

Ludovic DICKEL

Present affiliation and contact:

Address : Groupe Mémoire et Plasticité comportementale, Campus V Jules Horowitz, University of Caen-Normandy, 14032 CAEN cedex France.

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Present position

PhD, tenured Professor in Behavioral Biology and Comparative Cognition

Director, of the Research Unit « Group Memory and Behavioural plasticity » (5 professors, 5 assistant professors, 6 technicians)

Familial status

Single, 2 children Pia (3 years) and Nitzan (6 years)

Key-words Research:

Comparative cognition, learning, memory, behavioural adaptation, brain, Cephalopods, cuttlefish

Key-Words Teachings:

Behavioral Biology, Animal cognition, Neurobiology, Epistemology and History of behavioral science.

Curriculum Vitae

Born 10/15/1966 in Amiens (FRANCE)

PRESENT POSITION

Director Memory and Behavioural plasticity Group (GMPc, 5 full professors, 5 assistant professors, 5 technicians), **University of Caen Normandy, France**
Professor (1st class, 3rd grad, 2nd chevron) in Behavioural Biology, PhD
Granted by PES (Award for Scientific Excellence), French ministry of Research and Caen University since 2002

EDUCATION

Since 2002	Authorized for animal experimentation beside European Union regulation
2004	Habilitation for Leading Research (Behavioural Biology, University of Caen, France)
1997-1998	Post doctoral fellow (Behavioural Biology, University of Texas Medical Branch, TX, USA)
June 1997	PhD In Biology (University of Caen, France)
Sept 1993	MSc in Behavioural Biology (University of Paris XIII, Paris, France)

WORK/CAREER RELATED EXPERIENCE

January 2012 2017	Director, "Groupe Memoire et Plasticité comportementale" EA 4259
January 2008-present	Associate Director "Groupe Memoire et Plasticité comportementale" EA 4259
September 2006	Professor in Behavioural Biology
September 2004-2006	Director, « Laboratoire de Physiologie du Comportement des Céphalopodes », UPRES EA 3211
2003 to 2005	Five International Collaboration Fellowships (exchange program Hubert Curien, Ministry of foreigner affairs and IUIMS Eilat, Israël)
1999-present	Laboratory Animal Care certification
September 1998	Associate Professor in Behavioral Biology, University of Caen
1997-1998	FYSEN Post-Doctoral Fellow, University of Texas with Pr. Budelmann, USA
1994 and 1996 Italy	GALILEE Doctoral Fellow, Stazione Zoologica di Napoli, Naples,

TEACHING RESPONSABILITIES

192 hours of teachings each year since 1998 from graduate(40%) to master (60%) level at the University of CAEN NORMANDY, University of PARIS XIII, University of RENNES I, University PARIS I Sorbonne (Ecole Pratique des Hautes Etudes); University PARIS VI Jussieu (master RIM),

Museum National d'Histoire Naturelle (PARIS) in the fields of Behavioural Biology/Neuroscience/Behavioural Ecology/ Cognitive Ethology.

Manager/coordinator of the Master « Behavioural Sciences » Universities of Caen and Rouen since 2012

Manager the Specialty "Ethology" of the Master Biology of Populations, Sciences of Life and Earth, CAEN

Manager of the University Diploma "Ethology", University of Rennes I

Manager of the Specialty "Cognitive Ethology" of the Master of Psychology, CAEN

Manager of the teaching team « Psychobiology » in Psychology and Biology, CAEN (eight teachers, 1400 hours of teachings/year)

Responsible of the courses in ethology at a graduate level in Biology and Psychology, CAEN

PROFESSIONAL SERVICE

President of the AERES committee (2013), member of the evaluation Panel for the Vague D

Member of the Biology Sciences panel of the National Research Council of Romania (rapporteur 2012-2014)

Member of the Evaluation panel (and reviewer), European project FP7 ERANET-ANR (2013)

Committee member : International Congress of Ethology (2010), Scientific council for French Society for Study of Animal Behaviour (2002-present), Administrative and Scientific Council Institute of Basic -and Applied Biology (UCBN, 2006-present)/Institute of Psychology (UCBN 2002-present)/Marine Station (UCBN 1998-present).

Organization of scientific seminar (October 2008, March 2009: CESG University of Dijon, March 2009 UMR 6552 University of Rennes I UMR 6552, financial support CNRS, France)

Expert in US-Israeli Binational Science Foundation (IBSF), French National Agency for Research (ANR), French National Farm Studies (EFSNF).

