra-Intense Laser Interaction Science, scientific committee 2009
Ultrafast Dynamic Imaging of Matter, program committee 2009
International Conference on Raman Spectroscopy program committee, 2004
Photonics North 2004 Conference program committee, 2004
Technical design committee, Advanced Laser Light Source (ALLS), 2003-06
Special editor of Applied Physics B, 2002
Chairman, CAP Division of Plasma Physics, 1991/1992

Impact Summary

h-index = 65 (ISI Web of Science, December 2018), h-index = 71 (Google Scholar).

218 articles, 20,000 citations.

Science (7 papers), Nature (6), Nature Physics (8), Nature Photonics (6), Phys Rev Lett (50).

33 invited talks in past 5 years.

Thomson-Reuters Highly Cited Author 2014 for period 2004-2014 (1 of 144 physicists worldwide, and 1 of 3 Canadians)

Web of Science Researcher ID: <http://www.researcherid.com/rid/I-4140-2012>

Scopus author ID <https://www.scopus.com/authid/detail.uri?authorId=7103162769>.

Google Scholar profile: https://scholar.google.ca/citations?user=jgYm_loAAAAJ&hl=en

List of Publications in Refereed Journals (n= 222)

1. Mladen M. Kekez, David M. Villeneuve,
Nitrogen Laser Emissions of Short and Long Durations Generated in Air,
IEEE Transactions On Plasma Science 48, 647–657 (2020)[DOI](#) [PDF](#)
2. M. Kübel, M. Spanner, Z. Dube, A. Yu Naumov, S. Chelkowski, A. D. Bandrauk, M. J. J. Vrakking, P. B. Corkum, D. M. Villeneuve, A. Staudte,
Probing Multiphoton Light-Induced Molecular Potentials,
Nature Communications 11, 2596 (2020)[DOI](#) [PDF](#)
3. C. Marceau, J. B. Bertrand, Peng Peng, H. J. Wörner, P. B. Corkum, D. M. Villeneuve,
Simultaneous Measurements of Strong-Field Ionization and High Harmonic Generation in Aligned Molecules,
Journal Of Physics B: Atomic, Molecular And Optical Physics 53, 084006 (2020)[DOI](#) [PDF](#)
4. Nicola Mayer, Peng Peng, David M. Villeneuve, Serguei Patchkovskii, Misha Ivanov, Oleg Kornilov, Marc J. J. Vrakking, Hiromichi Niikura,
Population Transfer to High Angular Momentum States in Infrared-Assisted XUV Photoionization of Helium,
Journal Of Physics B: Atomic, Molecular And Optical Physics 53, 164003 (2020)[DOI](#) [PDF](#)
5. A. Yu Naumov, D. M. Villeneuve, Hiromichi Niikura,
High Conversion Efficiency of an Optical Parametric Amplifier Pumped by 1 kHz Ti:Sapphire Laser Pulses for Tunable High-Harmonic Generation,
Optics Express 28, 4088–4098 (2020)[DOI](#) [PDF](#)
6. Serguei Patchkovskii, Marc J. J. Vrakking, D. M. Villeneuve, Hiromichi Niikura,
Selection of the Magnetic Quantum Number in Resonant Ionization of Neon Using an XUV-IR Two-Color Laser Field,
Journal Of Physics B: Atomic, Molecular And Optical Physics 53, 134002 (2020)[DOI](#) [PDF](#)
7. Mathew Britton, Marianna Lytova, Patrick Laferrière, Peng Peng, Felipe Morales, Dong Hyuk Ko, Maria Richter, Pavel Polynkin, D. M. Villeneuve, Chunmei Zhang, Misha Ivanov, Michael Spanner, Ladan Arissian, P. B. Corkum,
Short- and long-term gain dynamics in N₂⁺ air lasing,
Phys. Rev. A 100, 013406 (2019) [DOI](#) [PDF](#)

