

Denis G. Rancourt, *PhD*

denisrancourt.ca

Chair-Director: Correlation Research in the Public Interest (correlation-canada.org)
Ottawa | CANADA | t[REDACTED]

INTERDISCIPLINARY SCIENTIST

(Physics, biogeochemistry, measurement science, statistical analysis, health and medicine, epidemiology, environmental science, social theory, pedagogy)

February 2023

EDUCATION

- 1985-1986 **PDF Physics** (NSERC of Canada post-doctoral scholar)
Leiden University, The Netherlands
- 1984-1985 **PDF Chemistry** (NSERC of Canada post-doctoral scholar)
Centre de recherche Paul Pascal, Talence, France
- 1981-1984 **PhD Physics**
University of Toronto
- 1980-1981 **MSc Physics**
University of Toronto
- 1976-1980 **BSc Physics (*magna cum laude*)**
University of Ottawa (to 1979)

RESEARCH AND TEACHING EXPERIENCE

- 1986-1987 **PDF and Teacher**
Physics, University of Ottawa
- 1987-1992 **Assistant Professor and national NSERC University Research Fellow**
Physics, University of Ottawa

- 1992-1997 **Associate Professor**
Physics, and Earth Sciences, University of Ottawa
- 1997-2009 **Full Professor**
Physics, and Earth Sciences, University of Ottawa
- 2009- **Freelance interdisciplinary researcher, invited lecturer**
- 2014- **Researcher (volunteer position)**
Ontario Civil Liberties Association (Corp., Ontario)
- 2022- **Chair-Director, Researcher (volunteer position)**
Correlation Research in the Public Interest (Non-profit Corp., Ontario)

HONOURS and AWARDS

- 1987-1992 National (Canada) NSERC (Natural Sciences and Engineering Research Council)
University Research Fellow (held at the University of Ottawa)
- 1984-1986 NSERC of Canada Post-Doctoral Scholar (international tenure)
- 1980-1984 NSERC Graduate Scholarship

ACADEMIC SUPERVISION OF RESEARCHERS AND RESEARCH STUDENTS

(Numbers of individuals supervised, 1987-2009)

Sabbatical/research-leave researchers hosted	8
Visiting Scholars hosted	2
PDF (Post-Doctoral Fellows) supervised	14
PhD (candidates) supervised	13 (incl. 5 co-supervised)
MSc (candidates) supervised	14 (incl. 1 co-supervised)
BSc-research students supervised	> 30

(I taught to more than 2000 undergraduate students in regular courses, 1987-2009.)
(Several of my former graduate students became professors and professional scientists.)

COMPETITIVE RESEARCH-FUNDING AWARDS

- 1987-2009 • Successful in thirty seven (37) funding and contract competitions, as principle investigator and group leader
- Obtained the largest NSERC Strategic Project Grant that had ever been granted in the Faculty of Science, University of Ottawa. The project was for

environmental science (experimental and theoretical biogeochemistry of boreal forest lake sediments in 100 lakes).

AREAS OF RESEARCH

- Health science and public health policy
- Epidemiology (chronic diseases, emerging diseases, transmissible diseases)
- Environmental science and biogeochemistry, including soil science
- Climate science and planetary radiation-balance physics
- Measurement theory (diffraction, spectroscopy, magnetometry, microscopy)
- Condensed matter physics (theory and experiment)
- Pedagogy (general) and Physics/Science Education
- Social and political theory, including institutional analysis

AREAS OF UNIVERSITY TEACHING

- Introductory University Physics (all topics, all streams)
- Advanced Undergraduate Physics (condensed matter, statistical physics, measurement, environmental physics, climate physics)
- Graduate Physics Courses (measurement theory, condensed matter physics)
- Graduate Science Course (measurement theory and practice, all scientific and engineering disciplines)
- Undergraduate and Graduate Environmental Science and Policy
- Undergraduate and Graduate Social Science (theory of social change, institutional studies, health studies, public policy, legal system studies, science and technology)

MAIN SCIENTIFIC DISCOVERIES/ACCOMPLISHMENTS

- Age-dependent immune response and toxicity of injections, from temporal adverse-effect data, and from epidemiological data
- Epidemiology from temporal all-cause mortality by jurisdiction, and by age group, in relation to socio-economic, regulatory, and underlying health factors
- Relation between individual health and societal dominance hierarchy (stress-immune-suppression stabilization of social dominance hierarchy)
- Fe-cycle bio-physico-chemistry in soils and aquatic sediments, and synthetic analogues
- Advances in Invar physics (materials science, metallurgy)
- Advances in crystal chemistry (Fe-oxyhydroxides, layer silicates)
- Co-discovery of the meteoritic mineral “antitaenite”
- Co-discovery of the nano-magnetic phenomenon “superferromagnetism”
- Advances in the theory and methodology of Mössbauer spectroscopy
- Advances in the theory of quantitative X-ray diffraction for nano-phases
- Advances in the theory of quantitative materials magnetometry
- Radiation-balance physics of planetary surface temperature

- Geopolitics of economic globalization and state ideologies

SCIENTIFIC PUBLICATIONS

- More than 100 peer-reviewed scientific articles and book-chapters
- Scientific articles cited >6000 times
- *h*-index = 41 (*h10*-index = 88) (<https://en.wikipedia.org/wiki/H-index>)
- Google Scholar profile: <http://scholar.google.ca/citations?user=1ChsRsQAAAAJ>

KEYNOTE/INVITED AND PLENARY-INVITED SPEAKER AT CONFERENCES

- 41 invited talks at international scientific conferences

MEDIA INTERVIEWS

- Frequent media commentator. Medical, political and social theory articles and interviews are published in many venues.
- Recent video interviews and reporting videos about the science of the COVID-19 epidemic and the science of face masks for preventing viral respiratory diseases have been viewed more than 2 million times, in both French and English. (<https://denisrancourt.ca/page.php?id=12&name=videos>)

NON-SCIENCE-JOURNAL PUBLICATIONS

- Many social commentary essays and media interviews
- Contributor at *Dissident Voice*: <https://dissidentvoice.org/author/denisrancourt/>
- Hosted and produced a weekly campus radio show for eight years 2005-2013
- *Hierarchy and free expression in the fight against racism*, book, Stairway Press, 2013

ADMINISTRATIVE EXPERIENCE

- Significant academic committees, large research group lead-scientist and supervisor, steering committee of international conference, 1987-2009

AWARDED SCIENTIFIC RESEARCH FUNDING, SCHOLARLY PROFESSIONAL ACTIVITIES, SIGNIFICANT ACADEMIC COMMITTEES (WHILE AT THE UNIVERSITY OF OTTAWA, 1987-2009):

- SEE THE APPENDIX TO THIS CV

PART-I

HEALTH, MEDICINE, EPIDEMIOLOGY, COVID-19

CORRELATION Research in the Public Interest reports and articles are listed here:
<https://correlation-canada.org/research/>

OCLA's reports and articles related to COVID-19 are listed here:
<https://ocla.ca/covid/>

Relevant items for PART-I include the following.
(Numbering of items is the same as that used in PART-II.)

Research Reports

(Several of these articles have been translated and re-published in other languages.)

84. D.G. Rancourt. "Cancer arises from stress-induced breakdown of tissue homeostasis". *archive.org*, 30 November 2015 (25 pages),
<https://archive.org/details/DGRArticleOnNewCancerModel2/mode/1up> .
[Also published at *Dissident Voice* (in 4 parts), and *archive.today*.]
88. D.G. Rancourt. "Masks Don't Work - A review of science relevant to COVID-19 social policy". *ResearchGate*, 11 April 2020 (13 pages), DOI: 10.13140/RG.2.2.14320.40967/1. (Read >400K times on RG) | Archived here: <https://archive.ph/RuA5z> . Also published at: viXra.org, River Cities' Reader. Article debated at Digi-Debates "The Face Mask Debate", <https://www.bitchute.com/video/6YNCrmPKM16e/> (First published on YouTube). **This article has been cited in:** Blaylock RL. "COVID UPDATE: What is the truth?". *Surgical Neurology International* 22-Apr-2022;13:167. https://doi.org/10.25259%2FSNI_150_2022
89. D.G. Rancourt. "Criticism of Government Response to COVID-19 in Canada". Ontario Civil Liberties Association, 18 April 2020 (13 pages), OCLA Report 2020-1 | April 2020, <https://ocla.ca/wp-content/uploads/2014/01/OCLA-Report-2020-1-Criticism-of-Government-Response-to-COVID19.pdf>
90. D.G. Rancourt. "All-cause mortality during COVID-19 — No plague and a likely signature of mass homicide by government response". *ResearchGate*, 2 June 2020 (26 pages), <http://dx.doi.org/10.13140/RG.2.2.24350.77125> . (Read >200K times on RG) [Article featured at *doctors4covidethics.org*.]

91. D.G. Rancourt. "Face masks, lies, damn lies, and public health officials: 'A growing body of evidence'". *ResearchGate*, 3 August 2020 (36 pages), <http://dx.doi.org/10.13140/RG.2.2.25042.58569> .
92. D.G. Rancourt, M. Baudin, J. Mercier. "Evaluation of the virulence of SARS-CoV-2 in France, from all-cause mortality 1946-2020". *ResearchGate*, 20 August 2020 (38 pages), <http://dx.doi.org/10.13140/RG.2.2.16836.65920/1> .
93. D.G. Rancourt. "Measures do not prevent deaths, transmission is not by contact, masks provide no benefit, vaccines are inherently dangerous: Review update of recent science relevant to COVID-19 policy". *ResearchGate*, 28 December 2020 (26 pages), DOI: 10.13140/RG.2.2.21706.18885. Archived here: <https://archive.ph/F5xqy> .
94. D.G. Rancourt. "Analysis of the scientific basis for Ontario, Canada's mandatory face masking and physical distancing law, 2020". Ontario Civil Liberties Association, 6 February 2021 (24 pages), OCLA Report 2021-1 | February 2021, <https://ocla.ca/wp-content/uploads/2021/02/OCLA-Report-2021-1-4th-science-review-for-covid-policy-Reg-364-20-7f.pdf>
95. D.G. Rancourt. "Review of scientific reports of harms caused by face masks, up to February 2021". *ResearchGate*, 22 February 2021 (25 pages), DOI: 10.13140/RG.2.2.14294.37448. Archived here: <https://archive.ph/0L5ji> . Also published at sherbournesite.org.
96. D.G. Rancourt. "Glyphosate should be banned, not increased [Response to HC-PMRA invitation to submit written comments: Proposed Maximum Residue Limit - PMRL2021-10 - Glyphosate - 6 May 2021]". Ontario Civil Liberties Association, 16 July 2021 (23 pages), <https://ocla.ca/wp-content/uploads/2021/07/2021-07-DGR-comments-to-Health-Canada-re-Glyphosate-4.pdf>
97. D.G. Rancourt, M. Baudin, J. Mercier. "Analysis of all-cause mortality by week in Canada 2010-2021, by province, age and sex: There was no COVID-19 pandemic, and there is strong evidence of response-caused deaths in the most elderly and in young males". *ResearchGate*, 6 August 2021 (63 pages), <http://dx.doi.org/10.13140/RG.2.2.14929.45921> .
98. D.G. Rancourt. "Do Face Masks Reduce COVID-19 Spread in Bangladesh? Are the Abaluck et al. Results Reliable?" *Global Research*, 20 September 2021 (23 pages), <https://www.globalresearch.ca/do-face-masks-reduce-covid-19-spread-bangladesh-abaluck-et-al-results-reliable/5756323?pdf=5756323> [Article featured at doctors4covidethics.org.]