Experience related to animal welfare in experimentation:

Member and expert in the scientific board of the ethical committee in Animal experimentation of Normandy.

Member of the scientific board council of the meeting of Technical Experts to develop Guidelines on Care and Welfare of Cephalopods in Research (Vico Equense, Italy).

Co-organizer of the Euroceph congress.

Other:

2011-2012: Coordinator of the national working group about Ethologist Label (French Society for Study of Animal Behaviour)

EDITORIAL and SCIENTIFIC BOARDS

Director of collection, "Connaissance et Savoirs", Editions Publibooks, PARIS.

Co Editor. Cephalopod Cognition. Cambridge University Press ISBN 978-1-107-01556-2, 2014.

Editorial Board of Scientifica (section zoology), section "Zoology"
[<http://www.scientifica.com/editors/zoology/>]

Scientific Board: Euroceph. meeting, [<http://www.cephres.org/>], 2010

Scientific Board: Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI, <http://uefiscdi-direct.ro/main/index.php?#null>)

Scientific Board: French Society for Study of Animal Behavior

Expert committees for university tenured positions (professors, assistant professors) in Ethology/Neuroscience in Universities of Caen, Paris XIII, Paris X, Rennes I, Saint Etienne, Strasbourg.

Committee member : International Congress of Ethology (2010), Scientific council for French Society for Study of Animal Behaviour (2002-present), Administrative and Scientific Council Institute of Basic and Applied Biology (UCBN, 2006-present)/Institute of Psychology (UCBN 2002-present)/Marine Station (UCBN 1998-present). Expert committee in Ethology/Neuroscience (Universities of Caen, Paris XIII, Paris X, Rennes I, Saint Etienne).

Reviewer for Grant Proposals : US-Israeli Binational Science Foundation (2012-present), French National Agency for Research (2012), French National Farm Studies (2012), Projet Région Centre (F, 2013), Projets B2V des Mémoires (2013), Projets Institut Français du Cheval et de l'Équitation (2010, present).

Organization of scientific seminar (October 2008, March 2009 : CESG University of Dijon, March 2009 UMR 6552 University of Rennes I UMR 6552, financial support CNRS, France)

Reviewer for 46 papers and 4 book chapters since 2000. Animal Behaviour (7), Animal Cognition (3), Developmental Psychobiology (5), Behavioural Processes (3), Life and Environment (4), Journal of Comparative Psychology (6), Journal of Molluscan Studies (1), Integrative Zoology (1), Proceeding of the Royal Society of London B (1), Frontiers in Neurosciences (1), Behavioural Brain Research (1), Journal of Experimental Biology (5), Current Biology (1), Biology Letters (1), Journal of Experimental Marine Biology and Ecology (1), Behaviour (3).

RESEARCH SUPERVISING

Habilitation for Leading Research:

Dr. AS DARMAILLACQ, 2011 / Dr. D BENHAIM (2014)

PhD students:

R. POIRIER, (2000-2004). Present situation Assistant Professor in Psychopharmacology / A.S. DARMAILLACQ (2001-2005). Present situation Assistant Professor in Ethology / C. ALVES, 2004-2008: Present situation Assistant Professor in Neuro-ethology. / M. GUIBE, (2008-2011), current situation: Journal Editor. L. CARTRON, (2009-2012), current situation: ingeneers in computer science. C.O. BRIEN (2014-present).

M Sc students:

R. POIRIER Paris XIII, France ,1999-2000 / C. ALVES Paris XIII, France, 2003-2004 / J. MODERAN La Rochelle, France 2005-2006 / M. GUIBE Paris XIII, France 2007-2008 / E. BEUVILLE Perpignan, France, 2008-2009 / M. VALENCHON Rennes I, France 2008-2009 / L. CARTRON Paris XIII, France 2009-2010 / S. ROMAGNY Paris XIII, France 2009-2010 / S. BENAOUZ Paris XIII, France 2010-2011 ; L. TEICHROEB Univ. Saskatchewan, Canada 2012-2013.

LRC committees (Authorization for leading researches) :

S. LUMINEAU (rapporteur), Rennes I, France Sept 2009, C. BELLANGER, Caen France Dec 2009, AS DARMAILLACQ, Dec. 2012, Caen, France, S. ROUSSEL (**referee**), Brest, France, May, 2013. D. VAL LAILLET, Rennes Dec. 2013 (**referee**). P. HILBER Rouen Juil 2014/S BARATTE, Paris VII Nov 2014 (**referee**).

