

1. **NAME:** Audrey Bouvier
RANK: Assistant Professor

Degree	University	Discipline	Year
PhD	Ecole Normale Supérieure de Lyon	Earth and Planetary Sciences	2005
Masters	Université Blaise Pascal, Clermont-Ferrand	Earth Sciences	2002
Maîtrise/BSc	Université Blaise Pascal, Clermont-Ferrand	Earth Sciences	2001

2. **EDUCATION:**

3. **EMPLOYMENT HISTORY:**

Date	Rank and Position	Department/Institution
2013-present	Assistant Professor in Isotope Geochemistry and Cosmochemistry	Department of Earth Sciences, University of Western Ontario
2013-present	Natural Sciences and Engineering Research Council Tier II Canada Research Chair in Planetary Materials	Department of Earth Sciences, University of Western Ontario
2015- present	Curator of the Western Meteorite Collection	Department of Earth Sciences, University of Western Ontario
2011-2013	Research Associate	Department of Earth Sciences, University of Minnesota
2010-2011	Faculty Research Associate	School of Earth & Space Exploration, Arizona State University
2007-2010	Post-doctoral Research Associate	School of Earth & Space Exploration, Arizona State University
2005-2007	Post-doctoral Research Associate	Department of Earth Sciences, University of Arizona

4. **HONORS AND AWARDS:**

- 2016 Ontario Early Researcher Award, which provides funding to new researchers to build a research team based on the excellence of the researcher, quality of the proposal, development of research talent, and benefits for the province of Ontario.
- 2013 Nier Prize of the Meteoritical Society, which recognizes each year outstanding research in meteoritics and closely allied fields by a young scientist.
- 2005 Brian Mason Award for best student abstract at the 68th Annual Meteoritical Society Meeting.
- 2002-2005 PhD Fellowship from the Ministère français de l'Enseignement Supérieur et de la Recherche

5. TEACHING

I teach two courses every year in addition to volunteering for guest lectures and laboratories.

a. Undergraduate courses taught (evaluation scores on a scale of 7):

- **Igneous Petrology (ES 3313A):**

This is a core course required in both the Geology program and for Professional Geoscientist Registration. It covers the basics of igneous petrology (mineralogy, classification, melt origin, igneous processes) and high temperature geochemistry (major and trace element behavior in mantle and crustal rocks) along with laboratory classes for describing mineral associations and textures in thin sections using the petrographic microscope. I have developed new materials for lectures and home assignments, and updated laboratory assignments. I also organized a 3 day field trip to take students to Bancroft, Ontario with Drs. Linnen (previous teacher), Flemming (Mineralogy teacher) and Withers (Metamorphic Petrology teacher).

- **Origin and Geology of the Solar System (ES 1086) online Distance Studies course**

This is an essay-based online course for scientific and non-scientific major students which I co-teach with two other instructors throughout the year as it runs each semester. Course notes and assignments are updated accordingly every semester. Materials are presented with an html format, students take online quizzes and write science news posts, and a 1,500 word essay about a theme in space exploration (e.g., Mars exploration, exoplanets). This is an intensive course requiring the instructor to respond day and night to students' queries online and by email. I am also available to students for individual consultation.. Students appreciate instruction from a specialist in the topic.

- **Earth Sciences Field Camp, Introduction to Field Methods ES 2250**

I co-taught this course which takes students to discover the geology and map the Archean sedimentary terranes in Northern Ontario for 11 days. Dr. Corcoran led the field trip. It was my first field trip in many years, requiring me to refresh my orienteering and mapping skills and to survive in the Canadian bush. I drove a van, helped with distributing field gear, presented igneous rocks at outcrops, assisted groups of students to orient themselves within their field area, and graded final exams.

b. Graduate courses taught:

