

## CV of Victor MALKA

Age: 58, born in Casablanca (Morocco), married, 2 children (Maya and Dinah)

Professional address: Physics of Complex Systems, Weizmann Institute of Science, 234 Herzl street, Rehovot 7610001, Israel  
Tel: 089344294, [victor.malka@weizmann.ac.il](mailto:victor.malka@weizmann.ac.il)

**Fields of interest: plasmas physics, relativistic laser-plasma interaction, plasma accelerators, particles and X ray beam production, ultrafast phenomena, radiotherapy, radiobiology, material science, inertial fusion.**

### EDUCATION

1998	<b>HDR University d'Orsay, France</b>
1988-1990	<b>École Polytechnique, Palaiseau, France</b> PhD, atomic and plasmas physics
1985-1987	<b>University d'Orsay, France</b> Master degree in physics
1982-1984	<b>École Nationale Supérieure de Chimie de Rennes, France</b>

### RESEARCH

Since Oct. 2017	<b>Exceptional Class Research Director at CNRS (on leave)</b>
Since Oct. 2015	<b>Professor at Weizmann Institute of Science (Israel)</b> Relativistic Laser Interaction
2009-2015 <i>Adj. Faculty Member</i>	<b>Tata Institute of Bombay (India)</b> Relativistic Laser Interaction
Since October 2004 - <i>CNRS Research Director</i>	<b>LOA, Ecole Polytechnique-ENSTA-CNRS, Palaiseau, France</b> Development and application of plasma particles accelerators
2003-2015 Professor at <i>Ecole Polytechnique</i>	<b>École Polytechnique, Palaiseau, France</b> Plasmas physics – laser physics courses
October 2001-2004 <i>CNRS Researcher</i>	<b>LOA, Ecole Polytechnique-ENSTA-CNRS, Palaiseau, France</b> Creation of the SPL group
1994-2001 <i>CNRS Researcher</i>	<b>LULI, École Polytechnique, Palaiseau, France</b> Plasma laser interaction
1990-1993 <i>CNRS Researcher</i>	<b>LULI, École Polytechnique, Palaiseau, France</b> Inertial fusion

### TEACHING

Professor at Weizmann Institute of Science (since October 2015). Professor at Ecole Polytechnique (2003-2015). Supervisor of 19 PhD students in France, 5 in Italy (Laureat thesis)

### PUBLICATIONS

349 Publications, 227 in refereed journal (33 PRL, 3 Nature, 4 Nature Physics, 1 Science, 2 Nature Photonics, 4 Nature Communication, 1 Rev. of Modern Physics, 2 Optics Letters, 7 PRE, 27 Phys. Plasmas, 6 NJP, 2 RSI, 2 PRS-TA, 8 IEEE, etc...). Number of citations 11750 (17800), Hirsch factor 53(60) from ISI-Web of Science (Google Scholar) in July 2019.

178 invited international conferences (more than 45 in plenary session including APS, EPS, IPAC, OASIS), 92 invited seminars (63 international, 29 national). 4 book chapters. 6 patents.

### PRIZES AND AWARDS

2007: IEEE/NPSS Particle Accelerator Science and Technology Award "For groundbreaking work on laser-plasma accelerators".

2008 : Laureat of the European Research Council (AdG de l'ERC) with the project PARIS

2008 : Prix du magazine la Recherche

2008 : Elected by the « French Science Today » program of the French Foreign Office in India

2008 : Fellow of the American Physical Society

2009 : Grand prix de l'Etat de l'Académie des Sciences

2010 : CNRS excellence scientific awards

2011 : ERC PoC grant Awards with the project VERSATILE

2012 : Foreign Honorary Member of the Romanian Academy of Science (AOSR)

2013 : Laureat of the European Research Council (AdG de l'ERC) with the project X-5

2015 : ERC PoC grant Awards with the project XMED

2015 : Batsheva de Rothschild Fellow

2016 : EPS Fellow  
2017 : Julius Springer Prize  
2017 : Holweck Prize from the French Physical Society and from the Institute of Physics  
2017 : QEOD Prize from the European Physical Society  
2017 : Member of the European Academy of Sciences  
2018 : Officer of the Physics Division of the European Academy of Sciences  
2019 : Alfvén Prize of the European Physical Society

### LEARNED SOCIETIES

Member of SFP, EPS, APS, SIF and SFO. Elected member of EPS Scientific Council 2002-2005.

### SCIENTIFIC ADMINISTRATION

Member of the Scientific Council of the "Maison France-Weizmann".  
Member of Panel of expert for ERC -PE2-Fundamental Physics (2011-2018), for Swiss National  
Organiser of « Frontiers in Laser Sciences » conference at Weizmann Institute of Science, Israel  
(27-28 Juin 2018)  
Foundation (2014-2015), for P2IRC in CANADA (2016-2020).  
Organiser of the « Medical applications with laser plasma accelerators » symposium, Berlin,  
(October 5 2017)  
Member of the International Review Panel for Wallenberg Foundation in Sweden (2013) and  
for the international review panel for Distinguished Professor Grant at the Swedish Research  
Council (2017).  
Member of the International Review Panel for Clusters Excellence in Germany (2011).  
Member of Panel of expert of HEP and DOE (2005-2010).  
Editorial Board of JIPLAAP, of the journal "Problems of Atomic Science and Technology"  
Organizer of the Weizmann-X Conference on Frontiers in Laser Science (27-28 Juin 2018)  
Organizer of the International Workshop on Laser Plasma Accelerators in Guadeloupe (2015)  
Organizer of colloquium on New technologies in Cancer Research and Cancer Treatment for  
World Conference Medical physics and Biomedical Engineering, Beijing, May 2012.  
Associated editors for NIMA special review « Ions Acceleration with high Power Lasers: Physics  
and Applications » (2009). Organizer of colloquium for SFP UHI 2011.  
Editor with C. Joshi for NJP special review « Laser and Beam plasma accelerators » (2010),  
Editorial board member of Matter and Radiation at Extremes (since 2017)  
« Chargé de mission » for CNRS « accelerator and lasers » (2010).  
Coordinator of « accelerators » task for ELI and ILE projects. Coordinator of JRA « Laptech »  
FP7. Coordinator of ACCEL1 (ANR).  
Coordinator of WP ANAC IA of EUCARD (European coordinated accelerators research and  
development), Coordinator of WP LAPTECH IA of LASERLAB2.  
Partner of NEST project Euroleap, CARE (FP6), and ANR GOSPEL.  
Expert for the DOE, NSF (USA), ESF, ERC, DFG, CEA (DAM and DSM), CLRC (UK), BSF (Israel-  
USA). President (and founder) of the John Dawson PhD prize since 2005  
Member of International IEEE PAST Award committee in 2008, 2009, 2010, 2011.  
Member of scientific committee of conferences and chairman of sessions (>30, CLEO, SPIE,  
ESF, OSA, FPPT, ICPP, AAC, LPAW, HEDS, ICONO, Organizing Committee of the ICFA Mini-  
Workshop on Future gamma-gamma, etc...). Member of international advisory committee of  
LPAW, EAAC, FPPT, HEDS, etc. External reviewer for Professors Position in US, India and in  
European countries. Member of panel for PhD and HDR diploma in France, Europe and Asia.