PhD committees (underlined in Foreigner University):

R. POIRIER Caen (France) Déc. 2004 / A.S. DARMAILLACQ Paris XIII (France), Juin 2005 / M. PASTEAU (**referee**) Paris X (France) April 2007 / C. ALVES Paris XIII (France) June 2008 / D. MACQUART (**referee**) Toulouse II (France) July 2008 / D. MONTIGNY (**referee**) Dijon, France, December 2008/ D BENHAIM, La Rochelle (France) November 2011/ M. GUIBE, Caen (France), November 2011/F. PITTET (**referee**) Rennes 1, March 2012/ C. TALBOT (**referee**) University of Queensland (Australia), July 2012/ C. LESIMPLE (PJ) Rennes I (France); May 2012 / L. CARTRON, Caen (France) September 2012 ; C. CLOUARD, Rennes I (France), A.

LAURENCE (**referee**) Rennes I (France), November 2012 ; M. VALENCHON (**referee**) Tours (France), July 2013 ; A. ANDOUCHE ,. MNHN (France), December. 2013. C. VIGNET (**referee**), La Rochelle (France), Fev. 2014/ L. TEICHROEB, MSc, Univ. Saskatchewan (Canada), March 2014/ T. GUTNICK (**referee**) Univ. Jerusalem, Juil. 2014 / O. LE BOT, Rennes Dec 2014 (**referee**) / C. BOITARD Toulouse 3, Oct. 2015 (**referee**).

PUBLICATIONS and SCIENTIFIC DISSEMINATION

46 papers (see below in the last section) in peer reviewed journals (*Animal Behaviour/Animal Cognition/Developmental Psychobiology/Proceedings of the Royal Society/Cognitive Processing/Behavioural Processes/Journal of Comparative Psychology/Neurobiology of Learning and Memory/Invertebrate Neuroscience/Journal of Experimental Biology/Learning and Memory/Behavioural Neuroscience...*), mean IF 2.8 # 1 edition of book (Cambridge University Press) # 2 book chapters # **4 publications in Proceedings** of international conference # **7 papers in other wide audience journals** (5 international) # **23 invited conferences** (9 international) # **30 communications in international conferences** # **21 communications in French conferences** # **8 wide audience conferences** # **4 exhibitions** # **5 TV shows** # **6 radio broadcasts** (2 Canada).

TEACHING

In Psychology (University of Caen Normandy), about 100 hours/year since 1998:

Undergraduate classes:

Evolution/Natural Selection and Behavior

History and Introduction to Behavioral Sciences-epistemology

Neuroanatomy/Behavioral and cognitive development

Ethology (Imprinting/ sexual selection/parental cares/social behavior and sociobiology/basis of animal cognition)

Master classes:

Comparative cognition: problem solving/object representation/conceptualization and categorization/tool use/social cognition.

In Biology (University of Caen and Rouen-Normandy/Rennes I/Paris I/Paris VI/EPHE), about 100 hours/year since 1998:

Undergraduate classes:

History of Behavioral and Brain Science

Evolution, Natural Selection and Behavior

Introduction to Ethology

Master classes:

Learning and Memory in animals

Cognitive neuroethology

Cognition in Invertebrate species

Basis of Behavioral Ecology

Applied Ethology (animal farming, animal experimentation, Ethics, Regulation)

In-Service training (Universities of Caen-Normandy and Rennes I), about 15 hours/year since 2006

Habilitation in animal experimentation (Caen):

Introduction to Ethology

Methods for behavioral observation

Animal welfare assessment: from physiology to behavior

How to refine housing in laboratory animals, from invertebrates to cat and dogs

National diploma in ethology (Univ. Rennes I):

Behavioral observations of marine animals, methods

Cognitive ethology in fish and cephalopods

Publication list

- **Book**
2014 AS Darmaillacq, **L. Dickel** and J. Mather. "Cephalopod Cognition". Cambridge University Press