8. Xiaoyan Ding, R. Forbes, M. Kübel, Kevin F. Lee, M. Spanner, A. Yu. Naumov, D. M. Villeneuve, A. Stolow, P. B. Corkum, A. Staudte,
Threshold Photodissociation Dynamics of NO₂ Studied by Time-Resolved Cold Target Recoil Ion Momentum Spectroscopy,
The Journal Of Chemical Physics 151, 174301 (2019) [DOI](#) [PDF](#)
9. Korobenko, T. J. Hammond, C. Zhang, A. Yu Naumov, D. M. Villeneuve, P. B. Corkum,
High-Harmonic Generation in Solids Driven by Counter-Propagating Pulses,
Optics Express 27, 32630-32637 (2019) [DOI](#) [PDF](#)
10. M. Kübel, Z. Dube, A. Yu Naumov, D. M. Villeneuve, P. B. Corkum, A. Staudte,
Spatiotemporal Imaging of Valence Electron Motion,
Nature Communications 10, 1042 (2019) [DOI](#) [PDF](#)
11. M. Kübel, G. P. Katsoulis, Z. Dube, A. Yu. Naumov, D. M. Villeneuve, P. B. Corkum, A. Staudte, A. Emmanouilidou,
Streaking Strong-Field Double Ionization,
Physical Review A 100, 043410 (2019) [DOI](#) [PDF](#)
12. Claude Marceau, Varun Makhija, Peng Peng, Marius Hervé, P. B. Corkum, A. Yu. Naumov, A. Stolow, D. M. Villeneuve,
Non-Born-Oppenheimer electronic wave packet in molecular nitrogen at 14 eV probed by time-resolved photoelectron spectroscopy,
Phys. Rev. A 99, 023426 (2019) [DOI](#) [PDF](#)
13. Peng Peng, Claude Marceau, Marius Hervé, P. B. Corkum, A. Yu Naumov, D. M. Villeneuve,
Symmetry of Molecular Rydberg States Revealed by XUV Transient Absorption Spectroscopy,
Nature Communications 10, 5269 (2019) [DOI](#) [PDF](#)
14. Peng Peng, Claude Marceau, D. M. Villeneuve,
Attosecond imaging of molecules using high harmonic spectroscopy,
Nature Reviews Physics 1, 144-155 (2019) [DOI](#) [PDF](#)
15. Ladan Arissian, Brian Kamer, Ali Rastegari, D. M. Villeneuve, Jean-Claude Diels,
Transient gain from N₂⁺ in light filaments,
Phys. Rev. A 98, 053438 (2018) [DOI](#) [PDF](#)
16. T.J Hammond, Aleksey Korobenko, A Yu Naumov, D M Villeneuve, Paul B Corkum, Dong Hyuk Ko,
Near-field imaging for single-shot waveform measurements,
Journal Of Physics B: Atomic, Molecular And Optical Physics 51, 065603 (2018) [DOI](#) [PDF](#)
17. G. Vampa, T. J. Hammond, M. Taucer, Xiaoyan Ding, X. Ropagnol, T. Ozaki, S. Delprat, M. Chaker, N. Thiré, B. E. Schmidt, F. Légaré, D. D. Klug, A. Yu Naumov, D. M. Villeneuve, A. Staudte, P. B. Corkum,
Strong-Field Optoelectronics in Solids,
Nature Photonics 12, 465-468 (2018) [DOI](#) [PDF](#)
18. D. M. Villeneuve,
Attosecond science,
Contemporary Physics 59, 47-61 (2018) [DOI](#) [PDF](#)
19. Xiaoyan Ding, M. Haertelt, S. Schlauderer, M. S. Schuurman, A. Yu. Naumov, D. M. Villeneuve, A. R. W. McKellar, P. B. Corkum, A. Staudte,
Ultrafast Dissociation of Metastable CO⁺₂ in a Dimer,
Phys. Rev. Lett. 118, 153001 (2017) [DOI](#) [PDF](#)
20. T. J. Hammond, Sylvain Monchocé, Chunmei Zhang, Giulio Vampa, Dennis Klug, A. Yu Naumov, D. M. Villeneuve, P. B. Corkum,
Integrating Solids and Gases for Attosecond Pulse Generation,
Nature Photonics 11, 594--599 (2017) [DOI](#) [PDF](#)
21. T. J. Hammond, D. M. Villeneuve, P. B. Corkum,
Producing and controlling half-cycle near-infrared electric-field transients,
Optica 4, 826-830 (2017) [DOI](#) [PDF](#)
22. P. Hockett, E. Frumker, D. M. Villeneuve, P. B. Corkum,
Reply to Comment on 'Time delays in molecular photoionization',
Journal Of Physics B: Atomic, Molecular And Optical Physics 50, 078003 (2017) [DOI](#) [PDF](#)
23. M. Kübel, Z. Dube, A. Yu. Naumov, M. Spanner, G. G. Paulus, M. F. Kling, D. M. Villeneuve, P. B. Corkum, A. Staudte,
Streak Camera for Strong-Field Ionization,
Physical Review Letters 119, 183201 (2017) [DOI](#) [PDF](#)