### POPULARIZATION

Portrait in Le Monde April 25 (2018), France Culture April 4 (2018), The conversation  
« accélérateurs à plasma-laser, révolution à venir dans le traitement du cancer », 6 avril 2016.  
Libération (23 avril 2015). Portals H2020-2014, Reflets de la Physique 2013, La recherche 2010,  
Nature « the plasma revolution » (449, 2007), Science et vie (Mai 2007). Television: France3,  
France Inter. 30' Interview for the national indian television Dodarsan (Avril 15 2008). Articles in  
La stampa, Science et Avenir (2007), La recherche (2007, 2010), American Scientific  
(feb.2006). Author « Pour la science » (mars 2006), La Recherche (avril 2005). Cité dans  
Frankfurt Allemagne Zeitung (9 march 2005), in Neue Zürcher Zeitung. Author of « Nouvelles  
sources de particules produites par laser », Bulletin de la SFP juillet-août 2003. Author for  
« actualité de la Chimie 2007 » (Société Française de Chimie). Etc...

### INDUSTRIES

Spin-off company "SourceLab" dedicated to compact gamma ray source for non-  
destructive material inspection and development of laser plasma accelerators. 6 patents.

## Victor Malka's Scientific contributions

**Summary: 235 articles in peer reviewed journal- 5 book chapters -186 invited talks in conferences with more than 40 plenaries- 139 proceedings - 6 Patents - 180 communications in conference- 66 invited international seminars and 30 invited national seminars**

### List of Publications in refereed journal:

235 Articles in peer-reviewed journals/Articles dans des journaux à comité de lecture: **3 Nature, 1 Science, 4 Nature Physics, 2 Nature Photonics, 4 Nature Communications, 35 Phys. Rev. Lett., 1 Rev. of Modern Physics, 5 Scientific Reports, 2 EPL, 2 Opt. Lett., 7 Phys. Rev. E, 29 Phys. of Plasmas, 2 Medical Physics, 9 Laser and Particle Beams, 9 New Journal of Physics, 7 Nim A, ...**

**235 Fast dose fractionation using ultra-short laser accelerated proton pulses can increase cancer cell mortality, which relies on functional PARP1 protein**

E. Bayart, A. Flacco, O. Delmas, L. Pommarel, D. Levy, M. Cavallone, F. Megnin-Chanet, E. Deutsch, V. Malka, Scientific Reports **9**, 10132 (2019)

**234 Axiparabola: a long focal depth, high resolution mirror for broadband high intensity lasers**

S. Smartsev, C. Caizergues, J. Gautier, J.-P. Goddet, A. Tafzi, K. Ta Phuoc, V. Malka, and C. Thaury, Optics Letters **44**, 14 (2019)

**233 Skew Quadrupole Effect of Laser Plasma Electron Beam Transport**

D. Oumbarek Espinos, A. Ghaith, T. André, C. Kitégi, M. Sebdaoui, A. Loulergue, F. Marteau, F. Blache, M. Valléau, M. Labat, A. Lestrade, E. Roussel, C. Thaury, S. Corde, G. Lambert, O. Kononenko, J.-P. Goddet, A. Tafzi, V. Malka and M.-E. Couprie, Appl. Sci. 2019, **9**, 2447, doi:10.3390/app9122447

**232 Two-stage laser acceleration of high quality proton beams using a tailored density plasma**

Y. Wan, I. Andriyash, J. F. Hua, C.-H. Pai, W. Lu, C. Joshi, and V. Malka, Phys. Rev. AB **22**, 2 (2019)

**231 Energy-Chirp Compensation in a Laser Wakefield Accelerator**

A. Dopp, C. Thaury, E. Guillaume, F. Massimo, A. Lifschitz, I. Andriyash, J.-P. Goddet, A. Tafzi, K. Ta Phuoc, and V. Malka, Phys. Rev. Lett. **121**, 074802 (2018)

**230 Physical mechanism of the electron-ion coupled transverse instability in laser pressure ion acceleration for different regimes**

Y. Wan, C.-H. Pai, C. J. Zhang, F. Li, Y. P. Wu, J. F. Hua, W. Lu, C. Joshi, W. B. Mori, V. Malka, Phys. Rev. E **98**, 1 (2018)

**229 High-Brilliance Betatron gamma-Ray Source Powered by Laser-Accelerated Electrons**

J. Ferri, S. Corde, A. Dopp, A. Lifschitz, A. Doche, C. Thaury, K. Ta Phuoc, B. Mahieu, I. A. Andriyash, V. Malka, and X. Davoine, Phys. Rev. Lett. **120**, 254802 (2018)

**228 Control of ellipticity in high-order harmonic generation driven by two linearly polarized fields**

B. Mahieu, S. Stremoukhov, D. Gauthier, C. Spezzani, C. Alves, B. Vodungbo, P. Zeitoun, V. Malka, G. De Ninno, and G. Lambert, Phys. Rev. A **97**, 4 (2018)

**227 Shaping of laser plasma accelerated electrons for light sources**

T. André, I. A. Andriyash, A. Loulergue, M. Labat, E. Roussel, A. Ghaith, M. Khojayan, C. Thaury, M. Valléau, F. Briquez, F. Marteau, K. Tavakoli, P. N'Gotta, Y. Dietrich, G. Lambert, V. Malka, C. Benabderrahmane, J. Vétérin, L. Chapuis, T. El Ajjouri, M. Sebdaoui, N. Hubert, O. Marcouillé, P. Berteaud, N. Leclercq, M. El Ajjouri, P. Rommeluère, F. Bouvet, J. -P. Duval, C. Kitégi, F. Blache, B. Mahieu, S. Corde, J. Gautier, K. Ta Phuoc, J. P. Goddet, A. Lestrade, C. Herbeaux, C. Évain, C. Szwaj, S. Bielawski, A. Tafzi, P. Rousseau, S. Smartsev, F. Polack,

D. Denettière, C. Bourassin-Bouchet, C. De Oliveira, and M.-E. Couprie, *Nature Communications* **9**, 1334 (2018).

**226 Numerical studies of laser energy effects on density transition injection in laser wakefield acceleration**

F. Massimo, A. Lifschitz, C. Thauray, V. Malka, *Plasma Physics and Controlled Fusion* **60**, 3, 034005 (2018)

**225 Quasi-monoenergetic multi-GeV electron acceleration by optimizing the spatial and spectral phases of PW laser pulses**

J. H. Shin, H. T. Kim, V. Pathak, C. Hojbota, S. Lee, J. Sung, L. Jae HeeY. Woon, J. Jin Woo, K. Nakajima, F. Sylla, A. Lifschitz, E. Guillaume, C. Thauray, V. Malka, C. Nam, *Plasma Physics and Controlled Fusion*, **60**, 6 (2018)

**224 Stable multi-GeV electron accelerator driven by waveform-controlled PW laser pulses**

H. T. Kim, V. B. Patha, Ki H. Pae, A. Lifschitz, F. Sylla, J. H. Shin, C. Hojbota, S. K. Lee, J. H. Sung, H. W. Lee, E. Guillaume, C. Thauray, K. Nakajima, J. Vieira, L. O. Silva, V. Malka, and C. H. Nam, *Scientific Reports* **7**, 10203 (2017)