99. D.G. Rancourt, M. Baudin, J. Mercier. "Nature of the COVID-era public health disaster in the USA, from all-cause mortality and socio-geo-economic and climatic data". *ResearchGate*, 25 October 2021 (171 pages), <http://dx.doi.org/10.13140/RG.2.2.11570.32962> .
100. J. Hickey, D.G. Rancourt. "Nature of the toxicity of the COVID 19 vaccines in the USA". Ontario Civil Liberties Association, 9 February 2022 (14 pages), OCLA Report 2022-1 (ver. 1) | 9 February 2022, <https://ocla.ca/wp-content/uploads/2022/02/OCLA-Report-2022-1-v1.pdf>
101. D.G. Rancourt, J. Hickey. "OCLA Statement on CMAJ Fisman et al. Article Claiming Disproportionate Infection Risk from Unvaccinated Population, and on Negligent Media Reporting". Ontario Civil Liberties Association, 27 April 2022 (3 pages), <https://ocla.ca/ocla-statement-on-cmaj-fisman-et-al/> . /// "Fisman et al.'s main conclusion does not follow from their model". Response to "CMAJ April 25, 2022 194 (16) E573-E580; DOI: <https://doi.org/10.1503/cmaj.212105>". Canadian Medical Association Journal (29 April 2022): <https://www.cmaj.ca/content/194/16/E573/tab-e-letters#fisman-et-als-main-conclusion-does-not-follow-from-their-model> .
102. J.A. Johnson, **D.G. Rancourt**. "Evaluating the Effect of Lockdowns On All-Cause Mortality During the COVID Era: Lockdowns Did Not Save Lives". *ResearchGate*, 9 July 2022 (16 pages), <http://dx.doi.org/10.13140/RG.2.2.34191.46242> . Preprint. | And published by Brownstone Institute (6 September 2022): <https://brownstone.org/articles/lockdowns-did-not-save-lives/>
103. **D.G. Rancourt**, M. Baudin, J. Mercier. "COVID-Period Mass Vaccination Campaign and Public Health Disaster in the USA: From age/state-resolved all-cause mortality by time, age-resolved vaccine delivery by time, and socio-geo-economic data". *ResearchGate*, 2 August 2022 (167 pages), <http://dx.doi.org/10.13140/RG.2.2.12688.28164> . Preprint. (Read >50K times on RG) Alternative URL: <https://correlation-canada.org/covid-period-mass-vaccination-campaign-and-public-health-disaster-in-the-usa/>
104. J. Hickey, **D.G. Rancourt**. "Compartmental mixing models for vaccination-status-based segregation regarding viral respiratory diseases". *medRxiv*, 21 August 2022 (27 pages), <https://doi.org/10.1101/2022.08.21.22279035> . Preprint.
106. **D.G. Rancourt**, M. Baudin, J. Mercier. "Proof that Canada's COVID-19 mortality statistics are incorrect". Correlation Research in the Public Interest, Correlation Brief Report, 5 October 2022 (19 pages), <https://correlation-canada.org/report-proof-that-canadas-covid-19-mortality-statistics-are-incorrect/> .

108. **D.G. Rancourt.** “Probable causal association between India’s extraordinary April-July 2021 excess-mortality event and the vaccine rollout”. Correlation Research in the Public Interest, *Correlation Brief Report*, 6 December 2022 (18 pages), <https://correlation-canada.org/report-probable-causal-association-between-indias-extraordinary-april-july-2021-excess-mortality-event-and-the-vaccine-rollout/> .
109. **D.G. Rancourt,** M. Baudin & J. Mercier. “Probable causal association between Australia’s new regime of high all-cause mortality and its COVID-19 vaccine rollout”, Correlation Research in the Public Interest, *Correlation Brief Report*, 20 December 2022 (47 pages), <https://correlation-canada.org/report-probable-causal-association-between-australias-new-regime-of-high-all-cause-mortality-and-its-covid-19-vaccine-rollout/> .
110. J. Hickey, **D.G. Rancourt.** “Predictions from standard epidemiological models of consequences of segregating and isolating vulnerable people into care facilities”, *medRxiv*, 5 February 2023 (79 pages), <https://www.medrxiv.org/content/10.1101/2023.02.05.23285490v1> . Preprint. Under review.
111. **D.G. Rancourt,** M. Baudin, J. Hickey & J. Mercier. “Age-stratified COVID-19 vaccine-dose fatality rate for Israel and Australia”, Correlation Research in the Public Interest, *Correlation Brief Report*, 9 February 2023 (40 pages), <https://correlation-canada.org/report-age-stratified-covid-19-vaccine-dose-fatality-rate-for-israel-and-australia/> .

Invited plenary, keynote and special sessions talks or panels at regional, national, and international conferences (no paper)

184. D.G. Rancourt. “From Masking to Mortality Rates: COVID-19 and What the Science Tells Us”. Invited plenary speaker in the session: “Show Us the Science”, National Vaccine Information Center (NVIC)'s Fifth International Public Conference on Vaccination (3 days in October 2020), 16 October 2020 (39 minutes).
185. D.G. Rancourt. “The False Pandemic”. Invited plenary talk at: Gold Standard Covid Science in Practice: An Interdisciplinary Symposium (2 days, >20 speakers), 29 July 2021 (20 minutes), organized by Doctors for Covid Ethics, hosted by UK Column.

PART-II

ALL CONTRIBUTIONS / ALL AREAS OF RESEARCH

DETAILED LIST OF PUBLICATIONS (IN CHRONOLOGICAL ORDER, AND BY CATEGORY)

Full papers in refereed (peer-reviewed) journals

(Authors supervised/co-supervised by Denis Rancourt have their names underlined.)

1. **D.G. Rancourt** and J.M. Daniels, The Influence of Unequal Magnetization Direction Probabilities on Mössbauer Spectra of Superparamagnetic Particles, Physical Review B29 (1984) 2410-2414.
2. **D.G. Rancourt**, S.R. Julian and J.M. Daniels, Mössbauer Characterization of Very Small Superparamagnetic Particles; Application to Intra-Zeolitic Alpha-Fe-203 Particles, Journal of Magnetism and Magnetic Materials, 49 (1985) 305-316.
3. J.M. Daniels, H.-Y. Lam, **D.G. Rancourt**, J.A. Westgate and D. York, The Discrimination of Pyroclastic Deposits on the Basis of the Mössbauer Spectra of their Magnetites, Earth and Planetary Science Letters, 73 (1985) 430-438.
4. **D.G. Rancourt**, S.R. Julian and J.M. Daniels, A New Interpretation for the Mössbauer Spectra of Invar Alloys; Anisotropic Hyperfine Field Fluctuations, Journal of Magnetism and Magnetic Materials, 51 (1985) 83-88.
5. **D.G. Rancourt**, New Theory for Magnetic Graphite Intercalation Compounds: Superferromagnetism in Two Dimensions, Journal of Magnetism and Magnetic Materials, 51 (1985) 133-140.
6. **D.G. Rancourt**, J.M. Daniels and H.Y-. Lam, Iron-57 Mössbauer Study of Fe₂As; a Magnetically Induced Electric Field Gradient Asymmetry, Canadian Journal of Physics 63 (1985) 1540-1547.
7. **D.G. Rancourt**, C. Meschi and S. Flandrois, S=1/2 Antiferro-magnetic Finite Chains Effectively Isolated by Frustration: CuCl₂ Intercalated Graphite, Physical Review B 33 (1986) 347-355.

8. **D.G. Rancourt**, Low Temperature Behaviour of Ising Magnetic Chains; Decorated Solitons, Locally Enhanced Exchange and Diffusive Propagation, *Solid State Communications* 58 (1986) 433-440.
9. **D.G. Rancourt**, H.H.A. Smit, and R.C. Thiel, Metastable Compositionally and Magnetically Modulated State of Fe-Ni Invar and the Associated Super-Moment Dynamics from Mössbauer Spectroscopy, *Journal of Magnetism and Magnetic Materials* 66 (1987) 121-152.
10. **D.G. Rancourt**, B. Hun, and S. Flandrois, A New Biintercalation Compound, FeCl₃-NiCl₂-graphite, Studied by Fe-57 Mössbauer Effect Spectroscopy and SQUID Magnetization Measurements: An Ideally Decoupled Bimagnetic System, *Canadian Journal of Physics* 66 (1988) 776-790. [This article won a “best paper of the year” award by the Canadian Association of Physicists, given at its annual meeting.]
11. **D.G. Rancourt**, Phenomenology of Domain Wall Pinning in Ferromagnets and Application to Fe-Ni Invar, *Journal of Magnetism and Magnetic Materials* 78 (1989) 153-163.
12. **D.G. Rancourt**, S. Chehab, and G. Lamarche, Reentrant Magnetism, Antiferromagnetism, and Domain Wall Pinning in Nominally Ferromagnetic Fe-Ni Invar, *Journal of Magnetism and Magnetic Materials* 78 (1989) 129-152.
13. **D.G. Rancourt**, Accurate Site Populations from Mössbauer Spectroscopy, *Nucl. Inst. Meth. Phys. Res. B (NIMB)* 44 (1989) 199-210.
14. P. Hargraves, **D.G. Rancourt**, and A.E. Lalonde, Single Crystal Mössbauer Study of Phlogopite Mica, *Canadian Journal of Physics* 64 (1990) 128-144.
15. **D.G. Rancourt**, P. Hargraves, G. Lamarche, and R.A. Dunlap, Microstructure and Low Temperature Magnetism of Fe-Ni Invar Alloys, *Journal of Magnetism and Magnetic Materials* 87 (1990) 71-82.
16. **D.G. Rancourt**, G. Lamarche, P. Tume, A.E. Lalonde, P. Biensan, and S. Flandrois, Dipole-Dipole Interactions as Source of Spin Glass Behaviour in Exchange-Wise Two-Dimensional Ferromagnetic-Layer Compounds. *Canadian Journal of Physics* 68 (1990) 1134-1137.
17. **D.G. Rancourt**, S. Flandrois, P. Biensan, and G. Lamarche, Magnetism of a Graphite Bi-Intercalation Compound with Two Types of Ferromagnetic Layers: Double Hysteretic Transition in CrCl₃-NiCl₂. *Canadian Journal of Physics* 68 (1990) 1435-1439.

18. **D.G. Rancourt**, and J.-Y. Ping. Voigt-Based Methods for Arbitrary-Shape Static Hyperfine Parameter Distributions in Mössbauer Spectroscopy. Nucl. Instr. Meth. Phys. Res. B (NIMB) 58 (1991) 85-97.
19. **D.G. Rancourt**, M.-Z. Dang, and A.E. Lalonde, Mössbauer Spectroscopy of Tetrahedral Fe³⁺ in Trioctahedral Micas. American Mineralogist 77 (1992) 34-43.
20. **D.G. Rancourt**, Mössbauer Spectroscopy of Tetrahedral Fe³⁺ in Trioctahedral Micas—**Reply**. American Mineralogist 78 (1993) 669-671.
21. J.-Y. Ping, **D.G. Rancourt**, and R.A. Dunlap, Physical Bases and Break Down of Hyperfine Field Distribution Analysis in FCC Fe-Ni (5-70 at %Fe). Journal of Magnetism and Magnetic Materials 103 (1992) 285-313.
22. **D.G. Rancourt**, A.M. McDonald, A.E. Lalonde, and J.-Y. Ping. Mössbauer Absorber Thickness for Accurate Site Populations in Iron Bearing Minerals. American Mineralogist 78 (1993) 1-7.
23. **D.G. Rancourt**, J.-Y. Ping, and M.-Z. Dang. Fe-57 Mössbauer Isomer shifts in Random FCC Fe-Ni Alloys: Experiment versus Electronic Structure Calculations. Canadian Journal of Physics 70 (1992) 1241-1243.
24. **D.G. Rancourt**, M. Dubé, and P.R.L. Heron. General Method for Applying Mean Field Theory to Disordered Magnetic Alloys. Journal of Magnetism and Magnetic Materials 125 (1993) 39-48.
25. **D.G. Rancourt**, P. Tume, and A.E. Lalonde. Kinetics of the (Fe²⁺+OH⁻)_{mica} = (Fe³⁺+O²⁻)_{mica} + H Oxidation Reaction in Bulk Single-Crystal Biotite Studied by Mössbauer Spectroscopy. Physics and Chemistry of Minerals 20 (1993) 276-284.
26. T.-B. Bai, S. Guggenheim, S.-J. Wang, **D.G. Rancourt**, and A.F. Koster van Groos. Metastable Phase Relations in the Chlorite-H₂O System. American Mineralogist 78 (1993) 1208-1216.
27. **D.G. Rancourt**, I.A.D. Christie, M. Royer, H Kodama, J.-L. Robert, A.E. Lalonde, and E. Murad. Determination of Accurate ^[4]Fe³⁺, ^[6]Fe³⁺, and ^[6]Fe²⁺ Site Populations in Synthetic Annite by Mössbauer Spectroscopy. American Mineralogist 79 (1994) 51-63.
28. **D.G. Rancourt**. Mössbauer Spectroscopy of Minerals I. Inadequacy of Lorentzian-Line Doublets in Fitting Spectra Arising from Quadrupole Splitting Distributions. Physics and Chemistry of Minerals 21 (1994) 244-249.
29. **D.G. Rancourt**. Mössbauer Spectroscopy of Minerals II. Problem of Resolving *cis* and *trans* Octahedral Fe²⁺ Sites. Physics and Chemistry of Minerals 21 (1994) 250-257.

