

Fatim HANKARD

- French, Born July 15, 1976 -

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RESEARCH INTERESTS

Paleomagnetism, Plate Tectonics, Geochronology, Rock Magnetism, Secular Variation of the Geomagnetic Field, Environmental Magnetism, Volcanology, Isotopic Geochemistry.

EDUCATION

2002-06: Ph.D. Candidate in Geophysics, *Institut de Physique du Globe de Paris, France*

High Honours

Thesis Title: “Is the Tertiary Inclination Shallowing related to a decoupling between Europe and Siberia since the Cretaceous? Paleomagnetic and Geochronological Contributions from Mesozoic and Cenozoic Mongolian Basalts”

Advisor: Prof. Jean-Pascal Cogné

2001-02: Master’s degree in Geophysics with Honours, *Institut de Physique du Globe de Paris*

Thesis Title: “Paleomagnetic study of Cenozoic basalts from Mongolia: Implications on the Cenozoic inclination shallowing problem”

Advisor: Prof. Jean-Pascal Cogné

2000-01: Maîtrise (Master’s degree 1) of Earth and Planetary Sciences at the *University of Paris 7*

1999-00: Licence (Bachelor’s degree) of Earth and Planetary Sciences at the *University of Paris 7*

1997-99: D.E.U.G. degree (diploma taken after 2 years at University) of Earth Sciences at the *University of Paris 7*

1996-97: Baccalauréat Scientific: Biology and Natural Sciences at the *Lycée Henri IV, Paris*

FIELD EXPERIENCE

March 2007: Demonstrating on a undergraduate geological field trip and numerical cartography in the Cévennes (France)

October 2006: Demonstrating of Geophysical instrumentation in Nantes (France)

2006, June: Demonstrating on a undergraduate geological field trip in the Alps (France)

2004, July-August: Paleomagnetic Field Survey in Mongolia for one month

2002, May and 2000, June: Geology and Tectonic Evolution of the Alps (France)

2002, September and 2001, March: Instrumentation: Gravity, Magnetic, Electrical, and Seismic measurement techniques in Garchy (France)

2000-1998: Several field trips in France:

- Cartography of a sedimentary basin in Montpellier
- Geological Methods: observation, sampling, measurements in Normandy
- Initiation to Geology and Cartography in Montpellier

RESEARCH EXPERIENCE

2006-2007: Paleomagnetic Laboratory of IPGP & University Paris 7

✓ Teaching and Research Assistant

✓ Temporary Post-Doc”, Collaboration IPGP and Institut Français du Pétrole

Title: “Paleomagnetic study of Ordovician glaciation”

2002-2006: Master’s and Ph.D. at the Paleomagnetic Laboratory of IPGP

2005-2006: K-Ar dating based on the Cassinot-Gillot technique at the Geochronologic Multi-techniques Laboratory, University Paris Sud, Orsay, France

2000-2001: Research Assistant to Dr. Élise Fourré and Dr. Philippe Jean-Baptiste at the Climate and Environmental Sciences Laboratory (LSCE), CEA-CNRS, France

Title: “Study of cosmogenic origin ^3He in SU92-10 core”

EXPERIMENTAL TECHNIQUES

- Paleomagnetism: Thermal and Alternating field (AF) demagnetizations; full treatment and discussion of the paleomagnetic data
- Magnetic Mineralogy: determination of Curie point, anisotropy of magnetic susceptibility, isothermal remanent magnetization, hysteresis loops
- Geochronological K-Ar dating based on the Cassinot-Gillot technique
- Optical Microscopy

TEACHING EXPERIENCE

March – June 2007: Co-Supervisor for a Masters project: “Intensity of the Magnetic Field during the Cretaceous Long Normal Superchron”,

2007: Teaching and Research Assistant (ATER) at the University Paris 7:

✓ General Geology, Geophysics, Demonstrating field geology and numerical cartography to 4th year undergraduates in the Cévennes (France), in collaboration with the BRGM

2005-2006: Teaching and Research Assistant (ATER) at the IPGP:

✓ General Geology, Geophysics, Geosciences, Demonstrating field geology to 3rd year undergraduates in the French Alps

✓ Demonstrating Geophysical instrumentation to 5th year graduates, in Nantes (France) in Vertical electrical sounding survey, Seismic refraction, Radar measurements

2005-2006: “Fête de la Science”: A yearly 3-days scientific public event

ADMINISTRATIVE RESPONSIBILITIES

- Elected member at the IPGP Administration Council (2004-2005).
- Organizer of the seminars of the Paleomagnetic Laboratory of IPGP (2002-2006).
- Member of the IPGP Student Graduate Annual Meeting Organisation committee (2002).