- **Cosmochemistry GL/PS9510**

I fully developed and taught this graduate course over 7 full days (during the spring break). I teach it as a short course to allow students from other universities to attend it. The week was organized with lectures, discussion, hands-on lab activities for classifying new meteorites including preparing sample solutions in my chemistry lab for ICP-MS analysis, and visiting the electron microprobe lab for in-situ chemical analysis of minerals, treating data, and presenting data in written and oral reports. Students also had reading and report assignments over the semester. The classifications of their own new meteorite were submitted to the Nomenclature Committee of the Meteoritical Society. They each wrote an original research proposal that they presented orally at the end of the semester. I used blackboard for this for the distance students. I made large efforts in developing morning lectures, afternoon laboratory classes and original hands-on assignments which the students enjoyed even if it was an intense week.

c. Guest lectures:

- **Genesis of Meteorites and Planetary Materials ES 2212B**

- lecture (1h) on Martian meteorites, April 4th 2014 and March 31st 2016.

I present characteristics of martian meteorites and what we have learned so far about Mars from their studies.

- **Planetary Science Short course PS9603A**

- lecture & laboratory classes on Planetary materials (3h lecture and 3h lab), September 6th 2014, September 12th 2015, September 2nd 2016.

This is an intensive 3h lecture covering the basics of meteorites, their classification and the most important discoveries made from their study. The lab is an introduction to the mineralogy, textures, and classification of meteorites using the petrographic microscope and discussion of how they formed. The observation of textures and minerals in thin sections is an eye-opener to planetary processes for any students, regardless of their background and field (e.g., Earth Sciences, Physics and Astronomy, Geography, or Engineering), who are enrolled in the planetary science program.

Prior to Western, I was a sessional lecturer for Igneous and Metamorphic Petrology at University of Minnesota (2012), a guest lecturer at University of Arizona (2006) and Arizona State University (2009, 2010) and a teaching assistant for Igneous Petrology at Ecole Normale Supérieure de Lyon (2004):

- Spring 2012. While a research associate, I taught my first full course for undergraduate students in **Igneous and metamorphic petrology (ESCI 2302)** at University of Minnesota, for Drs. Whitney and Hirschmann while they were on sabbatical leave. It included 2h of lecture and 6h of laboratory classes per week. I had powerpoint slides provided but these had no notes. Even for only one year I had to develop the course notes and my own home assignments.
- 2006-2010. While a post-doctoral researcher, I was a guest lecturer in:
 - **Isotope geochemistry** (2h) for Dr. Patchett at University of Arizona (2006) where I taught lectures about radiochronometers and isotopic dilution methods
 - **Meteorite studies** (2h, 2009, 2010) for Dr. Wadhwa at Arizona State University where I taught an introductory lecture about meteorite classification and their studies.
 - **Controversial topics in science** for Dr. Williams (2h, 2010) at Arizona State University where I discussed with students my publications about the age of Martian shergottite meteorites and what other studies they had raised in the community.
- 2004. While a PhD student, I taught laboratory classes in Igneous Petrology at Ecole Normale Supérieure de Lyon for 3rd year students, (20h).

c. Student supervision:

Undergraduate students (4):

2016:

- **S. Hutchison**, Bachelor research thesis "Geochemistry and impact records of achondrite meteorites".
- **A. Munro**, Bachelor research thesis "Geochronology of dykes from Malanjhand porphyry copper mine, India for use as a prospecting tool".

2015:

- **S. Reese**, Bachelor research thesis "Geochemistry of garnetiferous schists within the Mary River Group, Nunavut".

2014:

- **R. Schutt**, Bachelor research thesis "Petrological study of lunar impact melt breccias".

Graduate students (9)

1. Masters theses (5)

- **A. Van Kessel** (2016- in progress), thesis "Sm-Nd and Lu-Hf ages of scheelites as chronometer of gold mineralization in Timmins, ON", in co-supervision with Dr Linnen.
- **E.-D. Ferguson** (2015- expected September 2017), thesis "A Quaternary paleolimnological reconstruction of the Saint Agatha in-filled kettle lake region of Southern Ontario using calcium isotopes", in co-supervision with Dr Longstaffe.
- **P. Christoffersen** (2015- expected September 2017), thesis "Fe-Ni-Cu isotopes as tracers of sulphide deposits in offset dykes of the Sudbury basin", in co-supervision with Dr Osinski.