24. C. Marceau, T. J. Hammond, A. Yu Naumov, P. B. Corkum, D. M. Villeneuve, *Wavelength Scaling of High Harmonic Generation for 267 nm, 400 nm and 800 nm Driving Laser Pulses*, J. Phys. Commun. 1, 015009 (2017) [DOI](#) [PDF](#)
25. Claude Marceau, Varun Makhija, Dominique Platzer, A. Yu. Naumov, P. B. Corkum, Albert Stolow, D. M. Villeneuve, Paul Hockett, *Molecular Frame Reconstruction Using Time-Domain Photoionization Interferometry*, Physical Review Letters 119, 083401 (2017) [DOI](#) [PDF](#)
26. Murat Sivis, Marco Taucer, Giulio Vampa, Kyle Johnston, Andre Staudte, Andrei Yu. Naumov, D. M. Villeneuve, Claus Ropers, P. B. Corkum, *Tailored semiconductors for high-harmonic optoelectronics*, Science 357, 303-306 (2017) [DOI](#) [PDF](#)
27. G. Vampa, B. G. Ghamsari, S. Siadat Mousavi, T. J. Hammond, A. Olivieri, E. Lisicka-Skrek, A. Yu Naumov, D. M. Villeneuve, A. Staudte, P. Berini, P. B. Corkum, *Plasmon-enhanced high-harmonic generation from silicon*, Nature Physics 13, 659 (2017) [DOI](#) [PDF](#)
28. D. M. Villeneuve, Paul Hockett, M. J. J. Vrakking, Hiromichi Niikura, *Coherent imaging of an attosecond electron wave packet*, Science 356, 1150--1153 (2017) [DOI](#) [PDF](#)

29. T. J. Hammond, Sylvain Monchocé, Chunmei Zhang, Graham G. Brown, P. B. Corkum, and D. M. Villeneuve, *Femtosecond time-domain observation of atmospheric absorption in the near-infrared spectrum*, [Phys. Rev. A 94, 063410 \(2016\)](#) 
30. M. Spanner, J. B. Bertrand, and D. M. Villeneuve, *In situ attosecond pulse characterization techniques to measure the electromagnetic phase*, [Phys. Rev. A 94, 023825 \(2016\)](#) 
31. Yijian Meng, Chunmei Zhang, Claude Marceau, A. Yu. Naumov, P. B. Corkum and D. M. Villeneuve, *Interferometric time delay correction for Fourier transform spectroscopy in the extreme ultraviolet*, [Journal of Modern Optics, 63, 1661-1667 \(2016\)](#) 
32. T. J. Hammond, Graham G. Brown, Kyung Taec Kim, D. M. Villeneuve and P. B. Corkum, *Attosecond pulses measured from the attosecond lighthouse*, [Nature Photonics 10, 171–175 \(2016\)](#) 
33. Chunmei Zhang, Graham G. Brown, Kyung Taec Kim, D. M. Villeneuve & P. B. Corkum, *Full characterization of an attosecond pulse generated using an infrared driver*, [Scientific Reports 6, 26771 \(2016\)](#) 
34. P Hockett, E Frumker, D M Villeneuve and P B Corkum, *Time delay in molecular photoionization*, [J. Phys. B 49, 095602 \(2016\)](#) 
35. Yijian Meng, Chunmei Zhang, Claude Marceau, A. Yu. Naumov, P. B. Corkum, and D. M. Villeneuve, *Octave-spanning hyperspectral coherent diffractive imaging in the extreme ultraviolet range*, [Optics Express 23 28960-28969 \(2015\)](#) 
36. Giulio Vampa and D. M. Villeneuve, *High-harmonic generation: To the extreme*, [Nature Physics 11, 529–530 \(2015\)](#) 
37. A. Yu. Naumov, D. M. Villeneuve, and Hiromichi Niikura, *Contribution of multiple electron trajectories to high-harmonic generation in the few-cycle regime*, [Phys. Rev. A 91, 063421 \(2015\)](#) 
38. T. J. Hammond, Kyung Taec Kim, Chunmei Zhang, D. M. Villeneuve, and P. B. Corkum, *Controlling attosecond angular streaking with second harmonic radiation*, [Optics Letters 40, 1768 \(2015\)](#) 
39. Chunmei Zhang, Giulio Vampa, D M Villeneuve and P B Corkum, *Attosecond lighthouse driven by sub-two-cycle, 1.8 μm laser pulses*, [J. Phys. B: At. Mol. Opt. Phys. 48 061001 \(2015\)](#)