AWARDS AND HONOURS

2002-2005: Ph.D. Fellowship from the French Ministry for Education and Research

2005-2006: Teaching and Research Assistant (ATER) at the IPGP

March 2007: Teaching and Research Assistant (ATER) at the University Paris 7

COMPUTING SKILLS

System: Windows, MacOS, Geographic Information System, 3D Geomodeller, PaleoMac...

LANGUAGES

French: mother tongue; English: fluent; Spanish: scholar knowledge; Bambara (Mali): spoken

EXTRA-ACADEMIC ACTIVITIES

- Summer 1999: Nursing assistant in paediatric cardiology at Hôpital Robert Debré, Paris
- Teaching Mathematics, Physics and English to undergraduate students
- Successful Candidate to join a bilingual class (French-English) at the Lycée Molière
- Dance, Volley-ball, Tennis...

LIST OF PUBLICATIONS

Hankard, F., Cogné, J.-P., Lagroix, F., Quidelleur, X., Bayasgalan, A., Lklagvadorj, P., Paleomagnetic results from Paleocene basalts from Mongolia reveal no inclination shallowing at 60 Ma in Central Asia, *Geophys. J. Int.*, In Press.

Hankard, F., Cogné, J.-P., Kravchinsky, V.A., Carporzen, L., Bayasgalan, A., Lklavadorj, P., 2007a, New Tertiary paleomagnetic poles from Mongolia and Siberia at 40, 30, 20 and 13 Ma: clues on the inclination shallowing problem in Central Asia, *J. Geophys. Res.*, 112, B02101, doi:10.1029/2006JB004488.

Hankard, F., Cogné, J.-P., Quidelleur, X., Bayasgalan, A., Lklavadorj, P., 2007b, Paleomagnetism and K-Ar dating of Cretaceous basalts from Mongolia, *Geophys. J. Int.*, 169, 898-908.

Hankard, F., Cogné, J.-P., Kravchinsky, V.A., 2005, A new Late Cretaceous paleomagnetic pole for the west of Amuria block (Khurmen Uul, Mongolia), *Earth Planet. Sci. Lett.*, 236 359–373.

Cogné, J.-P., Kravchinsky, V.A., Halim, N., and **Hankard, F.**, 2005, Late Jurassic-Early Cretaceous closure of the Mongol-Okhotsk ocean demonstrated by new Mesozoic paleomagnetic results from the Trans-Baïkal area (SE Siberia, *Geophys. J. Int.*, 163, 813-832.

THESIS DISSERTATION

Hankard, F., 2006, Is the Tertiary Inclination Shallowing related to a decoupling between Europe and Siberia since the Cretaceous? Paleomagnetic and Geochronological Contributions from Mesozoic and Cenozoic Mongolian Basalts, Ph.D. Thesis, I.P.G.P., Paris, 235 pp.

INVITED PRESENTATIONS

Hankard, F., Ensemble pour les Afriques de Demain, UNESCO, Paris, June 2007

Hankard, F., Post-Cretaceous tectonics of Eurasia and the Tertiary Inclination Shallowing Problem: Paleomagnetism and Geochronology of Mongolian basalts, Department of Geological Sciences, University of Michigan, USA, March 2006

Hankard, F., Découplage Europe/Sibérie depuis le Crétacé : Évidence paléomagnétique, Institut de Géologie et de Paléontologie, University of Lausanne, Switzerland, November 2006