- **M. Maloney** (2015- expected September 2017), thesis “Experimental constraints on Ca isotopic fractionation in carbonate-rich melt, and applications to the formation of carbonatites and kimberlites”, in co-supervision with Dr Withers.

- **J.-S. Comeau** (2014-2015), thesis “Sm-Nd and Lu-Hf chronometry of reduced meteorites”. I supervised and trained this student in petrography, geochemistry, mineral separation, Sm-Nd and Lu-Hf column chromatography and mass spectrometry.

2. Professional Masters thesis (1):

- **J. Geiger** (2016-expected August 2017). Geochemistry and Sm-Nd and Lu-Hf dating of garnet of hydrothermal veins at West Timmins gold camp, Ontario.

3. Doctoral theses (1)

- **B. Zhang** (2015- in progress), thesis: “Petrography and high-resolution U-Pb chronometry of lunar meteorites and Apollo impactites” in co-supervision with Dr Shieh for Raman spectroscopy.

4. Other graduate students (2) as supervisor or co-supervisor of their thesis studies:

- **P.-E. Martin**, MSc student, ENS Lyon, January-May 2017 (completed). Masters thesis research project under my supervision on the Ca isotopic compositions of meteorites.

- **P. Frossard**, MSc student, Clermont Université, February-May 2017 (completed). Masters thesis research project in co-supervision at Western and Clermont Université with Dr Boyet on the Sm-Nd and Lu-Hf systematics of reduced meteorites.

5. Visiting graduate students (2):

- **S. Parmenter**, MSc student (2016-in progress), University of Waterloo, January 2017. Visiting my laboratory to conduct chemistry for garnet geochronology for her thesis.

- **D. Lafontaine**, MSc student (completed), Lakehead University, February 2015. Coming for garnet geochronology for his thesis.

6. Collaborations with graduate students while a post-doctoral researcher (4):

From 2007 to 2011, I worked with four PhD graduate students in establishing collaborative projects as well as training in the lab:

- **G. Brennecka**, now Professor at Münster Universität. I worked in the chemistry lab with this student in developing a collaborative project with his supervisor Dr. M. Wadhwa.

- **M. Sanborn**, now Post-doctoral research at UC Davis. I worked along in the chemistry lab with this student in developing a collaborative project with his supervisor Dr. M. Wadhwa.

- **N. Chaumard**, now Post-doctoral research at University of Wisconsin. I developed a collaborative project with him and his supervisor Dr. B. Devouard.

- **L. Spivak-Birndorf**, now Director of a private analytical laboratory. I worked along in the chemistry lab with this student in developing a collaborative project with his supervisor Dr. M. Wadhwa.

7. Other supervision

Work study students (4):

- **N. Ong** 2015-2016. Designed the GEOMETRIC Lab website.

- **M. Digaletos** 2015-2016. Helped with column chromatography calibrations.

- **E.-D. Ferguson** 2014-2015. Helped in the lab with column chromatography calibrations. Emma-Dawn stayed to carry out her Masters thesis in environmental geochemistry under my co-supervision with Dr Longstaffe.

- **H. Gunawardana** 2014-2015. Helped with mineral separations using heavy liquids.