30. **D.G. Rancourt**, J.-Y. Ping, and R.G. Berman. Mössbauer Spectroscopy of Minerals III. Octahedral-Site Fe²⁺ Quadrupole Splitting Distributions in the Phlogopite-Annite Series. *Physics and Chemistry of Minerals* 21(1994) 258-267.
31. **D.G. Rancourt**, I.A.D. Christie, G. Lamarche, I. Swainson, and S. Flandrois. Magnetism of Synthetic and Natural Annite Mica: Ground State and Nature of Excitations in an Exchange-Wise Two Dimensional Easy-Plane Ferromagnet with Disorder. *Journal of Magnetism and Magnetic Materials* 138 (1994) 31-44.
32. M. Dubé, P.R.L. Heron and **D.G. Rancourt**. Local Moment Magnetism of FCC Fe-Ni Alloys I. Cluster-Method Mean Field Theory. *Journal of Magnetism and Magnetic Materials* 147 (1995) 122-132.
33. M.-Z. Dang, M. Dubé and **D.G. Rancourt**. Local Moment Magnetism of FCC Fe-Ni Alloys II. Ising Approximation Monte Carlo. *Journal of Magnetism and Magnetic Materials* 147 (1995) 133-140.
34. L. Raki, **D.G. Rancourt** and C. Detellier. Preparation, Characterization and Mössbauer Spectroscopy of Organic Anion Intercalated Pyroaurite-like Layered Double Hydroxides. *Chemistry of Materials* 7 (1995) 221-224.
35. **D.G. Rancourt** and R.B. Scorzelli, Low Spin γ -Fe-Ni (γ_{LS}) Proposed as a New Mineral in Fe-Ni-Bearing Meteorites: Epitaxial Intergrowth of γ_{LS} and Tetrataenite as Possible Equilibrium State at ~20-40 at % Ni. *Journal of Magnetism and Magnetic Materials* 150 (1995) 30-36.
36. **D.G. Rancourt** and R.B. Scorzelli. Low-spin γ_{LS} -Fe-Ni proposed as a new meteoritic mineral—**Reply**. *Journal of Magnetism and Magnetic Materials* 174 (1997) 324-330.
37. A.E. Lalonde, **D.G. Rancourt** and G.Y. Chao. Fe-Bearing Trioctahedral Micas from Mont Saint-Hilaire, Québec. *Mineralogical Magazine* 60 (1996) 447-460.
38. L. Dou, R.J.W. Hodgson and **D.G. Rancourt**. Bayesian Inference Theory Applied to Hyperfine Parameter Distribution Extraction in Mössbauer Spectroscopy. *Nucl. Instr. Meth. Phys. Res. B (NIMB)* 100 (1995) 511-518.
39. **D.G. Rancourt**, J.Y. Ping, B. Boukili and J.-L. Robert. Octahedral-site Fe²⁺ Quadrupole Splitting Distributions from Mössbauer Spectroscopy along the (OH, F)-Annite Join. *Physics and Chemistry of Minerals* 23 (1996) 63-71.
40. M.-Z. Dang and **D.G. Rancourt**. Simultaneous magnetic and chemical order-disorder phenomena in Fe₃Ni, FeNi and FeNi₃. *Physical Review B* 53 (1996) 2291-2302.

41. R.G. Berman, L. Ya Aranovich and **D.G. Rancourt**. Phase equilibrium constraints on the stability of biotite. Part 2: Fe-Al biotite in the system K_2O -FeO- Al_2O_3 - SiO_2 - H_2O . Current Research 1995-E; Geological Survey of Canada, 263-270.
42. **D.G. Rancourt** and M.-Z. Dang. Relation between anomalous magneto-volume behaviour and magnetic frustration in Invar alloys. Physical Review B 54 (1996) 12225-12231.
43. B. Grossmann and **D.G. Rancourt**. Simulation of magneto-volume effects in ferromagnets by a combined molecular dynamics and Monte Carlo approach. Physical Review B 54 (1996) 12294-12301.
44. K. Lagarec and **D.G. Rancourt**. Extended Voigt-Based Analytic Lineshape Method for Determining N-Dimensional Correlated Hyperfine Parameter Distributions in Mössbauer Spectroscopy. Nucl. Instr. Meth. Phys. Res. B (NIMB) 129 (1997) 266-280.
45. **D.G. Rancourt**, K. Lagarec, A. Densmore, R.A. Dunlap, J.I. Goldstein, R.J. Reisener, and R.B. Scorzelli. Experimental Proof of the Distinct Electronic Structure of a New Meteoritic Fe-Ni Alloy Phase. Journal of Magnetism and Magnetic Materials 191 (1999) L255-L260.
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Papers in refereed conference proceedings

AGU	=	American Geophysical Union
ASLO	=	American Society of Limnology and Oceanography
EGS	=	European Geophysical Society
EUG	=	European Union of Geosciences
GAC	=	Geological Association of Canada
ICAME	=	International Conference on the Applications of the Mössbauer Effect
ICC	=	International Clay Conference
ICHI	=	International Conference on Hyperfine Interactions
ICOBTE	=	International Conference on Biogeochemistry of Trace Elements
ISEB	=	International Symposium on Environmental Biogeochemistry
LACAME	=	Latin American Conference on the Applications of the Mössbauer Effect
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130. A.A.T. Shabani, **D.G. Rancourt**, and A.E. Lalonde. Determination of cis- and trans-Fe²⁺ Populations in 2M1 Muscovite by Mössbauer Spectroscopy. ICC'97 Proceedings: "Clays for Our Future" H. Kodama, A.R. Mermut, and J.K. Torrance (chief editors), Published by the ICC-97 Organizing Committee, Ottawa, Canada (1999) ISBN 0-9686314-0-7. Pages 243-248.
131. P.H.J. Mercier, **D.G. Rancourt**, R.G. Berman, and J.-L. Robert.. Control of Site Populations, at Synthesis, by Inter-Sheet Differential Thermal Expansion in a T-O-T Layer Silicate. ICC'97 Proceedings: "Clays for Our Future" H. Kodama, A.R. Mermut, and J.K. Torrance (chief editors), Published by the ICC-97 Organizing Committee, Ottawa, Canada (1999) ISBN 0-9686314-0-7. Pages 221-228.
132. M.-Z. Dang, **D.G. Rancourt**, J.E. Dutrizac, G. Lamarche, and R. Provencher. Protohematite-Hydrohematite-Hematite Structuro-Chemical Phase Relationships in Hematite-Like Materials. ICC'97 Proceedings: "Clays for Our Future" H. Kodama, A.R. Mermut, and J.K. Torrance (chief editors), Published by the ICC-97 Organizing Committee, Ottawa, Canada (1999) ISBN 0-9686314-0-7. Pages 265-270. (selected for oral presentation).

133. T.P. Murphy, A. Lawson, **D.G. Rancourt**, M. Kumagai, and M. Sakai. Akanoi Bay, Lake Biwa Seasonal Changes in Porewater Phosphorus. Society for International Limnology, Dublin, August 10-14, 1998. In press, Verh. Int. Verein. Limnol. 48(1998).
134. T.P. Murphy, A. Lawson, M. Kumagai, and **D.G. Rancourt**. Sediment phosphorous release in Lake Biwa. 4th International Symposium on Sediment Quality Assessment (SQA'2000), October 24-27, 2000, Otsu, Japan. Submitted to proceedings.
135. S. Alpay, L. LOrtie, W.D. Gould, **D.G. Rancourt**, B. Mayer, F. Rosa, H.K.T. Wong, S.S. Dixit, A.S. Dixit, C. Provost, and G.E.M. Hall. Diagenetic metal remobilization versus chronological metal loading in lake sediments. 6th ICOBTE, Guelph, Ontario, July 29 to August 2, 2001, ICOBTE 2001 Conference Proceedings, Extended abstract GO136.
136. **D.G. Rancourt**, P.-J. Thibault, and F.G. Ferris. Resolution and quantification of Fe sorbed to bacterial cell walls, biogenic ferrihydrite, and abiotic ferrihydrite by cryogenic ⁵⁷Fe Mössbauer spectroscopy. 6th ICOBTE, Guelph, Ontario, July 29 to August 2, 2001, ICOBTE 2001 Conference Proceedings, Extended abstract GO448.

Invited refereed plenary and special session papers at international conferences and workshops

137. **D.G. Rancourt**, B. Hun and S. Flandrois, Magnetic Properties of Intercalated Transition Metal Chlorides which have Ferromagnetic In-Plane Coupling. Colloque Franco-Japonais sur les Composés d'Insertion de Graphique, École Normale Supérieure, Paris, Oct. 8-10, 1985, Ann. Phys. 11 (1986) C2 107-116.
138. **D.G. Rancourt**, Magnetic Phenomena in Layered and Intercalated Compounds. NATO Advanced Study Institute entitled Chemical Physics of Intercalation Castera Verdyzan, France, June 10-19, 1987, NATO-ASI Ser. B: Physics, 172 (1987) 79-103.
139. **D.G. Rancourt**, Pervasiveness of Cluster Excitations as Seen in the Mössbauer Spectra of Magnetic Materials. International Conference on the Applications of the Mössbauer Effect-87, Melbourne, Australia, August 17-21, 1987: Hyperfine Interactions 40 (1988) 183-194.
140. **D.G. Rancourt**. Mössbauer Spectroscopy in Clay Science. ICC'97 Proceedings: "Clays for Our Future" H. Kodama, A.R. Mermut, and J.K. Torrance (chief editors), Published by the ICC-97 Organizing Committee, Ottawa, Canada (1999) ISBN 0-9686314-0-7. Pages 201-205. (short version). Hyperfine Interactions 117 (1998) 3-38 (long version).

141. A.E. Lalonde, **D.G. Rancourt**, and J.Y. Ping. Accuracy of ferric/ferrous determinations in phyllosilicate: A comparison of Mössbauer and wet-chemical methods. ICC'97 Proceedings: "Clays for Our Future" H. Kodama, A.R. Mermut, and J.K. Torrance (chief editors), Published by the ICC-97 Organizing Committee, Ottawa, Canada (1999) ISBN 0-9686314-0-7. Pages 249-257.
142. R.B. Scorzelli, **D.G. Rancourt**, A.B. Dominguez, G. Poupeau, C.C. de Bon, M.E. Cisternas. Evidence by Mössbauer spectroscopy of the intergrowth tetraetaemite/antitaemite in the Vaca Muerta mesosiderite. 60th Meteoritical Society Meeting, Hawaii, July 21-25, 1997. Meteoritics and Planetary Science 32(4) Supplement (1997) A117. (extended abstract)
143. K. Lagarec, **D.G. Rancourt**, S.K. Bose, and R.A. Dunlap. First observation of a composition-controlled low-moment/high-moment transition in the FCC Fe-Ni system: Implications regarding Invar and anti-Invar behaviours. Phase Transitions 75 (2002) 211-219. International Symposium on Structure and Dynamics of Heterogeneous Systems, August 28-29, 2000, Duisburg, Germany.
144. **D.G. Rancourt**. Invar behaviour in Fe-Ni alloys is predominantly a local moment effect arising from the magnetic exchange interactions between high moments. Phase Transitions 75 (2001) 201-209. International Symposium on Structure and Dynamics of Heterogeneous Systems, August 28-29, 2000, Duisburg, Germany.
145. **D.G. Rancourt**. Magnetism of Earth, planetary, and environmental nanoparticles. *In: Nanoparticles and the Environment*, J.F. Banfield and A. Navrotsky (editors), Reviews in Mineralogy and Geochemistry 44 (2001) 217-292 (Chapter 7). MSA Workshop, December 7-9, 2001, UC-Davis, CA, USA.