**223 Generation of high-pressures by short-pulse low-energy laser irradiation**

K. Jakubowska, D. Batani, J.-F. Feugeas, P. Forestier-Colleoni, S. Hulin, P. Nicola, J. J. Santos, A. Flacco, B. Vauzour and V. Malka, *European Physical Letters* **119**, 35001 (2017)

**222 Horizon 2020 EuPRAXIA design study**

P. A. Walker *et al.*, *J. Phys.: Conf. Ser.* **874**, 012029 (2017)

**221 Electron heating by intense short-pulse lasers propagating through near-critical plasmas**

A. Debayle, F. Mollica, B. Vauzour, Y. Wan, A. Flacco, V. Malka, X. Davoine, L. Gremillet, *New Journal of Physics*. NJP-106950.R1 (2017)

**220 Stable femtosecond x-rays with tunable polarization from a laser-driven accelerator**

A. Doepp, B. Mahieu, A. Lifschitz, C. Thauray, A. Doche, E. Guillaume, G. Grittani, O. Lundh, M. Hansson, M. Kozlova, J. Gautier, J.-P. Goddet, P. Rousseau, A. Tafzi, V. Malka, A. Rousse, S. Corde, and K. Ta Phuoc, *Light: Science & Applications*, **6** (2017), e17086, doi:10.1038/lsa.2017.86

**219 Numerical studies of density transition injection in laser wakefield acceleration**

F. Massimo, A. Lifschitz, C. Thauray, V. Malka, *Plasma Physics and Controlled Fusion* **59**, 085004 (2017)

**218 Characterization of the ELIMED prototype permanent magnet quadrupole system**

A.D. Russo, F. Schillaci, L. Pommarel, F. Romano, A. Amato, A.G. Amico, A. Calanna, G.A.P. Cirrone, M. Costa, G. Cuttone, C. Amato, G. De Luca, F.A. Flacco, G. Gallo, D. Giove, A. Grmek, G. La Rosa, R. Leanza, M. Maggiore, V. Malka, G. Milluzzo, G. Petringa, J. Pipek, V. Scuderi, B. Vauzour and E. Zappalà, *Journal of Instrumentation*, Volume 12 (2017)

**217 Spectral and spatial shaping of a laser-produced ion beam for radiation-biology experiments**

L. Pommarel, B. Vauzour, F. Megnin-Chanet, E. Bayart, O. Delmas, F. Goudjil, C. Nauraye, V. Letellier, F. Pouzoulet, F. Schillaci, F. Romano, V. Scuderi, G. A. P. Cirrone, E. Deutsch, A. Flacco, V. Malka, *Phys. Rev. Acc. And Beams*, **20**, 3 (2017)

**216 3D printing of gas jet nozzles for laser-plasma accelerators**

A. Döpp, E. Guillaume, C. Thauray, J. Gautier, K. Ta Phuoc, and V. Malka, *Review of Scientific Instruments* **87**, 073505 (2016), <http://dx.doi.org/10.1063/1.4958649>

**215 Manipulating relativistic electrons with lasers**

V. Malka, *Europhysics Letters*, EPL**115** (2016) 54001

**214 Detailed experimental study of ion acceleration by laser interaction of an ultra-short intense laser with an underdense plasma**

S. Kahaly, F. Sylla, A. Lifschitz, A. Flacco, M. Veltecheva, and V. Malka, *Scientific Reports*, **6**:31647, DOI:10.1038, srep31647 (2016)

**213 Characterization of the elimed permanent magnets quadrupole system prototype with laser-driven proton beams**

F. Schillaci, L. Pommarel, F. Romano, G. Cuttone, M. Costa, D. Giove, M. Maggiore, A.D. Russo, V. Scuderi, V. Malka, B. Vauzour, A. Flacco and G.A.P. Cirrone, *Journal of Instrumentation*, **11** (2016)

**212 Energy boost in laser wakefield accelerators using sharp density transitions**

A. Döpp, E. Guillaume, C. Thaur, A. Lifschitz, K. Ta Phuoc, and V. Malka, *Phys. of Plasmas* 23, 5 (2016)

**211 A bremsstrahlung gamma-ray source based on stable ionization injection of electrons into a laser wakefield accelerator**

A. Döpp, E. Guillaume, C. Thaur, A. Lifschitz, F. Sylla, J-P. Goddet, A. Tafzi, G. Iaquanello, T. Lefrou, P. Rousseau, E. Conejero, C. Ruiz, K. Ta Phuoc, V. Malka, *Nuclear Inst. and Methods in Physics Research*, A. 830, 515 (2016)

**210 An Application of Laser Plasma Acceleration : Towards a Free-Electron Laser Amplification**

M. E. Couprie, M. Labat, C. Evain, F. Marteau, F. Briquez, M. Khojyan, C. Benabderrahmane, L. Chapuis, N. Hubert, C. Bourassin-Bouchet, M. El Ajjouri, F. Bouvet, Y. Dietrich, M. Valléau, G. Sharma, W. Wang, O. Marcouille, J. Veteran, P. Bertheaud, T. El Ajjouri, L. Cassinari, C. Thaur, G. Lambert, I. Andriyash, V. Malka, X. Davoine, M. A. Tordeux, C. Miron, D. Zerbib, K. Tavakoli, J. L. Marlats, M. Tilmont, P. Rommeluere, J. P. Duval, M. H. N'Guyen, A. Roquier, M. Vanderbergue, C. Herbeaux, M. Sebduai, A. Lestrade, S. Bielawski, C. Sz waj, A. Louergue, *Plasma Physics and Controlled Fusion*, 58, 3, 034020 (2016)

**209 An all-optical source for single-exposure x-ray imaging**

A. Döpp, E. Guillaume, C. Thaur, J. Gautier, I. Andriyash, A. Lifschitz, V. Malka, A. Rouse, K. Ta Phuoc, *Plasma Physics and Controlled Fusion*, 58, 3, 034005 (2016)

**208 Efficient laser production of energetic neutral beams**

F. Mollica, L. Antonelli, A. Flacco, J. Braenzel, B. Vauzour, G. Folpini, G. Birindelli, M. Schnuerer, D. Batani, and V. Malka, *Plasma Physics and Controlled Fusion*, 58, 3, 034016 (2016)

**207 Shock assisted ionization injection in laser-plasma accelerators**

C. Thaur, E. Guillaume, A. Lifschitz, K. Ta Phuoc, M. Hansson, G. Grittani, J. Gautier, J.-P. Goddet, A. Tafzi, O. Lundh, and V. Malka, *Scientific Report*, 10.1038, srep16310, Nov. 9 (2015)

**206 Electron Rephasing in a Laser-Wakefield Accelerator**

E. Guillaume, A. Döpp, C. Thaur, K. Ta Phuoc, A. Lifschitz, G. Grittani, J.-P. Goddet, A. Tafzi, S.W. Chou, L. Veisz, and V. Malka, *Phys. Rev. Lett.* 115, 155002 (2015)

**205 Table-top femtosecond soft X-ray laser by collisional ionization gating,**

A. Depresseux A. Depresseux, E. Oliva, J. Gautier, F. Tissandier, J. Nejd, M. Kozlova, G. Maynard, J.P. Goddet, A. Tafzi, A. Lifschitz, P. Zeitoun, H. T. Kim, S. Jacquemot, V. Malka, K. Ta Phuoc, C. Thaur, P. Rousseau, A. Flacco, B. Vodungbo, G. Lambert, A. Rouse and S. Sebban. *Nature Photonics* (2015)