Summer interns (3):

- **Z. Guo** (USTC China, June 2016-September 2016).
 - **E.-D. Ferguson** (UWO, May-August 2015). Classified almost 100 chondrite meteorites from Oman and helped with the collection.
 - **D. Hanna** at UMN (Carleton College, 2012). Worked on the petrography of Apollo samples
- Lab assistants (2):**
- **S. Fulcher** (September-October 2015). Helped with organizing and setting up the ICPMS lab when the instrument was delivered.
 - **A. Munro** (June-August 2016). I hired Alex after finishing his undergraduate thesis to do further work and help with the development of chemistry protocols in the lab.
- Lab technician (1):**
- **B. Gibson** (March 2016-May 2017).

d. Thesis Examination Committees

Graduate Students' Thesis examiner (5)

2016:

- **E. Pilles** (PhD Geology and Planetary Science), Department of Earth Sciences
- **Q. Ye** (PhD Physics & Astronomy), Department of Physics and Astronomy

2015:

- **E. Stokan** (PhD Physics & Astronomy), Department of Physics and Astronomy

2014:

- **A. Pekersgill** (MSc. Geology & Planetary Sciences), Department of Earth Sciences
- **B. Kasmal** (MSc. Geology & Planetary Sciences), Department of Earth Sciences

Chair of comprehensive examination committees (2):

2016:

- **J. Walker**, PhD candidate in Geology, Department of Earth Sciences

2015:

- **D. Anders**, PhD candidate in Geology and Planetary Science, Department of Earth Sciences

Member of examination committees at Western (3):

- **L. Innis**, MSc candidate (2016-), Geology and Planetary Science, Department of Earth Sciences
- **V. Houde**, MSc candidate (2016-), Geology and Planetary Science, Department of Earth Sciences

Comprehensive examination committee at Western (1):

- **P. Hill**, PhD candidate (2015-), Geology and Planetary Science, Department of Earth Sciences

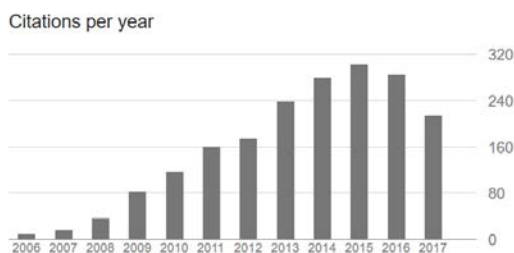
Comprehensive examination committee outside Western (2):

- **L. Bouvier**, PhD candidate in Earth Sciences (supervisor: Dr. Rizo), Université du Québec à Montréal (2016-)
- **E. Amselem**, PhD candidate in Earth and Planetary Science (supervisor: Dr. Moynier) (2016) at Institut de Physique du Globe de Paris, France

6. PUBLICATIONS:

a) Summary:

I have co-authored 20 peer-reviewed research articles published in highly ranked journals, such as, and as first author, in *Nature* (impact factor 38.138), *Nature Geoscience* (impact factor 12.508), *Geochimica et Cosmochimica Acta* (4.250), and others. These include 12 articles as first author, and an invited book chapter. My publications have been cited over 1,800 times by my peers, and over 250 times per year over the last 3 years. I have an h-index of 12, and i-10 index of 14 as of June 2017.



As of July 11th 2017. Source: Google Scholar.

Chapters in Books: 1

Articles in Peer-Reviewed Journals: 19

Articles in non-Peer-Reviewed Journals and Conference Proceedings: 3

Abstracts, Presentations at Professional Meetings (since 2013): 24

Technical Writings: 4

Other: 3 Meteorite Bulletin reports as the editor of the society

Submitted Manuscripts and/or Work in Preparation: 5

b) Details: Authorship in order of original publication, student names are underlined

Chapters in Books

1. **Bouvier A.**, 2015. Lu-Hf chronometry of meteorites, Encyclopedia of Scientific Dating Methods, p. 555-559, edited by W. J. Rink and J. Thompson, and Section Editor L. Heaman, Springer, ISBN 978-94- 007-6303-6, 978p.

Papers in Peer-Reviewed Journals (student names are underlined)

19. Amsellem E., Moynier F., Pringle E.A., **Bouvier A.**, Chen H., and Day J.M.D. Testing the chondrule-rich accretion model for planetary embryos using calcium isotopes. *Earth and Planetary Science Letters* 469, 75-83.