40. M. Meckel, A. Staudte, S. Patchkovskii, D. M. Villeneuve, P. B. Corkum, R. Dörner and M. Spanner,
Signatures of the continuum electron phase in molecular strong-field photoelectron holography,
[Nature Physics 10, 594–600 \(2014\)](#) 
41. S M Golin, S E Kirkwood, D D Klug, D M Villeneuve, D M Rayner, C A Trallero Herrero and P B Corkum,
Strong field processes inside gallium arsenide,
[J. Phys. B 47, 204025 \(2014\)](#) 
42. F. Quéré, H. Vincenti, A. Borot, S. Monchocé, T. J. Hammond, Kyung Taec Kim, J.A. Wheeler, Chunmei Zhang, T. Ruchon, T. Auguste, J.F. Hergott, D.M. Villeneuve, P.B. Corkum, and R. Lopez-Martens,
Applications of ultrafast wavefront rotation in highly nonlinear optics,
[J. Phys. B 47, 124004 \(2014\)](#) 
43. C. T. L. Smeenk, L. Arissian, A. V. Sokolov, M. Spanner, K. F. Lee, A. Staudte, D. M. Villeneuve, and P. B. Corkum,
Alignment Dependent Enhancement of the Photoelectron Cutoff for Multiphoton Ionization of Molecules,
[Phys. Rev. Lett. 112, 253001 \(2014\)](#) 
44. Iain Wilkinson, Andrey E. Boguslavskiy, Jochen Mikosch, Julien B. Bertrand, Hans Jakob Wörner, David M. Villeneuve, Michael Spanner, Serguei Patchkovskii and Albert Stolow, *Excited state dynamics in SO₂. I. Bound state relaxation studied by time-resolved photoelectron-photoion coincidence spectroscopy*,
[J. Chem. Phys. 140, 204301 \(2014\)](#) 
45. Kyung Taec Kim, D. M. Villeneuve and P. B. Corkum,
Manipulating quantum paths for novel attosecond measurement methods,
[Nature Photonics 8, 187 \(2014\)](#) 
46. Allan S. Johnson, André Staudte, and D. M. Villeneuve, *Semi-Classical Methods in Non-Sequential Double Ionization*,
[Chinese J Phys 52, 329 \(2014\)](#) 
47. B. E. Schmidt, A. D. Shiner, M. Giguère, C. Trallero-Herrero, P. Lassonde, N. Thiré, D. M. Villeneuve, J-C. Kieffer, P. B. Corkum, and F. Légaré,
Intense Few-Cycle Infrared Laser Pulses at the Advanced Laser Light Source,
[Chinese J Phys 52, 537 \(2014\)](#) 
48. Kyung Taec Kim, Chunmei Zhang, Andrew D. Shiner, Bruno E. Schmidt, François Légaré, D. M. Villeneuve and P. B. Corkum,
Petahertz optical oscilloscope,
[Nature Photonics 7, 958–962 \(2013\)](#) 
49. Kyung Taec Kim, Chunmei Zhang, Thierry Ruchon, Jean-François Hergott, Thierry Auguste, D. M. Villeneuve, P. B. Corkum and F. Quéré,
Photonic streaking of attosecond pulse trains,
[Nature Photonics 7, 651 \(2013\)](#) 
50. D. Shafir, H. Soifer, C. Vozzi, A. S. Johnson, A. Hartung, Z. Dube, D. M. Villeneuve, P. B. Corkum, N. Dudovich, and A. Staudte,
Trajectory-Resolved Coulomb Focusing in Tunnel Ionization of Atoms with Intense, Elliptically Polarized Laser Pulses,
[Phys. Rev. Lett. 111, 023005 \(2013\)](#) 
51. J. B. Bertrand, H. J. Wörner, P. Salières, D. M. Villeneuve and P. B. Corkum,
Linked attosecond phase interferometry for molecular frame measurements,
[Nature Physics 9, 174-179 \(2013\)](#) 
52. Kyung Taec Kim, Chunmei Zhang, Andrew D. Shiner, Sean E. Kirkwood, Eugene Frumker, Genevieve Garipey, Andrei Naumov, D. M. Villeneuve and P. B. Corkum,
Manipulation of quantum paths for space–time characterization of attosecond pulses,
[Nature Physics 9, 159-163 \(2013\)](#) 
53. D. Comtois, H.-C. Bandulet, M. Spanner, D. Pavičić, M. Meckel, D. Zeidler, H. Pépin, R. Dörner, J.-C. Kieffer, D.M. Villeneuve, P.B. Corkum & A. Staudte,

