

PRODUCTION SCIENTIFIQUE

I. Articles dans des revues à comité de lecture

- [1] J.M. Victor, J.P. Hansen
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J. Chem. Phys. **92**, 1362 (1990).
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J. Chem. Phys. **95**, 600 (1991).
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Collapse of an alternating polyampholyte: Evidence for tricriticality in 2 and 3 dimensions
Europhys. Lett. **24**, 189 (1993).
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J. Chem. Phys. **100**, 5372 (1994).
- [9] M. Ghomi, J.M. Victor, Ch. Henriët
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J. Comp. Chemistry **15**, 433 (1994).
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Molecular Simulation, **16**, 399 (1996).
- [11] J.B. Imbert, A. Lesne, J.M. Victor
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Phys. Rev. E, **56**, 5630 (1997).

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J. Chem. Phys., **112**, 1565 (2000).
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The coil-globule transition for a polymer chain confined in a tube : A Monte Carlo simulation
J. Chem. Phys., **113**, 6966 (2000).
- [16] E. Ben-Haim, A. Lesne, J. M. Victor
Chromatin : A tunable spring at work inside chromosomes
Phys. Rev. E, **64**, 051921 (2001).
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Physica A, **314**, 592-599 (2002).
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- [20] J. Mozziconacci, J. M. Victor
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- [29] F. Paillusson, M. Barbi, J-M. Victor
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Molecular Physics **107**, 1379-91 (2009).
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sur le site de « Physics »: <http://physics.aps.org/synopsis-for/10.1103/PhysRevLett.102.228101>
et a bénéficié d'un Phys. Rev. Focus: <http://focus.aps.org/story/v23/st19>
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Journal of Theoretical Biology **394**, 93-101
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 Philosophies **2021**, 6, 57. <https://doi.org/10.3390/philosophies6030057>
 Cet article fait partie d'un numéro spécial consacré à « Logic and Science »
https://www.mdpi.com/journal/philosophies/special_issues/logic_and_science dont un de mes anciens
 étudiants, Fabien Paillusson, était *guest editor*.
- [66] Fadwa Fatmaoui, Pascal Carrivain, Diana Grewe, Burkhard Jakob, Jean-Marc Victor,
 Amélie Leforestier, Mikhail Eltsov (**2022**)
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 landscapes of interphase nuclei*
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Direct visualization and tracing of DNA fold in Drosophila embryo
<https://www.biorxiv.org/content/10.1101/2022.08.16.502515v2>
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 Leforestier, Amelie (2025)
Helical correlations in curved DNA condensates
 en révision à NAR (NAR-01398-L-2025.R1)

II. Autres articles

[arXiv1] A. Lesne, J.M. Victor

First order theta-point of a single polymer chain

cond-mat/0004273 (17 avril 2000)

disponible à l'adresse <http://arxiv.org/abs/cond-mat/0004273>

[arXiv2] A. Lesne, J.M. Victor

Anomalous tricritical behaviour in the coil-globule transition of a single polymer chain

cond-mat/0005049 (2 mai 2000)

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[HAL] J.M. Victor (7 mai 2020)

COVID-19: How to find silent spreaders?

disponible à l'adresse <https://hal.archives-ouvertes.fr/hal-02567311>

III. Diffusion de l'information scientifique et technique

[DIST 1] J.M. Victor

Compte-rendu de lecture de l'ouvrage "Bionano-éthique: Perspectives critiques sur les nanobiotechnologies"

pour la revue Nature Science et Société, vol. 18, n. 4, paru le : 01/10/2010

<https://www.nss-journal.org/articles/nss/pdf/2010/04/nss10412.pdf>

[DIST 2] J.M. Victor

Analyse de l'article historique « A structure for deoxyribose nucleic acid »

Bibliothèque numérique BibNum, février 2012

disponible à l'adresse <http://www.bibnum.education.fr/sciencesdelavie/biologie>

[DIST 3] Une image d' « usine à transcription » réalisée par notre équipe a été sélectionnée pour la fresque géante « Le monde en équations » exposée à la station de métro

Montparnasse Bienvenue en janvier-février 2014

(<http://www2.cnrs.fr/presse/communiqu/3377.htm>).