18. **Bouvier A.** and Boyet M., 2016 Primitive Solar System materials and the Earth share common initial ¹⁴²Nd abundance, *Nature* 537, 399-402.

17. **Bouvier, A.**, Blichert-Toft, J., Boyet, M., Albarède, F., 2015. ¹⁴⁷Sm-¹⁴³Nd and ¹⁷⁶Lu-¹⁷⁶Hf systematics of eucrite and angrite meteorites. *Meteoritics & Planetary Science* 50, 1896-1911.

16. Moynier F., Pringle E. A., **Bouvier A.**, and Moureau J., 2015. Barium stable isotope composition of the Earth, meteorites, and calcium–aluminum-rich inclusions. *Chemical Geology*, 413, 1-6.

15. Spivak-Birndorf L.J., Bouvier A., Benedix G.K., Hammond S., Brennecka G.A., Howard K., Rogers N., Wadhwa M., Bland P.A., and Spurný P., 2015. Trace element geochemistry and chronology of Bunburra Rockhole, a unique asteroidal basalt. *Meteoritics and Planetary Science*, 50, 958–975.

14. Jourdan F., Benedix G., Eroglu E., Bland P.A., and **Bouvier A.**, 2014. $^{40}\text{Ar}/^{39}\text{Ar}$ impact ages and time-temperature argon diffusion history of the Bunburra Rockhole anomalous basaltic achondrite. *Geochimica et Cosmochimica Acta*, 140, 391-409.
13. Chaumard N., Devouard B., **Bouvier A.**, and Wadhwa M., 2014. Metamorphosed calcium-aluminum-rich inclusions in CK carbonaceous chondrites. *Meteoritics and Planetary Science*, 46, 1-34.
12. **Bouvier A.**, Blichert-Toft J., Albarède F., 2014. Comment on "Geochronology of the Martian meteorite Zagami revealed by U-Pb ion probe dating of accessory minerals" by Zhou et al., *Earth and Planetary Science Letters*, 385, 216-217.
11. **Bouvier A.**, Wadhwa M., Simon S. B., and Grossman L., 2013. Magnesium isotopic fractionation in chondrules from the CM2 Murchison and Murray carbonaceous chondrites. *Meteoritics and Planetary Science* 48, 339-353.
10. Moynier F., Day J. M. D., Okui W., Yokoyama T., **Bouvier A.**, Walker R. J. and Podosek F. A., 2012. Planetary-scale strontium isotopic heterogeneity and the age of volatile depletion of early Solar System materials. *The Astrophysical Journal* 758, 45-51.
9. **Bouvier A.**, Spivak-Birndorf L. J., Brennecka G. A., Wadhwa M., 2011. New constraints on early Solar System chronology from Al-Mg and U-Pb isotope systematics in the unique basaltic achondrite Northwest Africa 2976. *Geochimica et Cosmochimica Acta* 75, 5310-5323.
8. Moynier F., Agranier A., Hezel D. C., and **Bouvier A.**, 2010. Sr stable isotope composition of Earth, the Moon, Mars, Vesta and meteorites. *Earth and Planetary Science Letters*, 300, 359- 366.
7. **Bouvier A.**, and Wadhwa M., 2010. The age of the Solar System redefined by the oldest Pb-Pb age of a meteoritic inclusion. *Nature Geoscience*, 3, 637-641.
6. **Bouvier A.**, Blichert-Toft J., and Albarède F., 2009. Martian meteorite chronology and the evolution of the interior of Mars. *Earth and Planetary Science Letters*, 280, 285-295.
5. **Bouvier A.**, Vervoort J. D., and Patchett P. J., 2008. The Lu–Hf and Sm–Nd isotopic composition of CHUR: Constraints from unequilibrated chondrites and implications for the bulk composition of terrestrial planets. *Earth and Planetary Science Letters*, 273, 48-57.
4. **Bouvier A.**, Blichert-Toft J., Vervoort J. D., Gillet P., and Albarède F., 2008. The case for old basaltic shergottites. *Earth and Planetary Science Letters*, 266, 105-124.
3. **Bouvier A.**, Blichert-Toft J., Moynier F., Vervoort J. D., and Albarède F., 2007. Pb-Pb dating constraints on the accretion and cooling history of chondrites. *Geochimica et Cosmochimica Acta*, 71, 1583-1604.
2. Moynier F., **Bouvier A.**, Blichert-toft J., Télouk P., Gasperini D., and Albarède F., 2006. Eu isotopic variations in Allende CAIs and the nature of mass-dependent fractionation in the solar nebula. *Geochimica et Cosmochimica Acta*, 70, 4287-4294.
1. **Bouvier A.**, Blichert-Toft J., Vervoort J. D., and Albarède F., 2005. The age of the SNC meteorites and the antiquity of the Martian surface. *Earth and Planetary Science Letters*, 240, 221-233.