- Laser-induced orbital projection and diffraction of O₂ with velocity map imaging*,
[J. Modern Optics 60, 1395–1408 \(2013\)](#) 
54. A. D. Shiner, C. Trallero-Herrero, N. Kajumba, B. E. Schmidt, J. B. Bertrand, K. T. Kim, H.-C. Bandulet, D. Comtois, J.-C. Kieffer, D. M. Rayner, P. B. Corkum, F. Legaré, and D. M. Villeneuve,
High harmonic cutoff energy scaling and laser intensity measurement with a 1.8 μm laser source,
[J. Modern Optics, 60, 1458–1465 \(2013\)](#) 
55. H. Ruf, C. Handschin, A. Ferré, N. Thiré, J. B. Bertrand, L. Bonnet, R. Cireasa, E. Constant, P. B. Corkum, D. Descamps, B. Fabre, P. Larregaray, E. Mével, S. Petit, B. Pons, D. Staedter, H. J. Wörner, D. M. Villeneuve, Y. Mairesse, P. Halvick, and V. Blanchet,
High-harmonic transient grating spectroscopy of NO₂ electronic relaxation,
[J. Chem. Phys. 137, 224303 \(2012\)](#) 
56. E. Frumker, N. Kajumba, J. B. Bertrand, H. J. Wörner, C. T. Hebeisen, P. Hockett, M. Spanner, S. Patchkovskii, G. G. Paulus, D. M. Villeneuve, A. Naumov, and P. B. Corkum,
Probing Polar Molecules with High Harmonic Spectroscopy,
[Phys. Rev. Lett. 109, 233904 \(2012\)](#) 
57. E. Frumker, C. T. Hebeisen, N. Kajumba¹, J. B. Bertrand, H. J. Wörner, M. Spanner, D. M. Villeneuve, A. Naumov, and P. B. Corkum,
Oriented Rotational Wave-Packet Dynamics Studies via High Harmonic Generation,
[Phys. Rev. Lett. 109, 113901 \(2012\)](#) 
58. J. B. Bertrand, H. J. Wörner, P. Hockett, D. M. Villeneuve, and P. B. Corkum,
Revealing the Cooper minimum of N₂ by Molecular Frame High-Harmonic Spectroscopy,
[Phys. Rev. Lett. 109, 143001 \(2012\)](#) 
59. M Spanner, S Grafe, S Chelkowski, D Pavicic, M Meckel, D Zeidler, A B Bardon, B Ulrich, A D Bandrauk, D M Villeneuve, R Dornier, P B Corkum and A Staudte,
Coulomb asymmetry and sub-cycle electron dynamics in multiphoton multiple ionization of H₂,
[J. Phys. B 45, 194011 \(2012\)](#) 
60. E. Frumker, G. G. Paulus, H. Niikura, A. Naumov, D. M. Villeneuve, and P. B. Corkum,
Order-dependent structure of high harmonic wavefronts,
[Optics Express 20, 13870 \(2012\)](#) 
61. P. M. Kraus, Y. Arasaki, J. B. Bertrand, S. Patchkovskii, P. B. Corkum, D. M. Villeneuve, K. Takatsuka, and H. J. Wörner,
Time-resolved high-harmonic spectroscopy of nonadiabatic dynamics in NO₂,
[Phys. Rev. A 85, 043409 \(2012\)](#) 
62. Bruno E Schmidt, Andrew D Shiner, Mathieu Giguère, Philippe Lassonde, Carlos A Trallero-Herrero, J-C Kieffer, P B Corkum, D M Villeneuve and François Légaré,
High harmonic generation with long-wavelength few-cycle laser pulses,
[J. Phys. B 45, 074008 \(2012\)](#) 
63. A D Shiner, B E Schmidt, C Trallero-Herrero, P B Corkum, J-C Kieffer, F Légaré and D M Villeneuve,
Observation of Cooper minimum in krypton using high harmonic spectroscopy,
[J. Phys. B 45, 074010 \(2012\)](#) 
64. A. Rupenyan, J. B. Bertrand, D. M. Villeneuve, and H. J. Wörner,
All-Optical Measurement of High-Harmonic Amplitudes and Phases in Aligned Molecules,
[Phys. Rev. Lett. 108, 033903 \(2012\)](#) 
65. Cheng Jin, Julien B. Bertrand, R. R. Lucchese, H. J. Wörner, Paul B. Corkum, D. M. Villeneuve, Anh-Thu Le, and C. D. Lin,
Intensity dependence of multiple orbital contributions and shape resonance in high-order harmonic generation of aligned N₂ molecules,
[Phys. Rev. A 85, 013405 \(2012\)](#) 