Review papers and book forwards

146. **D.G. Rancourt**, The Invar Problem, Physics in Canada 45(1) January (1989) 3-10.
147. A.E. Lalonde and **D.G. Rancourt**, Les Micas: Des Minéraux Importants pour Comprendre l'Origine des Roches Granitiques. Interface, Sept.-Oct. (1991) 24-29.
148. **D.G. Rancourt**. Mössbauer spectroscopy in clay science – Forward. Hyperfine Interactions 117 (1998) 1-3.

Books, Monographs, and Handbooks authored

149. **D.G. Rancourt** and K. Lagarec. *ICC'97 Mössbauer Workshop Handbook*, 1997, 144 pages.
150. **D.G. Rancourt**. *Science for Activists* (Beta version, 2005), 62 pages. [Developped for and used in Denis Rancourt's university course "PHY 1703: Physics and the Environment".]
151. **D.G. Rancourt**. *Hierarchy and free expression in the fight against racism*, Stairway Press, 2013, 175 pages, ISBN 978-0-9859942-8-0.

Chapters in books (see also chapters related to invited talks, above)

152. **D.G. Rancourt**. Analytical Methods for Mössbauer Spectral Analysis of Complex Materials. Chapter 6, *in*: *Mössbauer Spectroscopy Applied to Magnetism and Materials Science*, Vol. 2, G.J. Long and F. Grandjean, Eds., Plenum Press, 1996, pages 105-124.

Books Edited

153. **D.G. Rancourt** (Ed.) *Mössbauer Spectroscopy in Clay Science*. A special topic issue of *Hyperfine Interactions* 117 (1998) pp.436 (Invited and selected topics from the Mössbauer Symposium of ICC'97).
154. H. Kodama et al. (Eds., including associate editor **D.G. Rancourt**) *ICC'97 Proceedings: "Clays for Our Future"* H. Kodama, A.R. Mermut, and J.K. Torrance (chief editors), Published by the ICC-97 Organizing Committee, Ottawa, Canada (1999) ISBN 0-9686314-0-7. pp.825.

Invited plenary, keynote and special sessions talks or panels at regional, national, and international conferences (no paper)

155. **D.G. Rancourt**, Truly Quantative Fe^{3+} and Fe^{2+} Amounts in Iron Bearing Minerals, Mineral Physics Special Session at GAC-MAC-90, Vancouver, May 1990. (GAC = Geological Association Canada, MAC = Mineralogical Association Canada).
156. **D.G. Rancourt**, Mössbauer Spectral Lineshape Models and Spectral Analysis Methods. Mössbauer Workshop at the 28th Annual Meeting of the Clay Minerals Society, NASA Planetary Science Laboratory, Houston, Texas, October 1991.

157. **D.G. Rancourt**, Mössbauer Spectroscopy of Phyllosilicates. Mössbauer Workshop at the 28th Annual Meeting of the Clay Minerals Society, NASA Planetary Science Laboratory, Houston, Texas, October 1991.
158. **D.G. Rancourt**, A.E. Lalonde, G. Lamarche, J.-Y. Ping, M. Royer, I.A.D. Christie, P. Tume, and M.-Z. Dang, Mössbauer Spectroscopy, Magnetism, Crystal Chemistry, Oxidation, and Optical Properties of Natural and Synthetic Micas. Int. Conf. Applications Mössbauer Effect 1991, Nanjing, China, September 1991.
159. **D.G. Rancourt**, Interplay between Magnetism and Crystal Chemistry in Minerals. Magnetism in Minerals Session, AGU-CGU-MSA 1992 Spring Meeting, Montreal, 12-16 May 1992. Abstract published in EOS Spring Meeting Supplement. Transactions, American Geophysical Union, 73(14) (1992) 97.
160. **D.G. Rancourt**. Kinetics of the Oxyannite Reaction in Biotite: Microscopic Mechanism and Relation to Dehydroxylation. Plenary, Latin American Conference on the Applications of the Mössbauer Effect, Santiago, Chile, 7-11 November, 1994.
161. **D.G. Rancourt**, Structural Missfit Effects in the Crystal Chemistry of Annite: Towards a Single-Mineral Geothermometer/Oxygen Fugacity Probe. Plenary, Latin American Conference on the Applications of the Mössbauer Effect, Santiago, Chile, 7-11 November, 1994.
162. **D.G. Rancourt**, Extraction and Interpretation of Quadrupole Splitting Distributions in Layer Silicates. Plenary, Latin American Conference on the Applications of the Mössbauer Effect, Santiago, Chile, 7-11 November, 1994.
163. **D.G. Rancourt** and R.B. Scorzelli, Low-spin FCC Fe-Ni alloy phase (γ_{LS} -phase) proposed as a new meteoritic mineral. Plenary, Int. Conf. Applications Mössbauer Effect 1995, Rimini, Italy, 10-16 September, 1995.
164. **D.G. Rancourt**, *Mechanisms, at synthesis, for inter-layer lattice matching in layer silicates*. Special session entitled "Strain Accommodation in Materials", CAP Congress, Ottawa, June 16-19, 1996.
165. **D.G. Rancourt**. *Quantitative near neighbour anion coordination populations and strong short-range F-F avoidance in synthetic annite-fluorannite measured by Mössbauer spectroscopy*. ICC'97, Ottawa, June 15-21, 1997.
166. P.-J. Thibault, D. Mavrocordatos, **D.G. Rancourt**, D. Fortin, and G. Lamarche. *Comparisons of biogenic and abiotic hydrous ferric oxides using Mössbauer spectroscopy*. Selected for oral contribution at ICAME-99 (10% selection rate), Garmisch-Partenkirchen, Germany, August 29 - September 3, 1999.

167. P.H.J. Mercier, A.A.T. Shabani, **D.G. Rancourt**, A.E. Lalonde, R.G. Berman, and J.-L. Robert. *Quadrupole splitting distributions of biotite*. Selected for oral contribution at ICAME-99 (10% selection rate), Garmisch-Partenkirchen, Germany, August 29 - September 3, 1999.
168. K. Lagarec and **D.G. Rancourt**. *High-moment to low-moment transition does occur in the Fe-Ni system but thermal excitation of the low-moment phase does not cause the Invar effect*. Invited plenary talk at ICAME-99, Garmisch-Partenkirchen, Germany, August 29 - September 3, 1999.
169. D. Mavrocordatos, D. Fortin, and **D.G. Rancourt**. *Characterization of biogenic Fe-oxide precipitates by X-ray diffraction, Mössbauer spectroscopy, and analytical electron microscopy*. Invited plenary talk at ISEB-XIV, Deerhurst Resort, Huntsville, Ontario, September 26-30, 1999.
170. **D.G. Rancourt**, F.G. Ferris, and D. Fortin. *Sorbed iron on the cell wall of Bacillus subtilis characterized by Mössbauer spectroscopy: Evidence for bioreduction*. Invited plenary talk at ISEB-XIV, Deerhurst Resort, Huntsville, Ontario, September 26-30, 1999.
171. **D.G. Rancourt**. *Development of a single-mineral multi-variable geosensor based on the crystal chemistry of biotite*. The invited plenary talk at 41st Mössbauer Spectroscopy Discussion Group Meeting, The Royal Society of Chemistry, September 4-5, 2000, University of Greenwich, UK.
172. **D.G. Rancourt**. *Mössbauer spectroscopy of mud: Towards modeling complex environmental processes*. Invited Plenary Lecture (1 of 8), LACAME-02, Panama City, September 22-27, 2002.
173. **D.G. Rancourt**. *RecoilTM: Its development, its structure, and examples of its use*. Invited Plenary Talk (1 of 8), LACAME-02, Panama City, September 22-27, 2002.
174. **D.G. Rancourt**. *Advances in characterizing nanophase materials and composites*. Invited Symposium Talk (1 of 3), Nanophase Materials Symposium (2.8), Goldschmidt Geochemistry Conference, Copenhagen, June 6-12, 2004. Abstract 554-2.8.21. *Geochimica Cosmochimica Acta* 68(11S), 2004, p.A220.
175. **D.G. Rancourt**. *Adventures in mineral physics: From environmental nanoparticles to meteoritic anti-Invar via layer silicate surprises*. Invited Keynote Lecture (1 of 11), 82nd Annual Meeting of the Deutsche Mineralogische Gesellschaft (DMG) (German Mineralogical Association), Karlsruhe, September 20-22, 2004.
176. R.J. Evans, **D.G. Rancourt**, M. Grodzicki. *Electronic structure calculations for Mössbauer spectroscopy of disordered materials*. Invited talk; New applications of

spectroscopy in mineral sciences session. 19th International Mineralogical Association Conference, Kobe, Japan, July 23-28, 2006. (talk presented by DGR)

177. **D.G. Rancourt.** *Nature and genesis of ferrihydrite.* Invited talk; Recent progress of nanoparticle studies in Earth and planetary sciences session. 19th International Mineralogical Association Conference, Kobe, Japan, July 23-28, 2006.
178. **D.G. Rancourt.** *Democracy is direct action.* Invited and selected talk/workshop at the ImagineOttawa – Ottawa Social Forum, October 20, 2007, Ottawa, Ontario.
179. **D.G. Rancourt.** *Anarchism in Academia Now!* Closing keynote talk at Resisting the University conference, March 3-7, 2008, Students for a Democratic Society, UBC, Vancouver, BC.
180. Invited panellist, with two others. April 15th 9:30-12am round-table: *To find yourself in the ranks of resistances.* Thinking about global justice: Acting locally. 2nd symposium of the Laboratory for Justice Studies and Research, April 14-15, 2008, Department of Criminology, University of Ottawa.
181. **D.G. Rancourt.** *Minorités, solidarité, résistance, et confrontation : La place de l'anarchisme dans l'enseignement des sciences.* Invited keynote (90 minutes) in Colloque 611: Enseignement des sciences en milieu francophone minoritaire, hier et aujourd'hui: Quels espoirs pour demain? ACFAS, May 5-9, 2008, Québec.
182. Invited panellist, closing panel, with six others. *Table ronde: Education scientifique en milieu francophone minoritaire: Quels espoirs pour demain?* Colloque 611: Enseignement des sciences en milieu francophone minoritaire, hier et aujourd'hui: Quels espoirs pour demain? ACFAS, May 5-9, 2008, Québec.
183. **D.G. Rancourt.** *Making physics relevant by academic squatting.* Invited speaker in the session: Down from the Ivory Tower: Physics Teachers and Education Researchers as Activists. 2008 American Association of Physics Teachers (AAPT) Conference, July 19-23, Edmonton, Alberta.
184. **D.G. Rancourt.** "From Masking to Mortality Rates: COVID-19 and What the Science Tells Us". Invited plenary speaker in the session: "Show Us the Science", National Vaccine Information Center (NVIC)'s Fifth International Public Conference on Vaccination (3 days in October 2020), 16 October 2020 (39 minutes).
185. **D.G. Rancourt.** "The False Pandemic". Invited plenary talk at: Gold Standard Covid Science in Practice: An Interdisciplinary Symposium (2 days, >20 speakers), 29 July 2021 (20 minutes), organized by Doctors for Covid Ethics, hosted by UK Column.