Abstracts, Presentations to Professional Meetings (student names are underlined)

2017 (11):

Bouvier A., Zhang B., Shieh S., Schrader D., Wadhwa M., Korotev R., and Hartmann W. K., Geochronological Constraints on the Lunar Impact History. 3rd Beijing International Forum on Lunar and Deep-space Exploration, China September 19th-22nd 2017. **Invited speaker.**

Amsellem E., Moynier F., Pringle E.A., **Bouvier A.**, Chen H., and Day J.M.D., Testing the chondrule-rich accretion model for planetary embryos using calcium isotopes. Goldschmidt Conference 2017. This is an abstract led by a PhD student in Paris I am collaborating with for meteorite sample analysis.

Kaczmarek M.-A., **Bouvier A.**, Shieh S.R., Withers A.C., Microstructural of ureilite meteorite Sayh Al Uhaymir 559. Goldschmidt Conference 2017. We are 3 professors at Western collaborating on this project with Dr Kaczmarek on the microstructure, deformation, and shock effects observed in meteorites.

Boyet M., **Bouvier A.**, Hammouda T., and Garçon M., Nucleosynthetic anomalies in chondrites relative to the Earth: the debate over the ^{146}Sm - ^{142}Nd systematics. Goldschmidt Conference 2017. I am collaborating with researchers in France on the origin of Sm and Nd nucleosynthetic anomalies in meteorites.

Maloney M.M., Withers A.C, **Bouvier A.**, and Georg B., Experimental Constraint on Calcium Isotopic Fractionation in Carbonated Melts, Advances in Earth Sciences Research Conference 2017. This is an abstract led by my co-advised MSc student who started in Fall 2015, and will start his PhD with us in Fall 2017.

Bouvier A., and Boyet M., Sm, Nd and Hf isotopic composition of planetary materials. Workshop on Terrestrial Planet Formation, Nice.

Withers A.C., Maloney M.M., **Bouvier A.**, and Georg B., Experimental determination of calcium isotopic fractionation between clinopyroxene and carbonated silicate melt. Workshop on Terrestrial Planet Formation, Nice. This is an abstract discussing results obtained with our co-advised (Withers, Bouvier) MSc student (Maloney) who started in Fall 2015, and will start his PhD with us in Fall 2017.

Bouvier A., LaFontaine D., and Hill M.-L., Lu-Hf chronometry and geothermometry of garnet from the gold-bearing sillimanite-garnet-biotite schist at the Borden gold deposit, Chapeau, Ontario. Society for Geology Applied to Mineral Deposits, Quebec.

Van Kessel A., **Bouvier A.**, Linnen R. L., and Zajacz Z., Petrogenesis of Scheelite at the Timmins West Mine, Timmins, Ontario. Society for Geology Applied to Mineral Deposits, Quebec. This is an abstract led by my co-advised MSc student who started in Fall 2016.