66. C. Trallero-Herrero, C. Jin, B. Schmidt, A. Shiner, D. M. Villeneuve, P. B. Corkum, C. D. Lin, F. Legare, and A. T. Le,
Generation of broad XUV continuous high harmonic spectra and isolated attosecond pulses with intense mid-infrared lasers,
[J. Phys. B 45, 011001 \(2012\)](#) 
67. H. J. Wörner, J. B. Bertrand, B. Fabre, J. Higuette, H. Ruf, A. Dubrouil, S. Patchkovskii, M. Spanner, Y. Mairesse, V. Blanchet, E. Mével, E. Constant, P. B. Corkum, D. M. Villeneuve,
Conical Intersection Dynamics in NO₂ Probed by Homodyne High-Harmonic Spectroscopy,
[Science 334, 208 \(2011\)](#) 
68. A. Fleischer, H. J. Wörner, L. Arissian, L. R. Liu, M. Meckel, A. Rippert, R. Dörner, D. M. Villeneuve, P. B. Corkum, and A. Staudte,
Probing Angular Correlations in Sequential Double Ionization,
[Phys. Rev. Lett. 107, 113003 \(2011\)](#) 
69. H. Niikura, H. J. Wörner, D. M. Villeneuve and P. B. Corkum,
Probing the Spatial Structure of a Molecular Attosecond Electron Wave Packet Using Shaped Recollision Trajectories,
[Phys. Rev. Lett. 107, 093004 \(2011\)](#) 
70. C. T. L. Smeenk, L. Arissian, B. Zhou, A. Mysyrowicz, D. M. Villeneuve, A. Staudte, and P. B. Corkum,
Partitioning of the Linear Photon Momentum in Multiphoton Ionization,
[Phys. Rev. Lett. 106, 193002 \(2011\)](#) 
71. Cheng Jin, Hans Jakob Wörner, V Tosa, Anh-Thu Le, Julien B Bertrand, R R Lucchese, P B Corkum, D M Villeneuve and C D Lin,
Separation of target structure and medium propagation effects in high-harmonic generation,
[J. Phys. B 44, 095601 \(2011\)](#) 
72. Bruno E. Schmidt, Andrew D. Shiner, Philippe Lassonde, Jean-Claude Kieffer, Paul B. Corkum, David M. Villeneuve, and François Légaré,
CEP stable 1.6 cycle laser pulses at 1.8 μm,
[Optics Express 19, 6858 \(2011\)](#) 
73. A. D. Shiner, B. E. Schmidt, C. Trallero-Herrero, H. J. Wörner, S. Patchkovskii, P. B. Corkum, J.-C. Kieffer, F. Légaré, D. M. Villeneuve,
Probing collective multi-electron dynamics in xenon with high-harmonic spectroscopy,
[Nature Physics 7, 464 \(2011\)](#) 
74. J. B. Bertrand, H. J. Wörner, H.-C. Bandulet, É. Bisson, M. Spanner, J.-C. Kieffer, D. M. Villeneuve, and P. B. Corkum,
Ultrahigh-Order Wave Mixing in Noncollinear High Harmonic Generation,
[Phys. Rev. Lett. 106, 023001 \(2011\)](#) 
75. L. Arissian, C. Smeenk, F. Turner, C. Trallero, A. V. Sokolov, D. M. Villeneuve, A. Staudte, and P. B. Corkum,
Direct Test of Laser Tunneling with Electron Momentum Imaging,
[Phys. Rev. Lett. 105, 133002 \(2010\)](#) 
76. H. J. Wörner, J. B. Bertrand, D. V. Kartashov, P. B. Corkum and D. M. Villeneuve,
Following a chemical reaction using high-harmonic spectroscopy,
[Nature \(London\) 466, 604 \(2010\)](#) 
77. H. J. Wörner, J. B. Bertrand, P. B. Corkum and D. M. Villeneuve,
High-Harmonic Homodyne Detection of the Ultrafast Dissociation of Br₂ Molecules,
[Phys. Rev. Lett. 105, 103002 \(2010\)](#) 
78. Hiromichi Niikura, Nirit Dudovich, D. M. Villeneuve, and P. B. Corkum,
Mapping Molecular Orbital Symmetry on High-Order Harmonic Generation Spectrum Using Two-Color Laser Fields,
[Phys. Rev. Lett. 105, 053003 \(2010\)](#) 
79. H. J. Wörner, J. B. Bertrand, P. Hockett, P. B. Corkum and D. M. Villeneuve,
Controlling the interference of multiple molecular orbitals in high-harmonic generation,
[Phys. Rev. Lett. 104, 233904 \(2010\)](#) 
80. D. Shafir, Y. Mairesse, H. J. Wörner, K. Rupnik, D. M. Villeneuve, P. B. Corkum and N. Dudovich,

- Probing the symmetry of atomic wavefunctions from the point of view of strong field-driven electrons,*
[New J. Phys. 12, 073032 \(2010\)](#) 
81. Bruno E. Schmidt, Pierre Béjot, Mathieu Giguère, Andrew D. Shiner, Carlos Trallero-Herrero, Éric Bisson, Jérôme Kasparian, Jean-Pierre Wolf, David M. Villeneuve, Jean-Claude Kieffer, Paul B. Corkum, and François Légaré,
Compression of 1.8 μm laser pulses to sub two optical cycles with bulk material,
[Appl. Phys. Lett. 96, 121109 \(2010\)](#) 
82. Y Mairesse, N Dudovich, D Zeidler, M Spanner, D M Villeneuve and P B Corkum,
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D M Villeneuve, G D Enright, M C Richardson;
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B Yaakobi, D M Villeneuve, M C Richardson, J M Soures, R Hutchison, S Letzring;
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R S Marjoribanks, M C Richardson, J Delettrez, S Letzring, W Seka, D M Villeneuve;
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D M Villeneuve, G D Enright, M D J Burgess, R Fedosejevs, M C Richardson;
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D M Villeneuve;
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220. *A calorimetric system for recording plasma blowoff and scattered laser light distributions from laser plasmas;*
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222. *Energy absorption in plasmas produced by intense 10 um laser radiation;*
D M Villeneuve, G D Enright, M C Richardson, N R Isenor;
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Book Chapters (n = 7)

D. M. Villeneuve, *Attosecond Imaging of Molecular Orbitals*, in Fundamentals of Picoscience, ed. Klaus D. Sattler, CRC Press 2013, p. 373-390, Print ISBN: 978-1-4665-0509-4, eBook ISBN: 978-1-4665-0510-0.