[DIST 4] M. Barbi, A. Lesne, J. Mozziconacci et J-M. Victor

Article de revue « Chromosomes : étonnants polymères ! »

Reflets de la Physique, n°57, avril 2018, p. 10-15

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IV. Ouvrages et chapitres dans des ouvrages

- [O1] M. Lavaud, J. M. Victor
Computation of an improved integral equation by non linear resummation of the first graphs of the bridge fuction
Strongly coupled plasma physics, eds F. J. Rogers and H. E. Dewitt, Plenum Press (1987).
- [O2] J. M. Victor
Basic theory of polyelectrolytes
M. C. Bellissent-Funel and G. W. Neilson (eds), The Physics and Chemistry of Aqueous Ionic Solutions (1987), p. 291, Reidel Publishing Company.
- [O3] J.M. Victor
Diagrammes de Phases et Structure de Macromolécules Chargées
Thèse de l'Université P. & M. Curie, décembre 1988.
- [O4] P. Carrivain, J.M. Victor, A. Lesne
Modéliser et simuler les chromosomes: propriétés physiques et fonctions biologiques
in « Modéliser & simuler. Pratiques et épistémologies de la modélisation et de la simulation », tome 2, Editions Matériologiques (livre numérique et papier), publication octobre 2014.
- [O5] Ch. Lavelle, J.M. Victor (éditeurs)
Nuclear Architecture and Dynamics (ouvrage collectif de 618 pages)
Volume 2 de « Translational Epigenetics Series », Academic Press, octobre 2017.

V. Brevet

Titre: *Dispositif automatique de réalisation d'échantillons en vue de la mise en œuvre de réactions chimiques ou biologiques en milieu liquide*

Titulaire: Fondation Jean Dausset – CEPH

Inventeurs: Patrick COHEN, Gilles THOMAS, Jean-Marc VICTOR

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Engagement en phases nationales et régionales aux Etats-Unis, Canada et Europe (20/09/2001).
Titre officiel européen délivré le 12/06/2002.
Certificat du brevet européen reçu le 13/03/2003.
US Patent 6 893 611 délivrée le 17 mai 2005.

VI. Conférences sur invitation

- [1] Cours de l'Ecole d'été: "The Physics and Chemistry of aqueous ionic solutions"
Cargèse, juin 1986
Titre: *Basic Theory of Polyelectrolytes*
- [2] Colloque international:
First Research Conference of The European Science Foundation on "Colloids and Interface: Polyelectrolytes", Maria Laach (Allemagne), 3-7 septembre 1990
Titre: *Screening in polyelectrolyte solutions: Theory and simulations*
- [3] Conférence internationale:
International Symposium on Molecular Simulation,
Fukui (Japon), 24-26 novembre 1994
Titre: *Flory theory revisited by numerical simulation: new results for the coil-globule transition of homo- and heteropolymers*
- [4] Colloque international:
Numerical studies of polyelectrolytes
CECAM (ENS Lyon) 27-29 mars 1995
Titre: *Polyampholytes*
- [5] Conférence internationale:
25^{ème} Rencontre Annuelle de Physique Statistique,
Cuernavaca (Mexique), 9-12 janvier 1996
Titre: *Conformational transitions of heteropolymers: a way of using numerical simulations*
- [6] Première Journée de Modélisation Biomoléculaire du Campus de Jussieu:
Paris, 23 juin 1998
Titre: *Dynamique de torsion de la chromatine*
- [7] Conférence internationale:
Entretiens européens de la Technologie,
Bruxelles (Belgique), 9-10 avril 1999
Titre: *Apport des microtechnologies à la biochimie combinatoire : un microlaboratoire polyvalent pour la préparation et l'analyse d'échantillons réactionnels multiples*
- [8] Conférence internationale:
Mathematical models of living systems
Dubna (Russie), 30 janvier –1er février 2002
Titre: *Age-specific incidence rate of chronic diseases as a signature of gene- environment interaction*
- [9] Conférence internationale:
DNA in chromatin: at the frontiers of biology, biophysics and genomics,
Arcachon (France), 23–29 mars 2002
Titre: *Chromatin: a tunable spring at work inside chromosomes*
- [10] Conférence internationale:
European Biophysics Congress
Alicante (Espagne), 5-9 juillet 2003
Titre: *Intra and inter-nucleosomal dynamics*
- [11] Conférence internationale:
Networks in physics and biology
Orléans (France), 5-9 juillet 2004
Titre: *How DNA avoids getting wound up in eukaryotes*