Van Kessel A., **Bouvier A.**, Linnen R. L., and Zajacz Z., Petrogenesis of scheelite at Timmins West Mine, Timmins, Ontario. Prospectors & Developers Association of Canada, Toronto. This is an abstract led by my co-advised MSc student who started in Fall 2016.

Piette-Lauzière N., Gaillard N., Guilmette C., **Bouvier A.**, Perrouty S. and Pilote P. Relative timing between the Canadian Malartic footprint and the regional metamorphism of the northeastern Pontiac Subprovince, Abitibi, Québec. Prospectors & Developers Association of Canada, Toronto. This is an abstract in collaboration with CMIC and a PhD student at Laval as lead author.

Ferrière L., Meier M. M. M., Assis Fernandes V., Fritz J., Greshake A., Barrat J.-A., Böttger U., **Bouvier A.**, Brandstätter F., Busemann H., Korotev R. L., Maden C., Magna T., Schmitt-Kopplin Ph., Schrader D. L., and Wadhwa M. 2017. The unique crowd-funded Oued Awlitis 001 lunar meteorite – A consortium overview. 48th Lunar and Planetary Science Conference, Abstract #1621.

2016 (4):

Bouvier A., Chronology of Early Solar System Materials and Implications for the Protoplanetary Disk. Before the Moon Workshop, Japan. Review of literature and discussion of the state of knowledge and challenges, **Invited speaker.**

Bouvier A., Boyet M. and Jourdan F.. Sm-Nd, Lu-Hf, and Ar-Ar Investigations of Enstatite Achondrites. Meteoritical Society meeting. Abs. 1921. Sample analysis, discussion.

LaFontaine D.J., **Bouvier A.**, Hill M.-L., 2016. Peak metamorphic and geochronological constraints from Lu-Hf garnet dating at the Borden gold deposit, Chapeau, ON, Prospectors & Developers Association of Canada, Toronto. This is an abstract in collaboration with a MSc student at Lakehead University as lead author.

Munro A., **Bouvier A.**, 2016. Sm-Nd and Lu-Hf Geochronology of ultramafic dykes from the Malanjhand porphyry copper mine, India, Prospectors & Developers Association of Canada, Toronto. This is an abstract for my former undergraduate student to present his 4th thesis results.

2015 (4):

Boyett M., **Bouvier A.**, Gannoun A., Carlson R.W. What to learn about the ^{142}Nd signatures of terrestrial samples. American Geophysical Union meeting. Sample analyses of meteorites, lead PI.

Bouvier A., Wadhwa M., Korotev R. L., Hartmann W. K. Pb-Pb chronometry of lunar impact melt breccias and comparison with other radiochronometric records. Workshop on the first billions years of impact records: evidence from lunar samples and meteorites. Lead PI.

Bouvier A., Boyett M., Sm and Nd isotopic compositions of CAIs. Meteoritical Society meeting. Abs. 5294. Lead PI.

Kita N. T., Tenner T. J., Ushikubo T., **Bouvier A.**, Wadhwa M., Bullock E. S., and MacPherson G. J. Why do U-Pb ages of chondrules and CAIs have more spread than their ^{26}Al ages? Meteoritical Society meeting. Abs. 5360. Participating with sample analysis.

2014 (7):

Bouvier A., Boyett M., Early Earth evolution: new insight from Sm and Nd isotopes in meteoritic inclusions. American Geophysical Union meeting. Lead PI.

Bullock E.S., **Bouvier A.**, Wadhwa M., MacPherson G.J. and Kita N.T., Mineralogy and petrology of an unusual large type a CAI from NWA 6991. 45th Lunar and Planetary Science Conference, The Woodlands, Texas, Abs. 1919. Participating with sample analysis.