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I. Fischer, M. J. J. Vrakking, D. M. Villeneuve, A. Stolow, *Wavepacket Dynamics via Femtosecond Time-Resolved Photoelectron and Photoionization Spectroscopy*, in Ultrafast Phenomena X (1996)

François Légaré, Kevin F. Lee, I.V. Litvinyuk, P.W. Dooley ... *Laser Coulomb explosion imaging for probing molecular structure and dynamics*, in Ultrafast Phenomena XIV (2005)

Centrifugal Dissociation of a Molecule Using the Optical Centrifuge, D. M. Villeneuve, S. A. Aseyev, P. Dietrich, M. Spanner... in Ultrafast Phenomena XII (2001)

Recent Invited Talks

Symposium on Recollision Physics, Montebello QC, 7-11 May 2018

Photonics North Conference, Montreal QC, 5-7 June 2018 (declined)

Attosecond and Free Electron Laser Science, London UK, 2-4 July 2018.

Frontiers in Theoretical and Applied Physics, Sharjah UAE, 22-25 February 2017 (Keynote 60-minute)

Frontiers in Theoretical and Applied Physics, Sharjah UAE, 22-25 February 2017 (Invited 30-minute)
Coherent X-ray Imaging Conference, Oxford UK, 6-7 April 2017
Symposium on Molecules and Laser Fields, St Sauveur QC, 4-6 February 2016.
Canada-Israel Workshop on Quantum and Photonic Technologies, Ottawa, 1-3 March 2016.
Symposium on Molecules and Laser Fields, Orford QC, 4-7 May 2016.
High-intensity laser interactions with fundamental quantum systems, Singapore, 10-13 May 2016.
Waseda University, Tokyo, Colloquium, 17 May 2016.
International Conference on X-ray Lasers, Nara Japan, 22-27 May 2016.
41st International Nathiagali Summer College, Islamabad Pakistan, 18-23 July 2016 (keynote, declined).
Brazil Physical Society annual meeting, Natal Brazil, 2-7 September 2016.
Symposium on Attosecond Photonics, Shanghai China, 16 November 2015 (plenary).
Atom 2015, Dresden Germany, 23 November 2015 (Declined).
Quantum Dynamics in Tailored Intense Fields, Hannover Germany, 30 November 2015 (declined).
Optics Frontiers CROF, Athens Greece, 13 July 2015
International Conference on Laser Ablation, Cairns Australia, 31 August 2015
Conference on Lasers and Electrooptics Pacific Rim (CLEO-PR), Busan Korea, August 2015
Gwangju Institute of Technology, Gwangju Korea, 24 August 2015
International Conference on Current Developments in Atomic, Molecular, Nano and Optical Physics (CDAMOP 2015), Delhi India, March 2015 (Declined)
International Congress of Pacific Basin Societies (Pacifichem 2015), Honolulu USA, December 2015
International Conference on Multiphoton Processes, Shanghai China, 7 December 2014 (declined)
Strong Field Physics and Ultrafast Phenomena, Zhangjiajie China, 31 October 2014
Extreme and Quantum Photonics Summer School, University of Ottawa, 23 June 2014
Free Electron Lasers and Attosecond Light Sources Conference, London UK, 1 July 2014
Gordon Research Conference on Multiphoton Processes, June 2014
Australian National University, Canberra, 28 January 2014
Swinburne University, Melbourne Australia, 3 February 2014
Griffith University, Brisbane Australia, 5 February 2014
Ottawa-Carleton Institute of Physics Symposium, Ottawa, 16 December 2013.
Sea Leang Chin Symposium, Laval University, Quebec, May 2013.
MOLEC Conference, Oxford UK, 10-13 September 2012 (plenary).
Super Intense Laser Atom Physics Conference, Suzhou China, 24-26 September 2012.
Laser Physics Conference, Calgary AB, 23-27 July 2012 (declined).
Laval Symposium on Ultrafast Laser Science, Quebec QC, 19-20 July 2012 (declined).
Optical Engineering and Science Conference, Tel Aviv, Israel, 9 March 2011.
Physics and Chemistry Colloquium, Technion, Haifa, Israel, 7 March 2011.
Physics Colloquium, Weizmann Institute, Israel, 6 March 2011.
Extreme Photonics Summer School, Ottawa Canada, 26-30 June 2011.
International Conference on Attosecond Physics, Sapporo Japan, 6-8 July 2011.
International Conference on Current Developments in Atomic, Molecular, Optical and Nano Physics, Delhi India, 14-16 December 2011.
CLEO Europe, Munich Germany, 22-27 May 2011.
Femtochemistry Conference, Madrid Spain, 10-15 July 2011 (declined)
Canadian Association of Physicists, Toronto ON, 7-11 June 2010 (declined)
Advanced Laser Light Source User Workshop, Mont Gabriel QC, 19-22 February 2010
Second Workshop on High Harmonic Seeding for present and future short wavelength Free-Electron Lasers (FELs) , Lund, Sweden, 5-7 May 2010
CECAM Advances in Strong Field and Attosecond Physics, London UK, 23-25 June 2010

International Conference on Vacuum Ultraviolet and X-ray Physics, Vancouver BC, 11-16 July 2010 (invited/plenary)

International Conference on Raman Spectroscopy, Boston MA, 8-13 August 2010 (plenary)

Laser Physics, Barcelona, Spain, 13 July 2009

Gordon Conference on Quantum Control, Massachusetts, 3 August 2009.