**204 Physics of fully-loaded laser-plasma accelerators**

E. Guillaume, A. Döpp, C. Thaur, A. Lifschitz, J-P. Goddet, A. Tafzi, F. Sylla, G. Iaquanello, T. Lefrou, P. Rousseau, K. Ta Phuoc, and V. Malka, *PRSTAB* 18, 061301 (2015)

**203 Amplified short-wavelength light scattered by relativistic electrons in the laser-induced optical lattice**

I.A. Andriyash, V.T. Tikhonchuk, V. Malka, E. D'Humières, and Ph. Balcou, *Phys. Rev. ST Accel. Beams* 18, 050704 (2015)

**202 Demonstration of relativistic electron beam focusing by a laser-plasma lens**

C. Thaur, E. Guillaume, A. Döpp, R. Lehe, A. Lifschitz, K. Ta Phuoc, J. Gautier, J.-P. Goddet, A. Tafzi, A. Flacco, F. Tissandier, S. Sebban, A. Rouse, V. Malka, *Nature Communications* **6**, 6890 (2015)

**201 Persistence of magnetic field driven by relativistic electrons in a plasma**

A. Flacco, J. Vieira, A. Lifschitz, F. Sylla, S. Kahaly, M. Veltcheva, L. O. Silva, and V. Malka, *Nature Physics* **11**, (2015)

**200 Beam manipulation for compact laser wakefield accelerator based free-electron lasers**

A. Loulergue, M. Labat, C. Evain, C. Benabderrahmane, V. Malka, M.-E. Couprie, NJP-102026.R1 (2015)

**199 Spatial properties of odd and even order harmonics generated in gas**

G. Lambert, A. Andreev, J. Gautier, L. Giannessi, V. Malka, A. Petralia, S. Sebban, S. Stremoukhov, F. Tissandier, B. Vodungbo & Ph. Zeitoun, Scientific Reports 2015, doi :10.1038/srep07786

**198 Towards enabling femtosecond helicity dependant spectroscopy with high harmonic sources**

G. Lambert, B. Vodungbo, J. Gautier, B. Mahieu, V. Malka, S. Sebban, P. Zeitoun, J. Lüning, J. Perron, A. Andreev, S. Stremoukhov, F. Ardana-Lamas, A. Dax, C. Hauri, A. Sardinha, and M. Fajardo, Nature Communications 6, 6167, doi :10.1038/ncomms7167 (2015)

**197 A spectral unaveraged algorithm for free electron laser simulations**

I. A. Andriyash, R. Lehe, V. Malka, J. Computational Physics 282, 397-409 (2015)

**196 Laser-plasma lens for laser-wakefield accelerators**

R. Lehe, C. Thaury, E. Guillaume, A. Lifshitz, and V. Malka, Phys. Rev. ST Accel. Beams 17, 121301 (2014)

**195 Towards a free electron laser based on laser plasma accelerators**

M. E. Couprie, A. Loulergue, M. Labat, R. Lehe and V. Malka, Journal of Physics B : At. Mol. Opt. Phys. **47** 234001 (2014)

**194 Transverse dynamic of an intense electron bunch traveling through a pre-ionized plasma**

R. Lehe, C. Thaury, A. Lifshitz, J.-M. Rax, and V. Malka, Physics of plasmas 21, 4 (2014)

**193 Ion acceleration in underdense plasmas by ultra-short laser pulses**

A. Lifshitz, F. Sylla, S. Kahaly, A. Flacco, M. Veltcheva, G. Sanchez-Arriaga, E. Lefebvre, and V. Malka, New Journal of Physics 16, 033031 (2014)

**192 Nano-structured plasma wiggler as a source of high-brightness femtosecond X-ray**

I. A. Andriyash, R. Lehe, A. Lifshitz, C. Thaury, J.-M. Rax, K. Krushelnik, and V. Malka, Nature Communications 5, 4736 (2014)

**191 Physical processes at work in sub-30 fs, PW laser pulse-driven plasma accelerators: towards GeV electron acceleration experiments at CILEX facility**

A. Beck, S. Y. Kalmykov, X. Davoine, A. Lifshitz, B. A. Shadwick, V. Malka, A. Specka, NIM A 67-73, 740 (2014).

**190 Angular-momentum Evolution in Laser-Plasma Accelerators**

C. Thaury, E. Guillaume, S. Corde, R. Lehe, M. Le Bouteiller, K. Ta Phuoc, X. Davoine, J. M. Rax, A. Rousse, and V. Malka, Phys. Rev. Lett. **111**, 135002 (2013)

**189 Optical Transverse Injection in Laser-Plasma Acceleration**

R. Lehe, A. F. Lifshitz, X. Davoine, C. Thaury and V. Malka, Phys. Rev. Lett. **111**, 085005 (2013)

**188 Comment On "Electron Temperature Scaling In Laser Interaction With Solids"**

C. Thaury, V. Malka, and E. Lefebvre, Phys. Rev. Lett. **111**, 219501 (2013)

**187 Spectral characterization of fully phase matched High harmonics generated in a hollow waveguide for free electron laser seeding**

F. Ardana-Lamas, G. Lambert, A. Trisorio, B. Vodungbo, V. Malka, P. Zeitoun and C.P. Hauri, New Journal of Physics 073040, **15** (2013).

**186 Probing Electron Acceleration and X-ray Emission in Laser-Plasma Accelerators**

C. Thaury, K. Ta Phuoc, S. Corde, P. Brijesh, G. Lambert, S.P.D. Mangles, M. Bloom, S. Kneip, and V. Malka, Phys. of Plasmas. **20**, 063101 (2013)

**185 Numerical growth of emittance in simulations of laser-wakefield acceleration**

R. Lehe, A. Lifshitz, C. Thaury, X. Davoine and V. Malka, PRST AB **16**, 021301 (2013)

**184 Electron diffraction using ultrafast electron bunches from laser wakefield accelerator at kHz repetition rate**

Z.-H. He, A. G. R. Thomas, B. Beaurepaire, J. A. Nees, B. Hou, V. Malka, K. Krushelnick, and J. Faure, Appl. Phys. Lett. 064104, **102** (2013)

**183 Short Intense Laser Pulse Collapse in Near Critical Plasma**

F. Sylla, A. Flacco, S. Kahaly, M. Veltcheva, A. Lifschitz, E. d'Humières, I. Andriyash, V. Tikhonchuk, and V. Malka, Phys. Rev. Lett. **110**, 085001 (2013)

**182 Self-Injection and Stability in Laser-Plasma Accelerators**

S. Corde, C. Thaury, A. Lifschitz, G. Lambert, K. Ta Phuoc, X. Davoine, R. Lehe, D. Douillet, A. Rousse, V. Malka, Nature Communications, **4**, 1501 (2013).