- [12] Colloque international:
Chromatin Day
Lille (France), 19 novembre 2004

Titre: *The physics of chromatin in the regulation of gene expression*
- [13] Conférence internationale:
International symposium on molecular simulations
Kanazawa (Japon) , 24-25 mars 2006

Titre: *How to model the chromatin fiber? In vivo and in vitro perspectives*

Résumé à l'adresse: <http://www-tph.cheme.kyoto-u.ac.jp/kanazawa2006/Victor.pdf>
- [14] Colloque international:
Soft Condensed Matter Physics in Molecular and Cell Biology
Lorentz Center, Leiden (Pays-Bas), 8-12 mai 2006

Titre: *How to model the chromatin fiber? In vivo and in vitro perspectives*
- [15] Conférence nationale:
10èmes Journées de la Matière Condensée (JMC 2006)
Toulouse (France), 28 août – 1er septembre 2006

Titre: *How to model the chromatin fiber? In vivo and in vitro perspectives*
- [16] Conférence nationale:
21ème Congrès de la Société Française de Biophysique
Figeac (France), 30 septembre – 3 octobre 2008

Titre: *Le nucléosome dans tous ses états: les succès d'une approche fonctionnelle en modélisation des grands assemblages*
- [17] Conférence internationale:
Biophysics of Chromatin
Heidelberg (Allemagne), 4 – 6 février 2009

Titre: *Magnetic tweezers turn nucleosomes inside-out: in vitro modeling and in vivo predictions*
- [18] Conférence internationale:
Horizons in Hydrogen Bond Research
Paris (France), 14 – 18 septembre 2009

Titre: *Why proteins can slide along DNA and how they find their target*
- [19] Colloque national:
Journées Interface Physique-Biologie
Lyon (France), 2 – 3 novembre 2009

Titre: *Le jeu du spécifique et du non-spécifique*
- [20] Conférence internationale:
Annual Meeting of the Society for Mathematical Biology
Rio de Janeiro (Brésil), 24 – 29 juillet 2010

Titre: *On the topology of chromatin fibers*

- [21] Conférence internationale:
 Transient Chemical Structures in Dense Media
 Paris (France), 29 novembre – 3 décembre 2010
***Titre:** From Tangram dissection puzzles to Intrinsically Unstructured Proteins*
- [22] Conférence internationale:
 8th European Biophysics Congress
 Budapest (Hongrie), 23 – 27 août 2011
***Titre:** In silico single molecule manipulation with rigid body dynamics: an efficient tool for modeling the mechanical properties of DNA-protein complexes*
- [23] Colloque international:
 DNA search : from biophysics to cell biology
 Safed (Israel), 11 – 14 septembre 2011
***Titre:** The physics of sliding: structural implementation of functional electrostatics*
- [24] Colloque international:
[Genome Mechanics at the Nuclear Scale](#)
 Lorentz Center, Leiden (Pays-Bas), 10-14 décembre 2012
***Titre:** Some recent advances of the french network “ADN” on the yeast nuclear organization*
- [25] Colloque international:
 WORKSHOP DEFIS - Biophysics of large macromolecular assemblies: experiments and simulations
 ENS-Cachan (France), 14-15 octobre 2014
***Titre:** In silico single molecule manipulations unravel nucleosome dynamics*
- [26] Colloque national:
 Deuxième journée du Topo-Club Ile-de France
 Museum National d'Histoire Naturelle, Paris (France), 28 janvier 2014
***Titre:** Topologie in silico*
- [27] Colloque international:
 INFLACONF: Mathematical modeling in immunology and inflammation
 Université Paris-Nord, Institut Galilée, Villetaneuse (France), 10-11 mars 2014
***Titre:** Aging dynamics of biological networks explains age-specific incidence curves in Crohn disease*
- [28] Conférence internationale:
 50 Years of Histone Acetylation. Barcelona Conference on Epigenetics and Cancer
 Caixa Forum, Barcelone (Espagne), 1-2 octobre 2014
***Titre:** Chromatin fiber allostery and the epigenetic code*