Ultrafast Dynamic Imaging of Matter, Ischia, Italy, 30 April 2009

Institut de Ciències Fotoniques, Barcelona, Spain, 15 December 2008.

Commissariat à l'Énergie Atomique, Saclay, France, 15 September 2008.

Imperial College, London, England, 19 September 2008.

National University of Defense Technology, Changsha, China, university-wide seminar, 7 May 2008

National University of Defense Technology, Changsha, China, departmental seminar, 8 May 2008

Novel Light Sources and Applications, 402nd Wilhelm und Else Heraeus Seminar, Obergurgl, Austria, 3-9 February 2008

Laser Physics Conference, Trondheim Norway, 30 June – 4 July 2008 (declined).

FOM Annual Meeting Physics@Veldhoven, Veldhoven NL, 23-24 January 2007.

University of Ottawa, Physics Department Colloquium, 15 February 2007.

American Physical Society, Annual Meeting, Tutorial Session, Denver CO, 4 March 2007.

Temple University, Chemistry and Physics Department joint colloquium, Philadelphia PA, 23 April 2007.

German Physical Society summer school, Bonn, Germany, 20-25 May 2007.

Canadian Association of Physicists, annual congress, Saskatoon SK, 17-20 June 2007.

Attosecond Physics Workshop, Dresden Germany, 1-4 Aug 2007

Gordon Conference on X-ray Sources, Colby Sawyer College, 5-10 August 2007.

Laser Physics Conference, Leon Mexico, 20-24 August 2007 (declined)

ICONO Conference, Minsk, Belarus, 28 May – 1 June 2007 (declined)

Argonne National Laboratory, Chemistry Division, Chicago, 12 November 2007.

Kansas State University, 14 November 2007, Departmental seminar

Kansas State University, 15 November 2007, AMO group seminar

Marie Curie Transfer of Knowledge workshop "High temporal and spectral resolution at short wavelengths", FORTH-IESL, Heraklion, Crete, Greece, 30 November 2007.

Gordon Research Conference on Photoions, Photoionization and Photodetachment, Buellton, California, 29 January – 3 February 2006.

Dynamic Molecular Imaging, Far Hills, Quebec, 14-18 February 2006.

American Physical Society March Meeting, Division of Chemical Physics, 13-17 March 2006, Baltimore.

Ultrafast Dynamic Imaging, Imperial College London, 9-11 April 2006.

Rutherford Appleton Laboratory Specialist Seminar, Oxford UK, 13 April 2006.

APS DAMOP (Division of Atomic, Molecular and Optical Physics), Knoxville Tennessee, 16-20 May 2006.

CLEO/QELS, Long Beach, California, May 21-26, 2006.

Gordon Research Conference on Multiphoton Processes, Tilton, NH, 11-16 June 2006.

International Conference on Atomic Physics, Innsbruck, Austria, 16-21 July 2006 (declined).

Laser Physics Conference, Lausanne, Switzerland, 24-28 July 2006 (declined)

Departmental seminar, ETH Zurich, Switzerland, 11 September 2006.

Gordon Research Conference on Electron Spectroscopy and Dynamics, 10-15 September 2006, Les Diablerets, Switzerland.

International Conference on the Interaction of Atoms, Molecules and Plasmas with Intense Ultrashort Laser Pulses, Szeged, Hungary, 1-5 October 2006.

High Field Attosecond Physics Conference (HIFAT), "Imaging of Molecular Orbitals Using High Harmonic Generation", Obergurgl, Austria, 10-15 January 2005.

Advanced Laser Light Source Winter Workshop, "Using High Harmonic Generation to Image Molecular Orbitals", Far Hills, Quebec, 9-12 February 2005.

Sigma Xi Society, "Making Molecular Movies", Ottawa, 12 May 2005.

American Physical Society, Division of Atomic, Molecular and Optical Physics, 19 May 2005. XTRA Summer School, Porquerolles, France, 25-28 May 2005.

Gordon Conference on Quantum Control of Light and Matter, Colby College, Maine, 31 July – 5 August 2005.

International Conference on Multiphoton Processes (ICOMP), Orford, Quebec, 9-14 October 2005.