**181 Experimental Measurements Of Electron Bunch Trains In A Laser-Plasma Accelerator**

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### **184 Cells response under high dose rate and multi-bunch irradiation**

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### **183 Introduction and historical overview of plasma wakefield acceleration**

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### **182 Manipulating Relativistic Electrons with Intense Lasers**

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### **180 Motivations of Laser Plasma Accelerators for Medical Applications**

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**171 Laser Plasma Accelerators**

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**170 Particle and radiation beams with laser plasma accelerators**

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**169 Medical Applications with Laser Plasma Accelerators**

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**147 Laser plasma accelerators: principle, status and applications**

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**123 Plasma accelerators: challenges and limits**

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**122 Story of Laser Plasma accelerators**

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K. Krushelnick, E. Clarke, R. Allott, F. N. Beg, C. N. Danson, A. Machacek, V. Malka, Z. Najmudin, D. Neely, P. A. Norreys, M. Salvati, M. Santala, M. Tatarakis, I. Watts, M. Zepf, A.E. Dangor, Ultra-Intense laser interactions and applications-1, Crete, Greece, May 7-11, 1999.

**49 Multi-terawatt frequency doubling of picosecond pulses for plasma interactions**

D. Neely, C. N. Danson, R. Allott, F. Amiranoff, E. L. Clark, C. Clayton, J. L. Collier, A. E. Dangor, A. Djaoui, C. B. Edwards, P. Flintoff, D. Gordon, P. Hatton, M. Harman, M. H. R. Hutchinson, K. Krushelnick, G. Malka, V. Malka, A. Modena, Z. Najmudin, D. A. Pepler, I. N. Ross, M. Salvati, M. Santala, M. Tatarakis, M. Trentelman, and T. Winstone, Third International conference on solid state laser, Monterey (1999).

**48 Multi-MeV ion production from high intensity laser interaction with underdense plasmas.**

K. Krushelnick, E. Clarke, Z. Najmudin, M. Salvati, M. Santala, M. Tatarakis, A.E. Dangor, V. Malka, D. Neely, R. Allott, C. N. Danson, Ultra-Intense laser interactions and applications-1, Crete, Greece, May 7-11, 1999.

**47 Inverse Faraday effect and propagation instabilities in the interaction of high intensity short pulse with underdense plasmas.**

Z. Najmudin, E. Clarke, A.E. Dangor, C. N. Danson, K. Krushelnick, V. Malka, D. Neely, M. Salvati, M. Santala, M. Tatarakis, Ultra-Intense laser interactions and applications-1, Crete, Greece, May7-11, 1999.

**46 Multi terawatt frequency doubling of picosecond pulses for plasma interactions.**

D. Neely, C. N. Danson, R. Allot, J. L. Collier, C. B. Edwards, P. Flintoff, M. H. R. Hutchinson, D. A. Pepler, I. N. Ross, M. Trentelman, T. Winstone, Z. Najmudin, V. Malka, F. Amiranoff, E. L. Clark, A. E. Dangor, D. Gordon, K. Krushelnick, G. Malka, A. Modena, M. Salvati, M. Santala, and M. Tatarakis, 25th ECLIM Formio, Italy, May 3-7, 1998.

**45 High intensity laser interactions with a gas jet.**

Z. Najmudin, V. Malka, R. Allott, E. Clarke, F. Amiranoff, A.E. Dangor, C. N. Danson, P. Flintoff, D. Gordon, C. Joshi, K. Krushelnick, G. Malka, A. Modena, D. Neely, M. Salvati, M. Santala, M. Tatarakis, 25th ECLIM Formio, Italy, May 3-7, 1998.

**44 High intensity laser interaction with a gas jet at 527nm.**

M. Salvati, R. Allot, F. Amiranoff, E. L. Clark, A. E. Dangor, C. N. Danson, P. Flintoff, D. Gordon, K. Krushelnick, V. Malka, G. Malka, A. Modena, Z. Najmudin, M. Santala, and M. Tatarakis, 25th ECLIM Formio, Italy, May 3-7, 1998.

**43 Observation of laser wakefield acceleration of electrons**

F. Amiranoff, S. Baton, D. Descamps, F. Dorchies, V. Malka, J. R. Marquès, A. Modena, D. Bernard, F. Jacquet, P. Mine, J. Morillo, P. Mora, B. Cros, G. Matthieussent, Z. Najmudin, European Particle Accelerator Conference 98, Stockholm.

**41 Observation of electron energies beyond the linear dephasing limit from a laser-excited relativistic plasma wave.**

D. Gordon, K. C. Tzeng, C. E. Clayton, A. E. Dangor, V. Malka, K. A. Marsh, A. Modena, W. B. Mori, P. Muggli, Z. Najmudin, and C. Joshi, 27th Annual Anomalous Absorption Conference, June 1-5, 1997, Vancouver (Canada).

**40 Observation of self-channeling of relativistically-intense laser light in a very underdense plasma.**

C. E. Clayton, D. Gordon, K. A. Marsh, C. Joshi, V. Malka, Z. Najmudin, A. Modena, A. E. Dangor, D. Neely, and C. Danson., 27th Annual Anomalous Absorption Conference, June 1-5, 1997, Vancouver (Canada).

**39 Channel formation in long laser pulse interaction with a helium gas jet.**

V. Malka, E. De Wispelaere, F. Amiranoff, S. Baton, R. Bonadio, C. Coulaud, R. Haroutunian, S. Hüller, A. Modena, D. Puissant, C. Stenz, 27th Annual Anomalous Absorption Conference, June 1-5, 1997, Vancouver (Canada).

**38 Ion acoustic and electron plasma waves driven by a 0.526 mm laser beam in a preform He gas jet plasma.**

S. Baton, F. Amiranoff, C. Coulaud, S. Hüller, V. Malka, A. Modena, Ph. Mounaix, M. Salvati, M. Casanova, N. Renard, C. Rousseaux, C. Stenz, 27th Annual Anomalous Absorption Conference, June 1-5, 1997, Vancouver (Canada).

**37 SBS Reflectivity in stationary, millimeter size, He plasmas upon the RPP smoothing conditions.**

C. Rousseaux, N. Renard, M. Casanova, F. Amiranoff, S. Baton, C. Coulaud, S. Hüller, V. Malka, A. Modena, Ph. Mounaix, M. Salvati, C. Stenz, 27th Annual Anomalous Absorption Conference, June 1-5, 1997, Vancouver (Canada).

**36 Study of the localisation of the electron plasma and ion acoustic waves by coherent Thomson scattering in laser interaction with helium gas jets.**

V. Malka, F. Amiranoff, S. Baton, C. Coulaud, S. Hüller, A. Modena, Ph. Mounaix, M. Salvati, M. Casanova, N. Renard, C. Rousseaux, C. Stenz, 27th Annual Anomalous Absorption Conference, June 1-5, 1997, Vancouver (Canada).

**35 Raman and Brillouin scattering in the interaction of a nanosecond laser pulse with helium gas jets.**

V. Malka, F. Amiranoff, S. Baton, C. Coulaud, S. Hüller, A. Modena, Ph. Mounaix, M. Salvati, M. Casanova, N. Renard, C. Rousseaux, C. Stenz, 27th Annual Anomalous Absorption Conference, June 1-5, 1997, Vancouver (Canada).

**34 Observation of Raman forward scattering and electron acceleration in the relativistic regime.**

Z. Najmudin, A. Modena, A. E. Dangor, C. E. Clayton, K. A. Marsh, P. Muggli, C. Joshi, V. Malka, C. N. Danson, D. Neely, F. N. Walsh, 26th Annual Anomalous Absorption Conference, August 26-30, 1996, Fairbanks (Alaska).