CONFERENCES PRESENTATIONS AND POSTERS

Hankard, F., Cogné, J.-P., Kravchinsky, V.A., Gilder, S., Halim, N., 2007, Decoupling between Europe and Siberia since the Cretaceous: Evidence from paleomagnetism and geochronology of Meso-Cenozoic effusive formations from Siberia and Mongolia, Geophysical Research Abstracts, Vienna, Austria. (*Oral*)

Hankard, F., Cogné, J.-P., Quidelleur, X., Carporzen, L., Bayasgalan, A., Lklagvadorj, P., 2006, Non-rigid Eurasian plate during the Tertiary evidenced by paleomagnetic data from

effusive and sedimentary rocks from Central Asia, and clues on the Inclination anomaly, Geophysical Research Abstracts, Vol. 8, 04883, Vienna, Austria.

- Hankard, F.**, Cogné, J.-P., Quidelleur, X., Bayasgalan, A., Lkklagvadorj, P., Kravchinsky, V.A., 2005, Paleomagnetism and K-Ar Dating of two Cretaceous and Tertiary localities from Mongolia: Implications on the Large Scale Deformation of Eurasia, *Eos Trans. AGU*, 86 (52), Fall Meet. Suppl., Abstract GP11A-0010, San Francisco, USA. (*Poster*)
- Cogné, J.-P., Kravchinsky, V.A., Halim N., Gilder S., **Hankard, F.**, 2005, Closure of the Mongol-Okhotsk Ocean as Constrained by Late Permian to Early Cretaceous Paleomagnetic Data from the Suture Zone, *Eos Trans. AGU*, 86 (52), Fall Meet. Suppl., Abstract GP13B-01, San Francisco, USA. (*Oral*)
- Hankard, F.**, Cogné, J.-P., Bayasgalan, A., Lkhavadorj, P., 2005, A new Tertiary paleomagnetic pole at 47 Ma from Mongolia : Implications on the Inclination Shallowing Problem of Central Asia, Geophysical Research Abstracts, Vol. 7, 07651, Vienna, Austria. (*Oral*)
- Hankard, F.**, Cogné, J.-P., Carporzen, L., Bayasgalan, A., Lklavadorj, P., 2005, New Tertiary paleomagnetic poles from Mongolia and Siberia: Implications on rigid or non-rigid Eurasian Plate, Geophysical Research Abstracts, Vol. 7, 07788, Vienna, Austria. (*Poster*)
- Hankard, F.**, Cogné, J.-P., 2005, New Tertiary paleomagnetic poles from Mongolia and Siberia at 13, 20 and 30: Implications on rigid or non-rigid Eurasian, IPGP Graduate Students Annual Meeting. (*Oral*)
- Hankard, F.**, Cogné, J.-P., Kravchinsky, V.A., 2004, New Tertiary paleomagnetic poles at 13 and 30 Ma from Mongolia: Clues on the Inclination Shallowing Problem in Central Asia, *Eos Trans. AGU*, 85 (47), Fall Meet. Suppl., Abstract U33A-0029, San Francisco, USA. (*Poster*)
- Hankard, F.**, Cogné, J.-P., Kravchinsky, V.A., 2004, A new Late Cretaceous paleomagnetic pole for the Amuria block (Khurmen Uul, Mongolia) and its tectonic implication, Geophysical Research Abstracts, Vol. 6, 04056, Nice, France. (*Oral*)
- Hankard, F.**, Cogné, J.-P., 2004, Nouveau pôle d'âge Crétacé Supérieur en Mongolie: Implications sur les déformations continentales en Eurasie, IPGP Graduate Students Annual Meeting. (*Oral*)
- Hankard, F.**, Cogné, J.-P., Kravchinsky, V.A., 2003, New Tertiary and Cretaceous paleomagnetic poles from Mongolia: Implications on deformation of Eurasia, Geophysical Research Abstracts, Vol. 5, 08816, Nice, France. (*Poster*)
- Hankard, F.**, Cogné, J.-P., 2003, Etude paléomagnétique de basaltes Tertiaires et du Crétacé en Mongolie et en Sibérie: Implications sur le problème de l'Anomalie d'Inclinaison, IPGP Graduate Students Annual Meeting. (*Poster*)