Posters and talks presented at academic conferences (no paper)

186. **D.G. Rancourt**, J.M. Daniels and H.-Y. Lam, Spin Orientation in Antiferromagnetic Fe(2-x)Cr(x)As. Annual Meeting of the A.P.S., San Francisco, California, January 1982.
187. **D.G. Rancourt**, J.M. Daniels and H.-Y. Lam, Spin Structure of Fe₂As. Annual Meeting of the A.P.S., New York City, January 1983.
188. J.M. Daniels, H.-Y. Lam, **D.G. Rancourt**, J.A. Westgate and D. York, Identification of the Origin of Volcanic Ash by Mössbauer Spectroscopy. Annual Meeting of the A.P.S., New York, January, 1983.
189. S.R. Julian, J.M. Daniels, H.-Y. Lam and **D.G. Rancourt**, Polarization of Magnetic Order in Fe_{1+x}Pt_{3-x}. Annual Meeting of the A.P.S., New York, January, 1983.
190. **D.G. Rancourt** and J.M. Daniels, New Effects in the Mössbauer Spectra of Superparamagnetic Particles. Annual Meeting of the American Physical Society, San Antonio, Texas, January 1984.
191. **D.G. Rancourt**, B. Hun and S. Flandrois, Magnetic Study of a New Bi-Intercalation Compound FeCl₃-NiCl₂-Graphite: An ideally Decoupled Bimagnetic System. 18th Biennial Conference on Carbon, Worcester, Ma., July 19-24, 1987.
192. A.E. Lalonde and **D.G. Rancourt**, Accuracy of Mössbauer and Wet-Chemistry Fe³⁺/Fe²⁺ Determinations in Biotite: Implications for Mineralogical and Petrological Studies, GAC-MAC-90, Vancouver, May 1990.
193. **D.G. Rancourt**, M. Royer, and M.-Z. Dang, Mössbauer Recoilless Fractions of Octahedral Fe³⁺ and Fe²⁺ in Mica, GAC-MAC-90, Vancouver, May 1990.
194. P. Tume, M. Royer, and **D.G. Rancourt**, Proton Diffusion in Mica, GAC-MAC-90, Vancouver, May 1990.
195. **D.G. Rancourt**, Novel Real Magnetic Systems Amenable to Theoretical Analysis, Stat. Phys. 45th Par., Montreal, October 20, 1990.
196. D.J. Dunlop, X. Song, D.G. Rancourt, Ferromagnetism in biotites, AGU-MSA Spring Meeting 1991. Abstract published in Spring Session Supplement of EOS, Transactions, American Geophysical Union, 72(17) (1991) 97.
197. I.A.D. Christie, **D.G. Rancourt**, H. Kodama, J.-L. Robert, Use of High and Low Temperature Mössbauer Measurements in the Determination of the Magnetic Structure of Micas. Magnetism in Minerals Session, AGU-CGU-MSA 1992 Spring Meeting,

Montreal, 12-16 May 1992. Abstract published in Spring Session Supplement of EOS, Transactions, American Geophysical Union, 73(14) (1992) 97.

198. **D.G. Rancourt**, General Method for Applying MFT to Disordered Magnetic Alloys, Stat. Phys. 45th Par., Clarkson University, Potsdam, N.Y., October 3, 1992.
199. M. Dubé and **D.G. Rancourt**, Application of a Mean Field Method to Disordered FCC Fe-Ni Alloy, Stat. Phys. 45th Par., Clarkson University, Potsdam, N.Y., October 3, 1992.
200. M.-Z. Dang, **D.G. Rancourt**, and J.Y. Ping, Cause of the Fe-57 Hyperfine Field in FCC Fe-Ni. ICAME 93, Aug. 8-14, 1993, Vancouver, B.C.
201. A.E. Lalonde and **D.G. Rancourt**, Method for Getting Site-Specific EFG Information from Sheet Silicates: Application to Micas, ICAME 1993, Aug. 8-14, 1993, Vancouver, B.C.
202. A.E. Lalonde, **D.G. Rancourt**, and G.Y. Chao, Fe-Bearing Trioctahedral Micas from Mont Saint-Hilaire, Quebec, GAC-MAC-94, May 1994, Waterloo, Ontario. Abstract accepted.
203. **D.G. Rancourt** and G. Klingelhöfer. Possibility of a Mössbauer Resonant-Electron Microscope. Fourth Seeheim Workshop on Mössbauer Spectroscopy, May 1994, Seeheim, Germany.
204. **D.G. Rancourt** and J.Y. Ping. Algorithms and programs for data treatment and spectral analysis in Mössbauer spectroscopy. ICAME'95, Sept. 1995, Rimini, Italy.
205. A.E. Lalonde and **D.G. Rancourt**. Determination of accurate Fe-site populations in Mica-Fe and Mica-Mg geochemical standards by Mössbauer spectroscopy. ICAME'95, Sept. 1995, Rimini, Italy.
206. L. Dou, R.J.W. Hodgson and **D.G. Rancourt**. Bayesian inference theory applied to hyperfine field distribution extraction. CAM'95 (CAP/APS/SMF joint meeting) 11-16 June 1995.
207. P.H.J. Mercier, **D.G. Rancourt** and R.G. Berman. An Fe-57 Mössbauer spectroscopy study of synthetic layer silicates of the phlogopite-annite series having various A contents. CAP Congress, Ottawa, June 16-19, 1996.
208. M.-Z. Dang and **D.G. Rancourt**. Testing microscopic models of the hyperfine fields in Fe-Ni alloys. CAP Congress, Ottawa, June 16-19, 1996.

209. K. Lagarec, **D.G. Rancourt**, R.B. Scorzelli and I. de Souza Azevedo. Investigation of Fe-Ni alloys in meteorites using Mössbauer spectroscopy. CAP Congress, Ottawa, June 16-19, 1996.
210. L. Dou, R.J.W. Hodgson and **D.G. Rancourt**. A preliminary study of a biotite spectrum using the Bayesian inference theory and the Gibbs sampling. CAP Congress, Ottawa, June 16-19, 1996.
211. M.-Z. Dang and **D.G. Rancourt**. Analysis of complex solid-phase systems: industrial and environmental. OCMR Partnerships 1997, Toronto, June 5, 1997.
212. R.B. Scorzelli, **D.G. Rancourt**, A.B. Dominguez, G. Poupeau, C.C. de Bon, and M.E. Cisternas. Detection of tetrataenite/antitaenite intergrowth in Fe-Ni metal of the Vaca Muerta mesosiderite. ICAME '97, Rio de Janeiro, Brazil, August 1997.
213. **D.G. Rancourt** and M.-Z. Dang. Multi-Dimensional Solid Phase Analysis Applied to Aquatic Sediments and Ancient Sedimentary Deposits. EnviroAnalysis-98, Ottawa, May 11-14, 1998.
214. J.I. Goldstein, R.J. Reisener, **D.G. Rancourt**, K. Lagarec, and R.B. Scorzelli. The Santa Catharina Meteorite: A Cloudy Zone Microstructure Consisting of a Fine Intergrowth of Tetrataenite and Antitaenite. 61st Meteoritical Society Meeting, Dublin, July 27-31, 1998. Meteoritics and Planetary Science, Supplement, 33(4) (1998) A59-A60. (extended abstract)
215. **D.G. Rancourt** and M.-Z. Dang. Multi-Dimensional Solid Phase Analysis (MDSPA) Applied to Complex Materials. MMO Partnerships 1998, Toronto, June 10, 1998.
216. K. Lagarec and **D.G. Rancourt**. Antitaenite: A new Meteoritic Mineral That Is Non-Magnetic to the Core. Materials Science at the 45th Parallel. McGill University, Oct. 23-24, 1998.
217. P.H.J. Mercier and **D.G. Rancourt**. Inter-Sheet Differential Thermal Expansion in Layered Silicate Materials. Materials Science at the 45th Parallel. McGill University, Oct. 23-24, 1998.
218. M.-Z. Dang, **D.G. Rancourt**, J.E. Dutrizac, G. Lamarche, and R. Provencher. Phase Relations in Hematite-Like Materials and the Morin Transition. Materials Science at the 45th Parallel. McGill University, Oct. 23-24, 1998.
219. P.C. Piilonen, **D.G. Rancourt**, A.E. Lalonde, and A.M. McDonald. Mössbauer spectroscopy of astrophyllite-group minerals from Mont Saint-Hilaire, Québec. GAC-MAC, Sudbury, Ontario, May 26-28, 1999.

220. P.H.J. Mercier, **D.G. Rancourt**, and J.-L. Robert. Étude expérimentale de la solution solide annite-sydérophyllite: impact de la teneur en aluminium sur la cristallographie des micas. 67^e Congrès de l'ACFAS, Université de l'Alberta, 1999.
221. **D.G. Rancourt** and M.-Z. Dang. Something new in hematite: Not just hydroxyls and cation vacancies but also structurally incorporated water. ICAME-99, Garmisch-Partenkirchen, Germany, August 29 - September 3, 1999.
222. K. Lagarec and **D.G. Rancourt**. General method for removing non-uniform absorber thickness effects from Mössbauer spectra. ICAME-99, Garmisch-Partenkirchen, Germany, August 29 - September 3, 1999.
223. M.-Z. Dang, **D.G. Rancourt**, and A.E. Lalonde. Strategy for and limitations of solid-phase identification and discrimination using room temperature Fe-57 Mössbauer spectroscopy. ICAME-99, Garmisch-Partenkirchen, Germany, August 29 - September 3, 1999.
224. R.J. Evans, J.S. Tse, and **D.G. Rancourt**. Electronic structure calculations of the electric field gradient parameters in distorted FeO_6^{10-} octahedra. ICAME-99, Garmisch-Partenkirchen, Germany, August 29 - September 3, 1999.
225. P.-J. Thibault, Ken Lagarec, **D.G. Rancourt**, G. Lamarche, D. Mavrocordatos, and D. Fortin. Structure, stoichiometry, and microstructure of ferrihydrite. XIVth International Symposium on Environmental Biogeochemistry, Deerhurst Resort, Huntsville, Ontario, September 26-30, 1999.
226. K. Lagarec, **D.G. Rancourt**, S.K. Bose, and R.A. Dunlap. Observation of a composition-controlled low-moment/high-moment transition in the FCC Fe-Ni system: Implications regarding Invar and anti-Invar behaviours. 41st Mössbauer Spectroscopy Discussion Group Meeting, The Royal Society of Chemistry, September 4-5, 2000, University of Greenwich, UK.
227. K. Lagarec and **D.G. Rancourt**. Recoil: Advanced Windows-based spectral analysis and data treatment software for Mössbauer spectroscopy. 41st Mössbauer Spectroscopy Discussion Group Meeting, The Royal Society of Chemistry, September 4-5, 2000, University of Greenwich, UK.
228. J.B. Percival, J.M. Aylsworth, **D.G. Rancourt** and A. Fritz. Analysis of colour rhythmites in sensitive marine clays (Ileda clay) from Eastern Canada. 12th International Clay Conference (ICC-12), July 22-28, 2001, Bahia Blanca, Argentina.

229. R. James Evans, **D.G. Rancourt**, J.S. Tse, and M. Grodzicki. Theoretical quadrupole splitting distributions of octahedral Fe²⁺ in layer silicates. ICAME-2001, September 2-7, 2001, Oxford, UK.
230. K. Lagarec and **D.G. Rancourt**. Mössbauer spectroscopy provides a definitive solution to the Invar problem. Selected oral, LACAME-02, Panama City, September 22-27, 2002.
231. **D.G. Rancourt**, P.H.J. Mercier, E.J. Evans, M. Grodzicki, A.A.T. Shabani, and A.E. Lalonde. Resolving the hydrogen-loss and vacancy reactions in the oxidation of Fe-bearing layer silicates. Poster, LACAME-02, Panama City, September 22-27, 2002.
232. **D.G. Rancourt**, M.-Z. Dang, P.-J. Thibault, S. Bonneville, T. Behrends, P. Van Cappellen. Hematite (α -Fe₂O₃): A complex oxyhydroxide system inspiring sustained fascination among Mössbauer spectroscopists. Poster, LACAME-02, Panama City, September 22-27, 2002.
233. **D.G. Rancourt**, N. Sabourin, M.-Z. Dang, C. van der Zee, D. Roberts and P.-J. Thibault. Recoil Mössbauer spectral analysis software applied to complex natural samples. Poster, LACAME-02, Panama City, September 22-27, 2002.
234. **D.G. Rancourt**, I. L'Heureux, S. Katsev, B. George, C. McDonald. Lake Sediment Structure and Evolution (LSSE) research: Towards predictive reaction transport models. Talk, 38th Central Canadian Symposium on Water Quality Research, organized by CAWQ and hosted by NWRI, Burlington, Ontario, February 10-11, 2003.
235. S. Katsev, I. L'Heureux, **D.G. Rancourt**. Modeling the mechanisms of phosphorous releases from sediments. Poster, EGS-AGU-EUG Joint Assembly, Nice, France, April 2003.
236. S. Katsev, **D.G. Rancourt**, I. L'Heureux. dSED: A database tool for modeling sediment early diagenesis. Poster, EGS-AGU-EUG Joint Assembly, Nice, France, April 2003.
237. S. Katsev, I. L'Heureux, **D.G. Rancourt**. Numerical models of phosphorus releases in sediments. Poster. Gordon Research Conference on Permeable Sediments, Lewiston (Maine), June 15-20, 2003.
238. **D.G. Rancourt**. Influence of Bacteria on the Sequestration of Iron and the Precipitation of Hydrous Ferric Oxides: A Cryogenic ⁵⁷Fe Mössbauer Spectroscopy Study. Talk, International Workshop on Biogeochemical Processes Involving Iron Minerals in Natural Waters, November 16-21, 2003, Monte Verita, Switzerland. Extended abstract published in abstract book.