**33 Stimulated Raman backscattering instability in short pulse laser interaction with helium gas.**

V. Malka, E. De Wispelaere, J. R. Marquès, R. Bonadio, F. Amiranoff, Ph. Mounaix, G. Grillon, E. Nibbering, 26th Annual Anomalous Absorption Conference, August 26-30, 1996, Fairbanks (Alaska).

**32 Interaction of a chirped picosecond laser pulse with He gas: time resolved ionization-induced refraction and Compton back-scattering in short pulse laser interaction with helium gas.**

E. De Wispelaere, V. Malka, J. R. Marquès, R. Bonadio, F. Amiranoff, F. Dorchies, P. Chessa, P. Mora, Ph. Mounaix, G. Grillon, G. Hammoniaux, 26th Annual Anomalous Absorption Conference, August 26-30, 1996,

Fairbanks (Alaska).

**31 Stimulated Raman backscattering instability in short pulse laser interaction with helium gas.**

V. Malka, E. De Wispelaere, J. R. Marquès, R. Bonadio, F. Amiranoff, Ph. Mounaix, G. Grillon, E. Nibbering, 26th Annual Anomalous Absorption Conference, August 26-30, 1996, Fairbanks (Alaska).

**30 Second harmonic generation in the interaction of a short-pulse laser with underdense Plasma.**

V. Malka, A. Modena, Z. Najmidun, A. E. Dangor, C. E. Clayton, K. A. Marsh, C. Joshi, C. N. Danson, D. Neely, F. N. Walsh, 26th Annual Anomalous Absorption Conference, August 26-30, 1996, Fairbanks (Alaska)

**29 Laser interaction with helium gas jet in the nanosecond pulse regime.**

V. Malka, E. De Wispelaere, F. Amiranoff, Ph. Mounaix, S. Hüller, A. Modena, D. Puissant, C. Stenz, 26th Annual Anomalous Absorption Conference, August 26-30, 1996, Fairbanks (Alaska).

**28 Observation of Raman forward scattering and electron acceleration in the relativistic regime.**

A. Modena, Z. Najmidun, A. E. Dangor, C.E. Clayton, K. Marsh, C. Joshi, V. Malka, C. Darrow, C. N Danson, D. Neely, F. N. Walsh, 24th ECLIM Madrid, Spain, June 3-7, 1996.

**27 Interaction of a chirped picosecond laser pulse with He gas: time-resolved ionization-induced refraction and Compton back-scattering.**

E. De Wispelaere, V. Malka, J. R. Marquès, F. Amiranoff, F. Dorchie, P. Chessa, P. Mora, Ph. Mounaix, G. Grillon, E. Nibbering, 24th ECLIM Madrid, Spain, June 3-7, 1996.

**26 Relativistic electromagnetic wave interaction with plasmas.**

C. E. Clayton, P. Muggli, K. A. Marsh, D. Gordon, C. Joshi, Z. Najmidun, A. Modena, A. E. Dangor, V. Malka, American Physical Society (Denver) 41, 7, 1996.

**25 Laser interaction with helium gas jet in the nanosecond laser pulse regime.**

V. Malka, E. De Wispelaere, F. Amiranoff, R. Bonadio, C. Coulaud, S. Hüller, Ph. Mounaix, A. Modena, D. Puissant, C. Stenz, 24th ECLIM Madrid, Spain, June 3-7, 1996.

**24 Stimulated Raman backscattering instability in short pulse laser interaction with helium gas.**

V. Malka, E. De Wispelaere, J. R. Marquès, R. Bonadio, F. Amiranoff, F. Blasco, C. Stenz, Ph. Mounaix, G. Grillon, E. Nibbering, 24th ECLIM Madrid, Spain, June 3-7, 1996.

**23 Acceleration to 44 MeV of electrons trapped in plasma waves generated by forward Raman scattering and wakefield action.**

A. Modena, Z. Najmidun, and A. E. Dangor, C. E. Clayton, K. A. Marsh, W. B. Mori, C. Joshi, C. B. Darrow, V. Malka, C. N. Danson. 25th Annual Anomalous Absorption Conference, The Aspen Institute, Colorado, USA, May 27-June 1, 1995.

**22 Parametric Instabilities driven by short intense laser pulses in preformed underdense plasmas.**

M. Casanova, G. Malka, J. L. Miquel, C. Rousseaux, Ph. Mounaix, F. Amiranoff, S. D. Baton, V. Malka. 25th Annual Anomalous Absorption Conference, The Aspen Institute, Aspen, Colorado, USA, May 27-June 1, 1995.

**21 Acceleration to 44 MeV of electrons trapped in plasma waves generated by forward Raman scattering and wakefield action.**

A. Modena, Z. Najmidun, and A. E. Dangor, C. E. Clayton, K. A. Marsh, W. B. Mori, C. Joshi, C. B. Darrow, V. Malka, C. N. Danson. Institute of Physics, Plasma Physics conference, Oxford, UK, April 1995.

**20 Electron acceleration to 44 MeV in plasma waves by the Rutherford 35 TW single-frequency laser.**

A. E. Dangor, A. Modena, Z. Najmidun, C. E. Clayton, K. A. Marsh, W. B. Mori, C. Joshi, C. B. Darrow, V. Malka, C. N. Danson. "IEEE Particle Accelerator Conference", May 1-5, 1995, Dallas, Texas., USA.

**19 Observation of 44 MeV electrons generated by high-intensity subpicosecond laser irradiation of an underdense plasma.**



C. B. Darrow, C. E. Clayton, K. A. Marsh, W. B. Mori, C. Joshi, A. E. Dangor, A. Modena, Z. Najmudin, V. Malka, D. Neely, C. N. Danson. "Second Canadian International Workshop on High-Field Laser Plasma Interaction Physics", February 22-25, 1995, Banff, Alberta., CANADA.

**18 Ionisation et émission X d'un jet pulsé d'Argon irradié par des impulsions laser femtosecondes.**

C. Stenz, F. Blasco, R. Brückner, F. Amiranoff, P. Audebert, E. De Wispelaere, J. P. Geindre, V. Malka, A. Dos Santos, G. Rey, A. Mysyrowicz, A. Antonetti. *Annales de physique, Colloque C1, n°5, Vol. 19, Oct. 1994.*

**17 Interaction of ultra-high intensity short pulse laser probe with an underdense plasma.**

A. E. Dangor, A. Modena, Z. Najmudin, C. N. Danson, P. Norreys, V. Malka, J.R. Marques, 23th ECLIM, Oxford, Oct.1994.

**16 Femtosecond laser interaction with high-density gas jets.**

C. Stenz, R. Bruckner, F. Blasco, F. Amiranoff, V. Malka, E. De Wispeleare, P. Audebert, J. P. Geindre, J. C. Gauthier, A. Dos Santos, A. Mysirowicz, A. Antonetti. "High field interactions and short wavelength generation", August 21-25, 1994 Saint-Malo.

**15 Interaction of femtosecond Laser Pulse with High Pressure Gaz Jets.**

C. Stenz, F. Blasco, F. Amiranoff, V. Malka, E. De Wispeleare, R. Bonadio, P. Audebert, J. P. Geindre, J. C. Gauthier, A. Dos Santos, A. Mysirowicz, A. Antonetti. "Anomalous Absorption Conference" 6-10 June 1994, Monterey, USA.

