

Christophe OGUEY — CV

Maitre de conférence (MC0) at the university of Cergy-Pontoise

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HIGHER EDUCATION

1976 – 1980 Diploma of engineer in physics at the Ecole polytechnique fédérale de Lausanne (EPFL), Switzerland.

1981 – 1985 PhD of sciences, EPFL. Thesis on *The screening effect in quantum charged systems*. Supervisor : Philippe Martin, EPFL professor.

PROFESSIONAL AFFILIATIONS

1981 – 1985 Assistant at the *Theoretical physics department*, EPFL Lausanne CH.

1986 – 1989 Research fellow at the *Centre de physique théorique*, Ecole polytechnique Palaiseau F.

1989 – 1992 Research fellow & lecturer at the *Laboratoire de physique des solides*, university of Paris-Sud, Orsay F.

Since 1992 Maitre de conference at the *LPTM, Laboratoire of Physics, Theory and Models*, university of Cergy-Pontoise F.

FACULTY AND RESEARCH ADMINISTRATION

1993 – 1997 Manager of the centre for scientific computing, UCP (university of Cergy-Pontoise).

1993 – 1998 Renater IT contact, in charge of network security, UCP.

1994 – 1998 Coordinator of the physics courses in life sciences, UCP.

2000 – 2002 Coordinator of the physics courses in maths and computer sciences, UCP.

1994 – 2000 Elected member at the scientific committee of the university of Cergy-Pontoise.

1993 – 2014 Elected member of several hiring committees in physics.

2011 – 2014 Head of the Physics Department, university of Cergy-Pontoise.

2014 – ... Coordinator of research theme D: Soft matter, complex systems, LPTM UCP.

Reviewer for scientific journals

Among others, *Acta Cryst. A*, *Computational Materials Science*, *EPL*, *European Physical Journal B & E*, *Journal of Physics A*, *Philosophical Magazine*, *Proc. Royal Society*, *Phys Rev Letters*, *Phys Rev E* ...

Referee for scientific programmes

ANR ('Agence Nationale de la Recherche'), "PIRIBio" in 2009.

ANR common programme in 2012.

PHD SUPERVISION

Marco MANCINI (2001 – 2005)

Jérémy ESQUE (2006 – 2008)

Ahmad ELBAHNSI (2013 – 2016).

RESEARCH ACTIVITY

Main areas of expertise:

- Condensed matter theory and statistical physics.
- Morphology of liquid mesophases and interfacial films – deformation of minimal surfaces.
- Complex fluids, entangled structures.
- Statistical physics, mechanics and dynamics of cellular systems, foams.
- Structure, dynamics and function of biological macromolecules.

Author of 1 book chapter and 46 peer reviewed articles.

AWARDS, HONOURS

- 1998 – 1999 Sabbatical year at the *LUDFC*, Louis Pasteur University, Strasbourg F, and at the *Department of Applied Mathematics*, ANU, Canberra, Au.
- 2003 – 2005 Delegation at the CNRS, F
- Spring 2007 Sabbatical semester at the *Department of Applied Mathematics*, ANU, Canberra and at the *LPTM*, University of Cergy-Pontoise.
- 2010 – 2011 Delegation at the CNRS, F
- 2015 – 2016 Delegation at the CNRS, F

SCIENTIFIC PUBLICATIONS (2005 onwards)

- [1] Mancini M., Oguey C. Equilibrium conditions and symmetries for foams in contact with solid surfaces. *Col. Surf. A: Physicochem. Eng. Aspects* **263**(1-3):33–38 (2005).
- [2] Mancini M., Oguey C. Foams in contact with solid boundaries: Equilibrium conditions and conformal invariance. *European Physical Journal E* **17**(2):119–128 (2005).
- [3] Rivier N., Miri M., Oguey C. Plasticity and topological defects in cellular structures: Extra matter, folds and crab moulting. *Col. Surf. A: Physicochem. Eng. Aspects* **263**(1-3):39–45 (2005).
- [4] Mancini M., Oguey C. Decorated vertices with 3-edged cells in 2D foams: exact solutions and properties. *European Physical Journal E* **22**(2):181–192 (2007).
- [5] Miri M.F., Oguey C. Topological correlations and asymptotic freedom in cellular aggregates. *Col. Surf. A: Physicochem. Eng. Aspects* **309**(1-3):107–111 (2007).
- [6] Heddi B., Foloppe N., Oguey C., Hartmann B. Importance of accurate DNA structures in solution: The Jun-Fos model. *Journal of Molecular Biology* **382**(4):956–970 (2008).
- [7] Hyde S.T., de Campo L., Oguey C. Tricontinuous mesophases of balanced three-arm ‘star polyphiles’. *Soft Matter* **5**(14):2782–2794 (2009).
- [8] Esque J., Oguey C., de Brevern A.G. A novel evaluation of residue and protein volumes by means of laguerre tessellation. *J. Chem. Inf. Model.* **50**(5):947–60 (2010).
- [9] Heddi B., Oguey C., Lavelle C., Foloppe N., Hartmann B. Intrinsic flexibility of B-DNA: the experimental TRX scale. *Nucleic Acids Research* **38**(3):1034–1047 (2010).
- [10] Oguey C., Foloppe N., Hartmann B. Understanding the sequence-dependence of dna groove dimensions: Implications for dna interactions. *PLoS ONE* **5**(12):e15931 (2010).
- [11] Esque J., Oguey C., de Brevern A.G. Comparative analysis of threshold and tessellation methods for determining protein contacts. *J. Chem. Inf. Model.* **51**(2):493–507 (2011).
- [12] Oguey C. Long range topological correlations in cellular patterns. *Col Su A: Physicochem. and Eng. Aspects* **382**(1-3):32 – 35 (2011).
- [13] Trambly de Laissardière G., Oguey C., Mayou D. Breakdown of semi-classical conduction theory in approximants of the octagonal tiling. *Phil. Mag.* **91**(19-21):2778–2786 (2011).
- [14] Grassia P., Embley B., Oguey C. A Princen hexagonal foam out of physicochemical equilibrium. *J. Rheol.* **56**(3):501–526 (2012).
- [15] Grassia P., Oguey C., Satomi R. Relaxation of the topological T1 process in a two-dimensional foam. *European Physical Journal E* **35**:1–12 (2012).
- [16] Esque J., Léonard S., de Brevern A.G., Oguey C. VLDP web server: a powerful geometric tool for analysing protein structures in their environment. *Nucl. Acid Res.* **41**(W1):W373–W378 (2013).
- [17] Satomi R., Grassia P., Oguey C. Modelling relaxation following T1 transformations of foams incorporating surfactant mass transfer by the Marangoni effect. *Col. Surf. A: Physicochem. Eng. Aspects* **438**:77–84 (2013).

Under review

- [18] Hyde S.T., Oguey C. Self-assembly of 3-arm mikto copolymers: on periodic 3-colourings of space. (in preparation).
- [19] Esque J., Sansom M., Baaden M., Oguey C. Analyzing protein topology with Voronoi and Laguerre tessellations using the water network through FepA as test case. (submitted).
- [20] B Hartmann, A Ben Imeddourene, A Elbahsi, M Gueroult, C Oguey, N Foloppe, Simulations meet experiment to reveal new insights into DNA intrinsic mechanics, (submitted).

Most of my recent publications are available on my web site:
<http://oguey.u-cergy.fr/> → PUBLICATIONS