239. C. van der Zee, D.R. Roberts, **D.G. Rancourt**, C.P. Slomp. Nanogoethite is the dominant reactive iron oxyhydroxide phase in lake and marine sediments. Talk, International Workshop on Biogeochemical Processes Involving Iron Minerals in Natural Waters, November 16-21, 2003, Monte Verita, Switzerland. Extended abstract published in abstract book.
240. C. Hyacinthe, H. De Waarde, **D.G. Rancourt**, P. Van Cappellen. Formation and reactivity of iron phosphate minerals. Talk, International Workshop on Biogeochemical Processes Involving Iron Minerals in Natural Waters, November 16-21, 2003, Monte Verita, Switzerland. Extended abstract published in abstract book.
241. P.-J. Thibault, **D.G. Rancourt**, J.E. Dutrizac, C. Hyacinthe, P. Van Cappellen, A. Delgado. Mineralogical characterization of aquatic colloid analogues: Synthetic phosphate-coprecipitated hydrous ferric oxide nanophases. Poster, International Workshop on Biogeochemical Processes Involving Iron Minerals in Natural Waters, November 16-21, 2003, Monte Verita, Switzerland. Extended abstract published in abstract book.
242. F. Gonzalez-Lucena, **D.G. Rancourt**, P.-J. Thibault, M.-Z. Dang, G. Lamarche, J.E. Dutrizac, A. Delgado, S. Bonneville, T. Behrends. Mineral magnetometry of synthetic micro-crystalline and nanophase iron oxides and oxyhydroxides. Talk, International Workshop on Biogeochemical Processes Involving Iron Minerals in Natural Waters, November 16-21, 2003, Monte Verita, Switzerland. Extended abstract published in abstract book.
243. I. L'Heureux, S. Katsev, **D.G. Rancourt**. An approximate treatment of pH-dependent adsorption in reaction-transport models. Talk, ASLO 2004, February 15-20, 2004, Honolulu, Hawaii.
244. S. Katsev, I. L'Heureux, **D.G. Rancourt**. A method for investigating interactions among chemical species in sediments: Application to sulfate-assisted phosphorous mobilization. Talk, ASLO 2004, February 15-20, 2004, Honolulu, Hawaii.
245. **D.G. Rancourt**, B. George, M.-Z. Dang, K. Telmer. Solid-phase characterization of sediments from 100 boreal forest lakes. Poster, AGU 2004 Joint Assembly, May 17-21, 2004, Montreal, Canada. Eos Transactions, AGU, 85(17) (2004), Joint Assembly Supplement, Abstract B33B-03, page JA80.
246. **D.G. Rancourt**, P.-J. Thibault. Bacteria are redox active sorbants that do not template nucleating hydrous ferric oxide. Talk, Goldschmidt Geochemistry Conference, Copenhagen, June 6-12, 2004. Abstract 1524-2.7.14. Geochimica Cosmochimica Acta 68(11S), 2004, p.A199.

247. B. George, **D.G. Rancourt**, M.-Z. Dang, K. Telmer. Sediment Fe mineralogy of 100 boreal forest lakes. Poster, Goldschmidt Geochemistry Conference, Copenhagen, June 6-12, 2004. Abstract 940-4.2.53. *Geochimica Cosmochimica Acta* 68(11S), 2004, p.A368.
248. D.G. Rancourt, B. George, M.-Z. Dang, and K. Telmer. Solid-phase characterization of sediments from 100 boreal forest lakes. Poster. 82nd Annual Meeting of the Deutsche Mineralogische Gesellschaft (DMG) (German Mineralogical Association), Karlsruhe, September 20-22, 2004.
249. P.H.J. Mercier, D.G. Rancourt. Recent advances in layer silicate crystal chemistry. Poster. 82nd Annual Meeting of the Deutsche Mineralogische Gesellschaft (DMG) (German Mineralogical Association), Karlsruhe, September 20-22, 2004.
250. D.G. Rancourt. I'd like to see more unhappy graduate students. Annual GSAED (Graduate Student Association) Interdisciplinary Conference, University of Ottawa, Ottawa, February 8-10, 2005.
251. D.G. Rancourt. The Invar problem has been solved. 17th Canadian Materials Science Conference, Vancouver, BC, June 11-14, 2005.
252. J.-P. L. Prévost, D.G. Rancourt. First principles calculations of thermal properties. 17th Canadian Materials Science Conference, Vancouver, BC, June 11-14, 2005.
253. D.G. Rancourt. Academic squatting as a method of curriculum development: Pushing the limits of academic freedom. Annual GSAED (Graduate Student Association) Interdisciplinary Conference, University of Ottawa, Ottawa, February 8-10, 2006.
254. D.G. Rancourt. Advances in characterization methods for environmental mineralogy. Recent progress of nanoparticle studies in Earth and planetary sciences session. 19th International Mineralogical Association Conference, Kobe, Japan, July 23-28, 2006.
255. A. Thompson, D.G. Rancourt, O. Chadwick, J. Chorover. Development of soil iron mineral composition as a function of climate-driven Fe loss. Poster, Goldschmidt 2008, Vancouver. (Presented by A. Thompson)

Articles for Encyclopedias

256. **D.G. Rancourt**. Mössbauer Spectroscopy (article with bibliography, p. 413-414). *Encyclopedia of Geochemistry*, 1999 Edition, edited by C.P. Marshall and R.W. Fairbridge, Kluwer Academic Publishers, Dordrecht, 768 pp.

257. **D.G. Rancourt.** Quantum Numbers. (article with bibliography, p. 539). Encyclopedia of Geochemistry, 1999 Edition, edited by C.P. Marshall and R.W. Fairbridge, Kluwer Academic Publishers, Dordrecht, 768 pp.

Scientific software packages developed

258. MOSMOD. Mössbauer spectral analysis software. MS-DOS operating system. Includes operating manual. Developed with J.Y. Ping. Approximately 50 copies sold worldwide.
259. RecoilTM. Mössbauer spectral analysis and spectral data handling software. MS-Windows operating system. Includes operating manual. Developed with K. Lagarec. First distributed by ISA Inc., with approximately 200 copies sold worldwide. Now provided for free by Denis Rancourt, https://denisrancourt.ca/page.php?id=10&name=recoil_ms.
260. NanoSimTM. X-ray diffraction simulation software for nanoparticles of specified structures, sizes, shapes, degrees and type of disorder, etc. MS-Windows operating system. Developed with ISA Inc. Beta version being used in our research since 2003.
261. dSED. A database tool for modelling sediment early diagenesis. Written in MS-Access. Includes a user manual authored by S. Katsev, D.G. Rancourt, and I. L'Heureux. First available free at www.science.uottawa.ca/LSSE/dSED, now available from Professor S. Katsev.
262. MOSS=S&M. A search and match mineral identification software for Mössbauer spectroscopy. MS-Windows operating system. Developed in collaboration with ISA Inc. Beta version was completed in 2004.

Technical Reports (while at University of Ottawa)

263. **D.G. Rancourt.** 1992. Determining relative abundance of superparamagnetic iron in sediment samples (Contract KW405-1-0526). For Dr. Phil Manning, Environment Canada.
264. **D.G. Rancourt.** 1994. Design of Mössbauer reaction cell and determination of iron forms in Canadian coals (Contract 23440-3-9267/01-SQ). For Dr. E. Furimsky, CANMET-EMR.

265. **D.G. Rancourt.** 1995. Mössbauer analyses of sediments (Contract 698845). For Dr. T. Murphy, NWRI, Environment Canada.
266. **D.G. Rancourt.** 1995. Mössbauer and XRD analyses of sediments (Contract 698863). For Dr. T. Murphy, NWRI, Environment Canada.
267. **D.G. Rancourt, I.A.D. Christie and I.P. Swainson.** Powder neutron diffraction of synthetic annite mica at T = 4.2 K. DUALSPEC Annual Report, Chalk River Laboratories, AECL, 1993, 50-51.
268. **D.G. Rancourt, M.-Z. Dang, I.P. Swainson and R.B. Scorzelli.** Powder neutron diffraction investigation of antiferromagnetism in meteoritic low-spin γ -phase Fe-Ni (antitaenite). DUALSPEC Annual Report, Chalk River Laboratories, AECL, 1994, 76-77.
269. **D.G. Rancourt and I.P. Swainson.** Low-temperature spin structures and magnetism of novel synthetic layer silicates. DUALSPEC Annual Report, Chalk River Laboratories, AECL, 1994, 78-79.
270. **D.G. Rancourt.** 1996. Mössbauer analyses of sediments (Contract 697728). For Dr. T. Murphy, NWRI, Environment Canada.
271. **D.G. Rancourt.** 1996. Mössbauer analyses of slag samples (Contract KW405-5-2033). For Dr. A. Mudroch, NWRI, Environment Canada.
272. **D.G. Rancourt.** 1996. Detailed spectral analyses of Mössbauer spectra from slag samples (Contract KW405-5-2159). For Dr. A. Mudroch, NWRI, Environment Canada.
273. **D.G. Rancourt.** 1996. Mössbauer, XRD, and XRF analyses of a White Water Lake sediment sample (Contract 736182). For Dr. T. Murphy, NWRI, Environment Canada.
274. **D.G. Rancourt.** 1996. Mössbauer analyses of two White Water Lake sediments (Contract 736200). For Dr. T. Murphy, NWRI, Environment Canada.
275. **D.G. Rancourt.** 1997. Quantitative mineralogical analyses of three sediment samples from Akanoi Bay, Japan. (Contract 756129-756181). For Dr. T. Murphy, NWRI, Environment Canada, 194 pages.
276. T.P. Murphy, A. Lawson, J. Corsini, I. Gray, and **D.G. Rancourt.** Whitewater Lake: Biogeochemical study of 1996 botulism outbreak. Internal NWRI report number NTRB 97-211, 50 pages.
277. I.P. Swainson, Z. Tun, and **D.G. Rancourt.** Polarized triple-axis measurement of the magnetic ground state of annite mica, DUALSPEC Annual Report, Chalk River Laboratories, AECL, 1995, 88-89.

278. **D.G. Rancourt.** 1998. Geo-Chemical Analyses of three Sediment Samples from Lake Biwa, Japan. (Research agreement REC-24795). For Dr. T. Murphy, NWRI, Environment Canada, 125 pages. [This report won the prize for best foreign report 1998 from the Japanese Ministry of the Environment and has been translated into Japanese.]
279. **D.G. Rancourt.** 1998. Geo-Chemical Analysis of a Sample from Pakowki Lake, Alberta, Canada. (contract 783090). For Dr. T. Murphy, NWRI, Environment Canada, 17 pages.
280. **D.G. Rancourt.** 2001. Speciation and mineralogy of copper in sediments (contract). For Dr. Robert Prairie, Noranda, 73 pages.