- [29] Colloque international:
Interlabex Symposium on Nuclear Dynamics & Organization
 Institut Curie, 11 mai 2015
Titre: Epigenetics switches chromosomes from polymer to copolymer physics
- [30] Colloque international:
 CECAM Workshop : GenPhysChrom
 ENS de Lyon, 22-26 juin 2015
Titre: Epigenetics switches chromosomes from polymer to copolymer physics
- [31] Colloquium:
 PRBB-CRG Conference
 PRBB, Barcelone (Espagne), 24 juillet 2015
Titre: The physics of epigenetics
- [32] Colloque international :
 2ème Journée de Biologie Structurale Intégrative
 Toulouse, 5 octobre 2015
Titre: 3d reconstruction and animation of chromosome architecture: when physicists plunge into the fray
- [33] Colloque international :
 Self-assembly in biological systems
 Tours, 22 octobre 2015
Titre: Molecular tangrams: myth or reality?
- [34] Conférence internationale:
 Conference on Genome Architecture in Space and Time
 ICTP, Trieste (Italie), 20-24 juin 2016
Titre: Finite-Size Scaling Analysis of Super-Resolution Imaging and Simulations of Epigenetic Domains
- [35] Conférence internationale:
 Multiscale analysis and reconstruction of chromatin and nuclear organization
 Centro di Ricerca Matematica Ennio di Giorgi, Pise (Italie), 22-26 juin 2018
Titre: Some Polymer Physics Tools for Chromosome Image Analysis
- [36] Workshop international:
 The 4D Genome computational day
 ENS Lyon, 13 novembre 2019
Titre: Persistence length of the chromatin fiber
- [37] Workshop international:
 Workshop around the mitotic chromosome (<https://indico.in2p3.fr/event/28533>)
 ENS Lyon, 4-5 janvier 2023
Titre: Ultrastructure of mitotic chromosomes revisited by cryo-ET and numerical simulations

[38] Colloque international:

Première Edition des Rencontres entre le Center of Theoretical Biological Physics (CTBP) de RICE university et les biophysiciens de l'Ile-de-France
Hôtel de La Faye (Paris, France), 24-25 octobre 2023

2 communications:

Titre 1: *On some overlooked features of chromatin*

Titre 2: *Measuring DNA curvature and torsion in eukaryotic chromatin in situ with cryo-electron tomography*

[39] Colloque national:

Cinquième Edition du séminaire annuel du groupe "Supercoiling" du GDR ADN&G
Domaine du Lazaret (Sète, France), 6-8 décembre 2023

Titre: *Measuring DNA curvature and torsion in eukaryotic chromatin in situ with cryo-electron tomography*

[40] Colloque international:

Deuxième Edition des Rencontres entre le Center of Theoretical Biological Physics (CTBP) de RICE university et les biophysiciens de l'Ile-de-France
Hôtel de La Faye (Paris, France), 5-6 septembre 2024

Titre: *A simple theory of complex genetic disorders*