- **Articles in peer reviewed journals :**
2016- O'Brien C. Mezraï N. Darmaillacq A.S. **Dickel L. *Developmental Psychobiology. In press***
2015- O'Brien C., Bowie M., Billard P., Darmaillacq A.S. Jozet-Alves C. Benhaim D. Basuyaux O., **Dickel L. *Life and Environment. in press.***
2015- Fiorito G., Affuso A., Basil J. Cole A., de Girolamo P., D'Angelo L., **Dickel L.**, Gestal C., Grasso F., Kuba M., Mark F., Melillo D., Osorio D., Perkins K., Ponte G., Shashar N., Smith D., Smith J., Andrews P.L.R. ***Laboratory Animals.*** 49(S2) 1-90.
2014- Di Poi C., Bidel F., **Dickel L.**, Bellanger C. ***Aquatic Toxicology*** 151 36-45..
2014- **Dickel L.**, Darmaillacq AS., Jozet-Alves C. and Bellanger C.. In *Invertebrate Learning and Memory*, Eds R. Menzel and P. Benjamin, Elsevier. (2013) pp 318-333
2014- Fiorito G., Affuso A., Anderson D.B., Basil J., Bonnaud L., Botta G., Cole A., D'Angelo L., De Girolamo P., Dennison N., **Dickel L.**, Di Cosmo A., C Di Cristo, C Gestal, R Fonseca, F Grasso, T Kristiansen, M Kuba, F Maffucci, A Manciooco, F Christopher Mark, D Melillo, D Osorio, A Palumbo, K Perkins, G Ponte, M Raspa, N Shashar, J Smith, D Smith, A Sykes, R Villanueva López, N Tublitz, L Zullo30, P Andrews. ***Invertebrate Neuroscience*** 14 13-36.
2014- Darmaillacq AS, Jozet-Alves C., Bellanger C. and **Dickel L.** In *Cephalopod Cognition*, Eds AS. Darmaillacq, L. Dickel, J. Mather. Cambridge University Press pp 3-30.
2013- Cartron L. Darmaillacq AS, **Dickel L. *Behavioural Brain Research*** 240 29-32.
2013- Di Poi C., Darmaillacq AS, **Dickel L.**, Boulouard M., Bellanger C. ***Aquatic Toxicology***132-133 94-91
2013- Cartron L, Shashar N, **Dickel L.**, Darmaillacq A-S. ***Invertebrate Neuroscience*** 13(1) 19-26.
2013- Cartron L, **Dickel L.**, Shashar N, Darmaillacq A-S. ***Journal of Experimental Biology*** 216(11) 2039-2045.
2013- Smith JA, Andrews PLR, Hawkins P, Louhimies S., Ponte S. and **Dickel L. *Journal of Experimental Marine Biology and Ecology*** 447 31-45.
2013- **Dickel L.**, Darmaillacq A.S., Jozet-Alves C. Bellanger C. ***Handbook of Behavioral Neuroscience.*** 22 318-333.
2013- Cartron L., Yossef N., Lerner A., Mc Cusker SD, Darmaillacq AS, **Dickel L.** and Shashar N. ***Journal of Experimental Marine Biology and Ecology*** 447 80-85.
2012- Guibé M. and **Dickel L. *Life and Environment*** 83(6) 243-246.
2012- Jozet-Alves C., Viblanc V, Romagny S, Dacher M., Healy S, and **Dickel L. *Animal Behaviour*** 83(6) 1313-1318
2012- Guibé M., Poirel N., Houdé O. and **Dickel L. *Animal Behaviour*** 84(1) 213-217