Invited Talks at Institutions (while employed at universities)

281. D.G. Rancourt. Superferromagnetism, University of Toronto, Monday Condensed Matter Physics Seminar, Toronto, November 28, 1983.
282. D.G. Rancourt, S.R., Julian, J.M. Daniels. Superpara-magnétisme et Superferromagnétisme. Laboratoire de Cristallographie et de Physique Cristalline Université Bordeaux I, Talence, November 29, 1984.
283. D.G. Rancourt. Nouvelle Théorie du Magnétisme des Composés d'Insertion du Graphite - Superferromagnétisme en deux dimensions, Centre de Recherche Paul Pascal, Talence, March 15, 1985.
284. D.G. Rancourt, S.R. Julian, J.M. Daniels. Méthodes pour Déterminer la Taille de Petites Particules par l'Effet Mössbauer, Informal Seminar organized by Dr. G. Marest, Institut de Physique Nucléaire - Université Claude Bernard, Lyon, April 16, 1985.
285. D.G. Rancourt. Fluctuations de Spins dans les Spin Glass par l'Effet Mössbauer. Seminar organized by Dr. P. Imbert, DPHG-SPSRM, Centre d'Étude Nucléaires de Saclay, Saclay, France, May 29, 1985.
286. D.G. Rancourt. Effect de Relaxation dans les Spin Glass Amorphes et dans les Alliages Aléatoires, Seminar organized by Dr. M. Boge, Laboratoire des Interactions Hyperfine - Centre d'Étude Nucléaire de Grenoble, Grenoble, September 22, 1985.
287. D.G. Rancourt, C. Meschi, B. Hun, and S. Flandrois. Graphite Intercalation Compounds - Recently Observed Novel Magnetic Phenomena, Kamerlingh Onnes Colloquium, November 8, 1985.

288. D.G. Rancourt. Low Temperature Behaviour of Ising Magnetic Chains-Decorated Soliton, Locally Enhanced Exchange and Diffusive Propagation, K.E.L.T. Group Seminar, Kamerlingh Onnes Laboratorium. December 12, 1985.
289. D.G. Rancourt, H.H.A. Smit, and R.C. Thiel. Fe-Ni Invar Studied by Mössbauer Effect Spectroscopy, Kamerlingh Onnes Colloquium, June 27, 1986.
290. D.G. Rancourt. Solitons in Solid State Physics, University of Ottawa, Physics Seminar, September 10, 1986.
291. D.G. Rancourt. Exemples d'Effets Magnétoélastiques dans l'État Solide, Département de Physique, Université de Sherbrooke, 22 octobre, 1987.
292. D.G. Rancourt. Possibilités d'Application de la Spectroscopie Mössbauer à la Métallurgie, Institut de Génie des Matériaux, Laboratoire du Conseil National de Recherche, Montréal, 23 octobre, 1987.
293. D.G. Rancourt. The Invar Problem, Physics Department Colloquium, Dalhousie University, Halifax, November 18, 1987.
294. D.G. Rancourt. Comportement de Magnétisme Réentrant dans L'Invar et le Problème du γ -Fer, Département de Physique, Université de Montréal, 12 avril, 1988.
295. D.G. Rancourt. Mica - A Laboratory for 2D Physics and a Probe of Rock Formation Conditions, Department of Physics Seminar, University of Ottawa, November 1, 1990.
296. D.G. Rancourt. Mica - A Laboratory for 2D Magnetism, 1D Hydrogen Diffusion and some Unique Crystal Chemistry, Statistical Physics Seminar, Clarkson University, Potsdam, U.S.A., March 15, 1991.
297. D.G. Rancourt. Least Squares Fitting of Mössbauer Spectra: Methods and Problems. Materials Physics Department, University of Science and Technology, Beijing, China, September, 1992.
298. D.G. Rancourt. Magnetism, Atom Order, and Hyperfine Fields in fcc Fe-Ni Alloys. Physics Department, Queen's University, Kingston, Ontario, November 25, 1992.
299. D.G. Rancourt. Microscopic Mechanism of Oxidation in Fe-Bearing Phyllosilicates. Department of Geological Sciences, University of Illinois at Chicago, April 22, 1993.
300. D.G. Rancourt. Physical Properties, Magnetism, and History of FCC Fe-Ni Alloys. Physics Department, University of Amsterdam, the Netherlands. January 12, 1994.

301. D.G. Rancourt. Magnetism of Exchange-Wise 2D Layered Materials: Graphite Intercalation Compounds and Layer Silicates. Kamerlingh Onnes Laboratory, Leiden University, The Netherlands. January 14, 1994.
302. D.G. Rancourt. Accurate Site Population in Layer Silicates: Toward Single Mineral Geothermometry/Geobarometry. Physics Department, Technical University of Denmark, Lyngby. January 20, 1994.
303. D.G. Rancourt. Problems in Mössbauer Spectral Analysis and Recent Advances in Methodology, Institute of Physics, Uppsala University, Sweden. January 24, 1994.
304. D.G. Rancourt. Microscopic Mechanism of Oxidation in Fe-Bearing Phyllosilicates. Institute of Earth Sciences, Uppsala University, Sweden. January 25, 1994.
305. D.G. Rancourt. Accurate Site Populations in Layer Silicates: Towards Single-Mineral Geothermometry/Geobarometry. Institute for Physics, Medical University, Lubeck, Germany. January 28, 1994.
306. D.G. Rancourt. Magnetism of Exchange-Wise 2D Layered Materials: Graphite Intercalation Compounds and Layer Silicates. Institute for Nuclear Physics, Technical University of Darmstadt, Germany. February 3, 1994.
307. D.G. Rancourt. Problems in Mössbauer Spectral Analysis and Recent Advances in Methodology. Institute for Nuclear Physics, Technical University of Darmstadt, Germany. February 10, 1994.
308. D.G. Rancourt. Problems in Mössbauer Spectral Analysis and Recent Advances in Methodology. Institute for Organic and Analytic Chemistry, Johannes Gutenberg University, Mainz, Germany. February 11, 1994.
309. D.G. Rancourt. Cinétique et Mécanisme Microscopique de l'Oxydation de la Biotite. Centre de Recherches sur la Synthèse et Chimie des Minéraux, CNRS, Orléans, France. February 15, 1994.
310. D.G. Rancourt. Magnetism of Exchange-Wise 2D Layered Materials: Graphite Intercalation Compounds and Layer Silicates. Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil. May 12, 1994.
311. D.G. Rancourt. Five Research Lectures entitled "Advances in Mössbauer Spectroscopy Methodology". Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil. May 1994.
312. D.G. Rancourt. Different Kinds of Disorder in the 2D Magnetism of Layer Silicates. University of Cincinnati, Ohio. April 28, 1995.

313. D.G. Rancourt. Tailored 2D magnetism in layer silicates: Theory, experiment and dirt. Department of Physics, Universidad Nacional de La Plata, La Plata, Argentina. June 8, 1995.
314. D.G. Rancourt. Three research lectures entitled "Mössbauer methodology, I: Thickness effects, II: Hyperfine parameter distributions, III: Microscopic causes of the hyperfine field and its fluctuations". Department of Physics, Universidad Nacional de La Plata, La Plata, Argentina. May 31 - June 2, 1995.
315. D.G. Rancourt. Interplay of magnetism and atomic site occupancy order-disorder phenomena in metallic alloys. O.C.I.P. Xmas talk, Ottawa, December 13, 1995.
316. D.G. Rancourt. Mössbauer spectroscopy and its applications to materials science, chemistry, metallurgy, mineralogy, phase analysis, etc. Noranda Technology Centre, Montreal, March 7, 1996.
317. D.G. Rancourt. Low-moment Fe-Ni alloy phase proposed as a new meteoritic mineral. Department of Physics, University of Alberta, Edmonton, October 11, 1996.
318. D.G. Rancourt. Mössbauer spectroscopy as a tool in materials science and its application to steel-related problems. MTL-CANMET, Ottawa, November 20, 1996.
319. D.G. Rancourt. Les météorites en tant que laboratoires pour la physique de la matière condensée. Département de Physique, Université de Sherbrooke, 19 mars, 1997 (CAP - lecture).
320. D.G. Rancourt. Low-moment Fe-Ni alloy phase proposed as a new meteoritic mineral. Department of Physics, Laurentian University, Sudbury, March 27, 1997 (CAP-lecture).
321. D.G. Rancourt. Layer silicates, a fascinating class of materials. Steacie Institute for Molecular Sciences, NRC, Ottawa, May 16, 1997.
322. D.G. Rancourt. From Invar to meteorites via the low-moment phase. Department of Physics and Astronomy, University of Delaware, Newark, USA. October 20, 1997.
323. D.G. Rancourt. From Invar to meteorites via the low-moment phase. Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Brazil. January 21, 1998.
324. D.G. Rancourt. The Invar problem and its relation to magnetic frustration and the low moment phase. Brock University, St.-Catherines, Ontario, November 12, 1998.

325. D.G. Rancourt. Physics, chemistry, and mineralogy of colour, with application to mine tailings. Canadian Centre for Remote Sensing, GSC, Ottawa, November 24, 1998.
326. D.G. Rancourt. Interplay of phosphate water chemistry and sediment precipitate mineralogy. Lake Biwa Research Institute, Otsu, Japan, June 8, 1999.
327. D.G. Rancourt. Mechanisms and kinetics of the oxidation reactions of annite and crystal chemistry of the annite-oxyannite series. Chemistry Department, The Royal Veterinary and Agricultural University, Copenhagen, Denmark, September 6, 1999.
328. D.G. Rancourt. Fe-Ni meteorites and the solution to the Invar Problem. O.C.I.P. Xmas talk, Ottawa, December 17, 1999.
329. D.G. Rancourt. Why are lake sediments important, on both local and global scales: What do we know about how they work and how can we know more? Department of Physics and Department of Geography, University of Ottawa, March 9, 2000.
330. D.G. Rancourt. Mechanisms and crystal chemistry of oxidation in annite. Steacie Institute for Molecular Science, NRC, Ottawa, May 25, 2000.
331. D.G. Rancourt. Development of a single-mineral multi-variable geosensor based on the crystal chemistry of biotite. Faculty of Earth Sciences, Utrecht University, The Netherlands, September 1, 2000.
332. D.G. Rancourt. Study of Fe sorbed to bacterial cell walls, biogenic ferrihydrite, and abiotic ferrihydrite using ^{57}Fe Mössbauer spectroscopy. Faculty of Earth Sciences, Utrecht University, The Netherlands, August 28, 2001.
333. D.G. Rancourt. Magnetism of Earth, planetary, and environmental nanomaterials. Department of Physics, University of Ottawa, December 5, 2001.
334. D.G. Rancourt. Physical characterizations of lake sediments. Geological Survey of Canada, Metals in the Environment (MITE), Point Sources Subprogram, Lake Sediment Studies, Phase II, Project Meeting, Ottawa, December 13-14, 2001.
335. D.G. Rancourt. A physicist's mid life crisis: Invar, mud, graduate students from hell, PDFs from Holland, finite planet, and radical professionalism. O.C.I.P. Xmas talk, Ottawa, December 18, 2001.
336. D.G. Rancourt. L'eau, le pétrole, l'Irak et Kyoto. Keynote speaker, Projet culturel et communautaire, Programme Science, lettres et arts (SLA), 2003, CEGEP de l'Outaouais, Hull, Québec, March 20, 2003.

337. D.G. Rancourt. Biogeochemistry of aquatic particles and potential applications for novel particle size distribution analysers. BrightWELL Technologies Inc., Ottawa. May 14, 2003.
338. D.G. Rancourt. Advances in characterizing complex mixtures and nanophase materials. Institute for Chemical Process and Environmental Technology (ICPET), NRC, Ottawa, February 24, 2005.
339. D.G. Rancourt. “C’est quoi l’activisme? Pourquoi l’activisme?” Keynote talk, Première édition de la Semaine de l’Activisme au Collège de Maisonneuve, Montréal, Québec. May 2, 2006.
340. D.G. Rancourt (invited panellist). Does Activism Work? Forum organized by the International Socialists – Gatineau/Ottawa District. University of Ottawa, June 7, 2006.
341. D.G. Rancourt (keynote speaker). Afghanistan: Guerre humanitaire ou criminelle? Les conférences du rassemblement Outaouais contre la guerre. Université du Québec en Outaouais, March 6, 2007.
342. D.G. Rancourt (keynote speaker). On the responsibility of university professors to create anarchism: Liberation through anti-hierarchy activism. Studies in National and International Development (SNID) series, Queens University, Kingston, Ontario, October 18, 2007.

Many more after departure from university in 2009.

Media and scientific review articles and interviews about our research (while at University of Ottawa)

343. Item: *Antitaenite*, and review of our paper (Rancourt and Scorzelli, 1995, JMMM, 150; 30-36). Featured in: New Mineral Names, by J.L. Jambor, N.N. Pertsev, and A.C. Roberts, American Mineralogist, 81, 1996, 766-770.
344. Article: *Meteorites*. Faculty of Science, University of Ottawa, Newsletter, September 1997.
345. Article: *Researcher seeks industry partners (magnetic sorbants)*. Mining Matters section, Canadian Mining Journal, December 6, 1998.