**14 Femtosecond laser pulse ionisation and propagation in high pressure supersonic gas jet.**

C. Stenz, R. Bruckner, F. Blasco, F. Amiranoff, V. Malka, E. De Wispeleare, P. Audebert, J. P. Geindre, J. C. Gauthier, A. Dos Santos, A. Mysirowicz, A. Antonetti. "Generation and application of ultrashort X-ray pulse", 10-13 March 1994, Salamanca (Espagne).

**13 X-Ray emission from Ar induced by an intense femtosecond laser pulse.**

P. Audebert, J. P. Geindre, J. C. Gauthier, F. Amiranoff, V. Malka, E. De Wispeleare, C. Stenz, R. Bruckner, F. Blasco, A. Dos Santos, A. Mysirowicz, A. Antonetti. "Generation and application of ultrashort X-ray pulse", 10-13 March 1994, Salamanca (Espagne).

**12 Interazione di un impulso laser ai femtosecondi con un getto di gas ad alta pressione.**

R. Bonadio, C. Stenz, R. Bruckner, F. Blasco, F. Amiranoff, V. Malka, E. De Wispeleare, A. Dos Santos. *Società Italiana di Fisica, 26-30 ottobre 1994, Legge. Italie.*

**11 Studio delle non-uniformità nelle esperienze di implosione al LULI.**

M. Koenig, V. Malka, E. Fabre, P. Hammerling, A. Michard, J. M. Boudenne, P. Fewes, D. Batani, J. P. Garçonnet, Congrès de la S.I.F., 5-10 Octobre 1992, Pavia, Italie.

**10 Planar acceleration by shock wave laser.**

B. Faral, M. Koenig, V. Malka, J. M. Boudenne, D. Batani, S. Atzeni, in Proc. 22nd ECLIM, Paris 1993.

**9 Non-Uniformités dans les expériences d'implosion à 0.26  $\mu\text{m}$ .**

M. Koenig, V. Malka, E. Fabre, P. Hammerling, A. Michard, J. M. Boudenne, P. Fewes, D. Batani, J. P. Garçonnet, Congrès de la S.F.P., Nancy, Sept. 1992.

**8 Recent results on implosion directly driven at 0.26  $\mu\text{m}$  laser wavelength.**

M. Koenig, V. Malka, E. Fabre, P. Hammerling, A. Michard, J. M. Boudenne, P. Fewes, D. Batani, J. P. Garçonnet, 33th Annual Meeting of the Division of Plasma Physics, A.P.S., Tampa, Fl., U.S.A., Nov. 1991.

**7 Recent results on implosion directly driven at 0.26  $\mu\text{m}$  laser wavelength.**

M. Koenig, V. Malka, E. Fabre, P. Hammerling, A. Michard, J. M. Boudenne, P. Fewes, D. Batani, J. P. Garçonnet, 21th E.C.L.I.M., Varsovie, Oct. 1991.

**6 Mesure de rendements hydrodynamiques dans les expériences d'implosion à 0.26  $\mu\text{m}$ .**

M. Koenig, V. Malka, E. Fabre, P. Hammerling, A. Michard, J. M. Boudenne, P. Fewes, D. Batani, J. P. Garçonnet, Congrès de la S.F.P., Caen, Sept. 1991.

**5 Hydrodynamic efficiency as determined from experiments at 0.26  $\mu\text{m}$ .**

M. Koenig, E. Fabre, V. Malka, P. Hammerling, A. Michard, J. M. Boudenne, P. Fews, S.P.I.E., La Haye, Mars 1991.

**4 Radiation preheat and transport studies in thin foil targets.**

J. Edwards, V. Barrow, D. Riley, O. Willi, Imperial College London UK, T. Afshar-Rad, S. Rose, R. Benattar, V. Malka, 18 th annual Anomalous Absorption Conference, l'Esterel Quebec, 27 juin - 1er juillet 1988.

**3 Emission X-UV résolue temporellement de la face arrière de feuilles minces illuminées par laser.**

R. Benattar, J. Godart, V. Malka, Congrès de la Société Française de Physique, Division Plasmas, Orsay 12-13 sept. 1988.

**2 Time resolved backside emission in the X-UV range of laser illuminated thin foils.**

R. Benattar et V. Malka, 19Th ECLIM Madrid 3-7 Oct. 1988.

**1 X-UV backside emission of laser illuminated thin foils.**

R. Benattar et V. Malka, Bull of the Am. Phys. Soc. 33, N°9, 1998 (1988), APS Meeting, Hollywood Florida, 31 oct.-4 nov. 1988.