- 2012- Cartron L., Darmaillacq AS, Jozet- Alves C., Shashar N. and **Dickel L.** *Animal Cognition* 15(4): 591-596.
- 2012- Jozet-Alves C. Romagny S., Bellanger C., **Dickel L.** *Behavioural Brain Research* 234 2386-2390
- 2012- Romagny S. Darmaillacq AS, Guibé M., Bellanger C., **Dickel L.** *Journal of Experimental Biology* 215 4125-4130. [**Highlighted paper in JEB by K Knight:** <http://jeb.biologists.org/content/215/23/i.2.short>]
- 2011- Darmaillacq AS, Rahmani N., **Dickel L.** and Shashar N. *Journal of Comparative Psychology* 125(3) 273-277.
- 2010- Guibé M., Boal J.G. and **Dickel L.** *Developmental Psychobiology* 52(8): 833-837.
- 2009- Dickel L., Bellanger C. and Darmaillacq AS. *Biofutur* 303, 45-49.
- 2008 Darmaillacq AS, Lesimple C & **Dickel L.** *Animal Behaviour.* 76(1) 131-134.
- 2008- Jozet-Alves C., Modéran J. and **Dickel L.** *Proceedings of the Royal Society of London (B)* 275:2049–2054.
- 2008- Graindorge N., Jozet-Alves C., Chichery R., **Dickel L.**, Bellanger C.. Does kainic acid induce partial brain lesion in an invertebrate model: *Sepia officinalis*? Comparison with electrolytic lesion. *Brain Research* 1238:44-52.
- 2008- Alves C., Boal J.G. and **Dickel L.** *Cognitive Processing.* 9(4):239-247.
- 2007- Alves C., Darmaillacq A.S., Shashar N. and **Dickel L.** *The Veliger*, 48(4):313-316.
- 2007 Alves C., Chichery R., Boal J.G. and **Dickel L.** *Animal Cognition.* 10, 29-36.
- 2006- **Dickel L.**, Darmaillacq A.S., Poirier R., Agin V., Bellanger C. and Chichery R.. *Life and Environment.* 56, 89-95.
- 2006- Agin V., Chichery R., Chichery MP., **Dickel L.**, Darmaillacq A.S. and Bellanger C.. *Life and Environment.* 56, 89-95.
- 2006- Darmaillacq A.S., Chichery R., Shashar N. and **Dickel L.** *Animal Behaviour.* 71, 511-514. [**Selected in Faculty of 1000**]
- 2006- Agin V., Chichery R., **Dickel L.** and Chichery M.P.. *Learning and Memory.* 13(1), 97-101.
- 2006- Agin V., Poirier R., Chichery R., **Dickel L.** and Chichery M.P.. *Neurobiology of Learning and Memory.* 86(3), 264-269.
- 2006- Darmaillacq A.S., Chichery R. and **Dickel L.** *Biology Letters* 2, 345-347. [**Highlighted article in Current Biology (16(13) 2006)** by S.D. Healy: [http://www.cell.com/current-biology/abstract/S0960-9822\(06\)01693-9](http://www.cell.com/current-biology/abstract/S0960-9822(06)01693-9)]
- 2006- Graindorge N., Alves C., Darmaillacq A.S., Chichery R., **Dickel L.** and Bellanger C.. *Behavioural Neurosciences.* 120(5), 1151-1158.
- 2005- Komak S., Boal J.G., **Dickel L.** and Budelmann B.U.. *Marine & Freshwater Behavior and Physiology*, 38(2), 117-125.
- 2005- Poirier R., Chichery R. and **Dickel L.** *Journal of Comparative Psychology*, 119(2), 230-237.
- 2004- Poirier R., Chichery R. and **Dickel L.** *Behavioural Processes*, 67(2), 273-279.
- 2004- Darmaillacq A.S., **Dickel L.**, Chichery M.P., Agin V. and Chichery R.. *Animal Behaviour*, 68, 1291-1298. [**Selected in Faculty of 1000**]

2004- Darmaillacq A.S., Chichery R., Poirier R. and **Dickel L.** *Developmental Psychobiology*, 45(4) 239-244.

2002- Domingues P., Poirier R., **Dickel L.**, Almansa E., Sykes A. and Andrade J.P..
Aquaculture International, 11, 225-242.

2001- **Dickel L.**, Chichery M.P., and Chichery R.. *Developmental Psychobiology*, 39(2), 92-98. 2000- **Dickel L.**, Boal J.G. and Budelmann B.U.. *Developmental Psychobiology*, 36(2), 101-110. 1998- Agin V., **Dickel L.**, Chichery R. and Chichery M.P. *Behavioural Processes*, 43, 329-334.

1998- **Dickel L.**, Chichery M.P. and Chichery R.. *Behavioural Processes*, 44, 81-86.

1997- **Dickel L.**, Chichery M.P. and Chichery R. *Neurobiology of Learning and Memory*, 67, 150- 160.

- *Other papers :*

Dickel L. and Darmaillacq AS. Quand la réglementation sur le bien-être animal s'intéresse aux Mollusques. *Pour la Science*. Juil. 2014.

Cartron L., Darmaillacq AS., Jozet-Alves C. Shashar N. and **Dickel L.** Can cuttlefish use polarization sensitivity for orientation ? 30 :1000. 2011. *Journal of shellfish Research*.

Dickel L., Guibe M. and Darmaillacq AS. Food imprinting and visual categorization in cuttlefish embryos. 30: 1001. 2011. *Journal of Shellfish Research*.

Guibe M., Romagny S. Bellanger C. and **Dickel L.** Visual perception and cognition in cuttlefish embryos. 30:1005. 2011. *Journal of Shellfish Research*

Dickel L. and N. Shashar. Seiches de Méditerranée, seiches de Mer Rouge; une coopération franco-israélienne. 2004. *Dagush*.

Dickel L. Effets de l'expérience pécoce sur la maturation des capacités mnésiques au cours de l'ontogenèse post-embryonnaire chez la seiche (*Sepia officinalis*). 1999. *Annales de la Fondation FYSSEN* .pp86-94.