346. Article: *Researchers caught between an invariable object and a hard place*. Gazette, University of Ottawa, XII(13) June 2, 2000, 4. (Feature on PhD student Ken Lagarec, solution to the Invar problem.)
347. Article: *Développement d'un modèle sur les sédiments lacustres. Lire l'avenir au fond du lac*. Gazette, University of Ottawa, XIII(8) February 23, 2001, 3. Geneviève-L. Picard.
348. Article: *L'avenir des lacs inscrit dans leur vase*. Science-Clips section, Découvrir 22(5) Septembre-Octobre 2001, 8. Philippe Gauthier, Agence Science-Pressé.
349. Interview: *Groupe de recherche LSSE. D'un soleil à l'autre*, Radio Canada, September 27, 2001.
350. Promotion: *Can you recognize Canada's university of the 21st century? Denis Rancourt, LSSE group*. Full page width ads appeared in Le Droit, The Globe and Mail, The Ottawa Citizen, and Silicon Valley North, on Thursday, March 1, 2001.
351. Newsletter article: *Denis G. Rancourt – MEDC International Advisory Board member*. Mössbauer Effect Reference and Data Journal, January 2005, volume 28(1), p. 23-24. (Overview of scientific contributions and interests, plus cover photo.)
352. Short Article: *A fresh look at lakes*. Canadian Geographic, Discovery section, May-June issue, 2005, p.32 (two pictures).
353. Interview: *Boreal forest lakes and LSSE*. CHUO FM 89.1 (Ottawa) with host Chris Jack of "5 O'clock Train" (20 minutes, live). May 19, 2005.
354. Interview: Guest interview, one-hour special theme show about global warming. The Roseanne Barr KCAA 1050 AM radio show, Loma Linda, California. May 30, 2007. In relation to DGR's article "Global Warming: Truth or Dare?"
355. Interview: Featured guest interview: Zero Point Radio, with Christopher Holmes and James Moffatt, June 2, 2007, 4-6pm.
356. Interview: Featured guest interview, environmental and development issues. Planète Terre, with Dianne D'Almeida, CHUO 89.1 FM, December 14, 2007, 11-12am; and follow up on global warming, December 21, 2007, 11-12am.
357. Interview: Feature guest interview, DGR environmental scientist. Science et Techno (SET) with Andréanne Baribeau and Louis Jacques, CHUO 89.1 FM, December 21, 2007, 10:30-11am.

358. Interview: Feature guest interview. A murder of Crows with Victoria, Aileen, Domm, and Steph, CHUO 89.1 FM, January 3, 2008, 4-5pm.

Many more after departure from university in 2009.

APPENDIX:

AWARDED SCIENTIFIC RESEARCH FUNDING, SCHOLARLY PROFESSIONAL ACTIVITIES, SIGNIFICANT ACADEMIC COMMITTEES (WHILE AT THE UNIVERSITY OF OTTAWA, 1987-2009)

CHRONOLOGICAL LIST

EXTERNALLY-AWARDED UNIVERSITY RESEARCH GRANTS AND CONTRACTS

<u>Year</u>	<u>Agency (Type)</u>	<u>Title of project</u>	<u>Type</u>	<u>Amount per year</u>
1987	NSERC Equipment	Mössbauer effect spectroscopy system	IR	\$ 34,063
1987	Rector's Fund	Mössbauer spectroscopy vacuum furnace and temperature controller (Equipment)	IR	\$ 6,901
1987-89	NSERC Operating Grant as URF	Magnetism and spin-dynamics of synthetic-metal superlattices and metallic modulated structures	IR	\$ 19,000
1989-90	NSERC Operating Grant as URF	Magnetism and spin-dynamics of synthetic-metal superlattices and metallic modulated structures	IR	\$ 20,000
1989-90	NSERC Equipment	Mössbauer exchange gas helium cryostat (equipment)	IR	\$ 23,394
1989-90	NSERC Equipment	Compressor for helium recovery system (equipment) (PI=Prof.Gilles Lamarche)	GR	\$ 34,740
1989-90	Research Services	Industry-University seed money: Quantitative analysis by Mössbauer spectroscopy for industrial and mining materials processing	IR	\$ 10,000
1990-91	NSERC/EMR	Mössbauer determination of sulfate impurities in haematite	IR	\$ 11,100
1990-92	NSERC Operating Grant	Magnetism of Fe-Ni Invar alloys graphite intercalation compounds, and micas - using Mössbauer spectroscopy	IR	\$ 30,000

1992	NSERC Equipment	Dedicated pumping station for Mössbauer laboratory	IR	\$ 10,507
1992	NSERC Equipment	Mössbauer cryostat with 9T superconducting magnet (PI=Prof.Z. Stadnik)	GR	\$ 44,412
1992-95	NSERC Operating Grant	Fe-Ni Invar alloys, phlogopite annite oxyannite micas, and synthetic microcrystalline hematites: studied by Mössbauer spectroscopy	IR	\$ 30,000
1992	NSERC Equipment	X-ray powder diffractometer with primary beam monochromator (PI=Prof.Z.Stadnik)	GR	\$210,676
1992	NSERC	Risc workstation network (PI=Prof.G.Slater)	GR	\$ 33,884
1994	CANMET/ EMR	Determination of iron forms in Canadian coals by Mössbauer spectroscopy	IR	\$ 40,200
1995-96	Environment Canada (NWRI)	Mössbauer and XRD characterization of sediments (3 contracts)	IR	\$ 8,734
1995-98	NSERC	Mössbauer spectroscopy methodology,	IR	\$ 28,900
1998-99	Operating Grant	synthetic and meteoritic Fe-Ni alloys, and crystal chemistry and 2D magnetism in layer silicates		\$ 31,790
1996	NWRI	Mössbauer analyses of slag samples (2 contracts)	IR	\$ 8,000
1996-97	NWRI	Mineralogical analyses of sediments (4 contracts)	IR	\$ 8,065
1997-98	NWRI	Quantification of vivianite in lake sediments (2 projects)	IR	\$ 6,760
1998	URF	Mössbauer source for identification of new alloy species	IR	\$ 1,550
1998	Human Resources Development Canada	Summer career placement program	IR	\$ 1,700
1998	URF University Research Fund	Use of colloidal Fe precipitates in wastewater treatment. (PI=Danielle Fortin)	GR	\$ 3,000
1999-03	NSERC Research Grant	Condensed matter physics perspective on Earth and planetary materials	IR	\$ 34,650
2000	NWRI	Mineralogical profile of an aquatic sediment core	IR	\$ 20,000
2000	NSERC Equipment	Magnetometer for characterization of materials (with 4 co-applicants)	IR	\$143,876

2000	GSC	Mössbauer mineralogy of sediment core sections from the Champlain Sea (1 contract)	IR	\$ 2,400
2000	GSC	Influence of diagenetic processes on lake sediment records, MITE	IR	\$ 36,000
2000-01	Noranda Research Agreement	Speciation and mineralogy of copper in sediments	IR	\$ 7,400
2000-05	NSERC Strategic Project Grant (SPG)	Quantitative mineralogy and geochemical modelling of lake sediments for advanced applications (with 7 co-applicants)	GR	154,193 160,217 166,217 160,217 112,460
2000-05	GSC in-kind	Quantitative mineralogy and geochemical modelling of lake sediments for advanced applications (with 7 co-applicants)	GR	415,422 301,042 616 616 616
2002-03	CANMET in-kind	Synthesis of mining and environmentally relevant iron oxyhydroxides and co-precipitates	IR	100,000 100,000
2001	NSERC Equipment	Urgent repair and upgrade of Mossbauer laboratory	IR	\$ 31,660
2002	NSERC Equipment	Urgent replacement of balances for materials science	IR	\$ 15,379
2003-08	NSERC Discoveries	Condensed matter physics perspective on Earth, planetary, and environmental materials	IR	\$45,000
2008-13	NSERC Discoveries	Reactive environmental Fe-oxyhydroxide nanoparticles	IR	\$34,891

SCHOLARLY AND PROFESSIONAL ACTIVITIES (UNIVERSITY OF OTTAWA, through to 2009)

- 1) Scientific Program Committee: International Conf. on the Applications of the Mössbauer Effect 1993.
- 2) Peer-reviewer for *Physical Review* and *Physical Review Letters* and over a dozen other scientific journals.
- 3) Planning and Organizing Committee of the 1997-11th International Clay Conference (held every 4 years). ICC'97 held June 15-21, 1997, Ottawa.
- 4) Scientific Program Committee: Int. Conf. on the Applications of the Mössbauer Effect 1995.

- 5) Chair and organizer of symposium entitled “Mössbauer spectroscopy in clay science” at ICC’97. Held: June 17-21, 1997, Ottawa.
- 6) Organizer and main instructor of ICC’97 satellite Mössbauer workshop entitled: “Mössbauer spectroscopy applied to mineralogy: Data treatment and spectral analysis using MOSMOD”. Held: June 14-15, 1997, Ottawa.
- 7) Canadian representative on the Int. Board on the Applications of the Mössbauer Effect (IBAME) at ICAME’95 and elected Canadian representative on IBAME, 1997-2007.
- 8) Member of the “Advisory Board for the Mössbauer Effect Data Center”, starting November 10, 1995.
- 9) Special foreign member of the “Latin American Network of Basic and Applied Research on Magnetism and Magnetic Materials”, starting May 26, 1996.
- 10) Past member of the following professional associations:
 - American Geophysical Union (AGU)
 - American Physical Society (APS)
 - American Society for Metals (ASM)
 - Canadian Association of Physicists (CAP)
 - Canadian Association on Water Quality (CAWQ)
 - Canadian Institute of Mining, Metallurgy and Petroleum (CIM)
 - Centre for Catalysis Research and Innovation (CCRI, UofO)
 - Centre for Research in Earth and Space Technology (CRESTech, Ontario)
 - Clay Minerals Society (CMS)
 - Geochemical Society (GS, international)
 - Institute for Research on the Environment and Economics (IREE, UofO)
 - Institute for the Environment (IE, UofO) (Research Associate)
 - International Mineralogical Association (IMA)
 - Material and Manufacturing Ontario (MMO)
 - Mineralogical Association of Canada (MAC)
 - Mineralogical Society of America (MSA)
 - Minerals Metals and Materials Society (TMS)
 - Ottawa-Carleton Geoscience Center (O.-C.G.C.)
 - Ottawa-Carleton Institute for Physics (O.-C.I.P.)
- 10) International Advisory Committee for ISIAME-2000 and ISIAME-2004 (International Symposium on the Industrial Applications of the Mössbauer Effect)
- 11) Advisory Board of University Watch (uwatch.ca), starting 2004
- 12) Founding co-Chair, Steering Committee: Alternative Voices Series (AVS) / Cinema Politica / Cinema Academica, starting 2004

SIGNIFICANT ACADEMIC COMMITTEES (UNIVERSITY OF OTTAWA, through to 2009)

1988-89	Dept. Academic Planning and Selection Committee
1989-90	Dept. Graduate Curriculum
1991-92	Dept. Undergraduate Curriculum
1992-93, F98	Dept. Undergraduate Laboratories
1995-98	DTPC

1995-2001	Dept. Space and Renovations
1997-98	Seminar coordinator
1996-98	APUO representative for Physics and Chemistry
1997-2002	Faculty Mechanical Shop User Committee
1997-2002	IREE Coordinating Committee
1998-2002	Environmental Science Program Steering Committee (interrupted during 1999 sabbatical)
1997-	Environmental Science and Engineering Group (ESEG) Chair and founding member
1996-98	Recruitment, Marketing, and High School Outreach (Department, ad hoc)
1998-2002	F. Guillon's equipment (Department, ad hoc)
1998-2000	Visiting Speakers Committee, IE
2000-04	Environmental Studies (Faculty of Arts) Steering Committee
2000	Physics Seminar Coordinator (W2000)
2000-02	Faculty Council
2000-06	Departmental Space Committee
2002	Ad hoc Departmental, Research Technical Support (Chair)
2002	Faculty Space Committee
2003	Chairman Selection Committee
2004-	Departmental Environmental Safety Representative

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