## **Liste des Séminaires invités à l'étranger/ List of invited seminars :**

### **66 Manipulating Relativistic Electrons with Lasers**

V. Malka, MLL Kolloquium, Garching, Germany, July 25 (2019)

### **65 Manipulating Relativistic Electrons with Lasers**

V. Malka, Ben Gourion University, Israel, March 19 (2019)

### **64 Manipulating Relativistic Electrons with Lasers**

V. Malka, Warsaw Université, October 27 (2017)

### **63 Manipulating Relativistic Electrons with Lasers**

V. Malka, Lund Laser Center, Lund University, Sweden, June 2 (2017)

### **62 Manipulating Relativistic Electrons with Lasers**

V. Malka, SFP/IOP Holweck prize ceremony, Rutherford Appleton Laboratory, UK, June 5 (2017)

### **61 Motivations of laser plasma accelerator for medical applications**

V. Malka, WHELMi inauguration, WIS, Israel, April 26 (2017)

### **60 Manipulating Relativistic Electrons with Lasers**

V. Malka, Julius Springer prize ceremony, Berlin, Germany, April 20 (2017)

### **59 Manipulating Relativistic Electrons with Lasers**

V. Malka, Chalmers University, Sweden, June 22 (2016)

### **58 Manipulating Relativistic Electrons with Lasers**

V. Malka, Osaka University, Japan, May 23 (2016)

### **57 Manipulating Electrons with Lasers**

V. Malka, Hebrew University of Jerusalem, Israel, March 16 (2016)

### **56 Manipulating Electrons with Lasers**

V. Malka, Refael, Israel, March 15 (2016)

### **55 Manipulating Electrons with Lasers**

V. Malka, Tel-Aviv University, Israel, March 13 (2016)

### **54 Manipulating Electrons with Lasers**

V. Malka, HZDR, Dresden, Germany, December 17 (2015)

### **53 Manipulating Electrons with Lasers**

V. Malka, Technion, Haifa, Israel, October 26 (2015)

### **52 Laser Plasma Accelerators**

V. Malka, Ariel University, Israel, October 25 (2015)

### **51 Laser Plasma Accelerators**

V. Malka, University of Heraklion, Crete, Grece, October 15 (2015)

### **50 Research and Innovation in Laser Plasma Accelerators**

V. Malka, Technion, Haifa, Israel, April 1 (2015)

### **49 Laser plasma accelerators : principle and applications for biology and medicine**

V. Malka, Weizmann Institute of Science, Department of BioSciences, Israel, March 29 (2015)

### **48 Laser plasma accelerators : principle, status and applications**

V. Malka, ALBA, Barcelone, Spain, October 20 (2014)

**48 High brightness electron and X-rays beam produced with Laser Plasma Accelerators**

V. Malka, GSI, Darmstadt, Allemagne, May 27 (2014)

**47 Research and Innovation in Laser Plasma Accelerators Technologies**

V. Malka, Weizmann Institute of Sciences, Israel, February 4 (2014)

**46 Laser Plasma Accelerators**

V. Malka, Weizmann Institute of Sciences, Israel, December 5 (2013)

**45 High brightness X-rays beam produced with Laser Plasma Accelerators**

V. Malka, APRI-GIST, Corée, November 31 (2013)

**44 High quality electrons beam produced with Laser Plasma Accelerators**

V. Malka, APRI-GIST, Corée, November 31 (2013)

**43 Laser Plasma Accelerators : from the basic principles to the applications**

V. Malka, APRI-GIST, Corée, November 12 (2013)

**42 Research and Innovation in Laser Plasma Accelerators Technologies**

V. Malka, Tel-Aviv University, Israel, October 31 (2013)

**41 Research and Innovation in Laser Plasma Accelerators Technologies**

V. Malka, French Embassy and French American Chamber of Commerce, Washington, USA August 12 (2013)

**40 High Quality Electron and X-ray Beams with Laser plasma accelerators**

V. Malka, Tata Institute, Mumbai (INDIA), March 26 (2013)

**39 High Quality Electron and X-ray Beams with Laser plasma accelerators**

V. Malka, Insitute For Plasma Research, Hamedabad (INDIA), March 28 (2013)

**38 High Quality Electron and X-ray Beams with Laser plasma accelerators**

V. Malka, IST-Lisbon Physics Department (DFIST) colloquia, March 13 (2013)

**37 High Quality Electron and X-ray Beams with Laser plasma accelerators**

V. Malka, Centro de Laseres Pulsados (CLPU), Salamanca, SPAIN, February 28 (2013)

**36 Laser plasma accelerators : innovative electron and X-ray beams**

V. Malka, Tel-Aviv University, Israel, December 2 (2012)

**35 State of the Art of Laser Plasma Accelerators**

Victor Malka, Academy Lecture, Romanian Academy of Sciences, Bucarest, Romania, October 24 (2012).

**34 Laser plasma accelerators : innovative electron and X-ray beams**

V. Malka, Ben Gourion University, Israel, December 4 (2012)

**33 Overview of Laser plasma accelerators**

V. Malka, INFN, Frascati (Italy), June 7 (2012)

**32 Ultra brigh X rays beams Produced with Laser plasma accelerators**

V. Malka, INFN, Frascati (Italy), June 7 (2012)

**31 Laser plasma accelerators**

V. Malka, Tata Institute, Mumbai (INDIA), January 6 (2012)

**30 Laser plasma accelerators : principle and applications**

V. Malka

HH-IFIN, Bucarest, April 26 (2011)

**29 State of the Art of Laser Plasma Accelerators.**

V. Malka

Lund University, Sweden, April 4 (2011).

**28 High current electron beam produced by Laser plasma accelerators**

V. Malka

Tata Institut of Mumbai, India, February 24 (2011).

**27 High quality electron beam delivered by laser plasma accelerators**

V. Malka

IPR, Ahmeddab, India, February 23 (2011).

**26 Laser plasma accelerators : status, applications and perspectives**

V. Malka

Colloquium PMRC, Nara, Japan, March 27 (2010).

**25 Laser plasma accelerators : principles and applications**

V. Malka

Tata Institut of Mumbai, India, January 6 (2010).

**24 Laser plasma accelerators : status, applications and perspectives**

V. Malka

Université de Milan, Italie, Nov 30 (2009).

**23 Laser plasma accelerators : status, applications and perspectives**

V. Malka

Princeton Plasma Physics Laboratory, Princeton, New Jersey, USA, May 21 (2008).

**22 Electrons acceleration in laser produced plasmas**

V. Malka, International School of Quantum Electronics, Atoms and Plasmas in Super Intense Laser Fields Erice-Sicily, 10 - 16 July 2009.

**21 Laser plasma accelerators : status, applications and perspectives**

V. Malka

Inter University Accelerator Centre (IUAC), Delhi, INDIA, May 10 (2008).

**20 Laser plasma accelerators : status, applications and perspectives**

V. Malka

Bhabha Atomic research Centre (BARC), Mumbai, May 17 (2008).

**19 Laser plasma accelerators : status, applications and perspectives**

V. Malka

Saha Institute of Nuclear Physic (SINP), Calcutta, May 15 (2008).

**18 Laser plasma accelerators : status, applications and perspectives**

V. Malka

Tata Institute of Fundamental Research (TIFR), Mumbai, May 16 (2008).

**17 Laser plasma accelerators : status, applications and perspectives**

V. Malka

Raja Ramanna Centre for Advanced Technology (RRCAT), Indore, May 17 (2008).

**16 Laser plasma accelerators : status, applications and perspectives**

V. Malka

John Adams Institute, Oxford, UK, January 10, 2008.

**15 Laser plasma accelerators**

V. Malka  
University of Bologna, Italy, January 08, 2008.

**14 Laser plasma accelerators : status, applications and perspectives**

V. Malka  
Hebrew University of Jerusalem, Israel, April 17, 2007.

**13 Laser plasma accelerators : principle and applications**

V. Malka  
Milan, March 14, 2007.

**12 Laser plasma accelerators : status, applications and perspectives**

V. Malka  
Frascati, March 7, 2006.

**11 Laser plasma accelerators**

V. Malka  
Jena Institut, Germany, November 21, 2005.

**10 Laser plasma accelerators : status and applications**

V. Malka  
Darmstadt University, November 23, 2005.

**9 Laser plasma accelerator concept**

V. Malka  
INFN, Milan, Italy, May 24, 2005.

**8 Medical applications of laser based particle beam.**

V. Malka  
Fox Chase Cancer Center, Madison, PA, USA, May 19, 2005.

**7 Status of Laser Plasma Accelerator.**

V. Malka  
Milan Bicocca University, Italy, February 16, 2005.

**6 On the use of gas jet for laser plasma interaction.**

V. Malka  
Tsukuba University, JAPAN, January 12, 1999.

**5 On the use of gas jet for laser plasma accelerator.**

V. Malka  
Tsukuba University, JAPAN, January 14, 1999.

**4 Laser gas and gas-jet interaction in the subpicosecond regime.**

V. Malka  
UCLA (CA), USA, September 3, 1996.

**3 Laser gas-jet interaction in the nanosecond regime.**

V. Malka  
UCLA (CA), USA, September 3, 1996.

**2 Electron acceleration in laser plasma interaction : principles and experimental results.**

V. Malka  
Essex University, UK, Dec. 5, 1995.

**1 Wake-field and relativistic self-focusing experiments with femtosecond lasers.**

V. Malka  
Université de Milan, 2 Mars 1994.



## **Liste des Séminaires « Invité » en France/ list of invited seminars in France :**

### **30 Manipulating Relativistic Electrons with Lasers**

V. Malka, Journée Scientifique de l'ED 352, Marseille, Juin 13 (2019)

### **29 Manipulating Relativistic Electrons with Intense Laser Pulses**

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