Wadhwa M., Kita N.T., Nakashima D., Bullock E. S., MacPherson G. J., and **Bouvier A.**, High precision ^{26}Al - ^{26}Mg isotope systematics for an almost pristine refractory inclusion: implications for the absolute age of the solar system. 45th Lunar and Planetary Science Conference, The Woodlands, Texas, Abs. 2698. Participating with sample analysis.

Bouvier A., Boyett M. and Jourdan F., On the Mysterious ^{176}Hf Excesses, Goldschmidt Conference, Abs. 252. Lead PI.

Bouvier A., Wadhwa M., Korotev R. & Hartmann W., Pb-Pb Chronometry of Lunar Impact Melt Breccias, Goldschmidt Conference, Abs. 253. Lead PI.

Ozawa S., Marquardt K., Miyahara M., El Goresy A., Ohtani E., Miyajima N., Gillet P. and **Bouvier A.**, Monoclinic baddeleyite in Shergotty: TEM evidence of orthogonal domains induced by phase transformation from a dense polymorph and not by igneous origin. Meteoritical Society Meeting. Participating with sample analysis.

Jourdan F., Benedix G., Eroglu E., Bland P.A., **Bouvier A.**, $^{40}\text{Ar}/^{39}\text{Ar}$ Impact ages and time-temperature argon diffusion history of the Bunburra Rockhole anomalous basaltic achondrite. Meteoritical Society Meeting. Participating with sample analysis.

2013 (6):

Bouvier A., Blichert-Toft J., Albarède F., El Goresy A., Agee C. B., and Gillet P., U-Th-Pb Evolution Requires Very Old Age for Newly Found Depleted Shergottites, 44th Lunar and Planetary Science Conference, Houston, Texas, A2421. Lead PI.

Bouvier A., Romaniello S., Wadhwa M., Korotev R., Hartmann W.K., Pb-Pb dating of Apollo 67016 and MIL 090034 lunar impact breccias. 76th Annual Meteoritical Society Meeting, Abs. 5312. Lead PI.

Wadhwa M., **Bouvier A.**, Janney P.J., Al-Mg systematics in a CAI from the NWA 6991 CV3 chondrite. 76th Annual Meteoritical Society Meeting, Abs. 5253. Participating with sample analysis.

Bouvier A. and Boyett M., High precision Lu-Hf and Sm-Nd systematics of the first solids in the Solar System. Goldschmidt Conference, Mineralogical Magazine, 77(5) 754. Lead PI.

Boyett M., **Bouvier A.**, Gannoun A., Carlson, R. W., What are the ^{146}Sm - ^{142}Nd reference parameters for the Earth? Goldschmidt Conference, Mineralogical Magazine, 77(5) 758. Participating with sample analysis.

Bouvier A., Pb-Pb chronometry of the dark melt of the Chelyabinsk LL chondrite. Workshop on Large Meteorite Impacts and Planetary Evolution V, Abs. 3087. Lead PI.

2012 (2):

Moynier F., Day J.M.D., Okui W., Yokoyama T., **Bouvier A.**, Walker R.J., and Podosek F.A., Planetary scale Sr isotopic heterogeneity, Goldschmidt Conference, Montreal, Canada.

Moynier F., Day J. M. D., Okui W., Yokoyama T., **Bouvier A.**, Walker R. J., and Podosek F. A., Planetary scale Sr isotopic heterogeneity, Meteoritical Society meeting, A5180.

2011 (10):

Moynier F., Day J. M. D., **Bouvier A.**, Walker R. J., and Podosek F. A., ⁸⁴Sr Anomalies in Carbonaceous Chondrites. 42nd Lunar and Planetary Science Conference, Houston, Texas, A1239.

Bouvier A., Brennecka G. A., Sanborn M. E., and Wadhwa M., U-Pb chronology of a newly recovered angrite. 42nd Lunar and Planetary Science Conference, Houston, Texas, A2747.

Bouvier A., Wadhwa M., Korotev R., Hartmann W.K., U-Pb chronology of two lunar impact melt breccias. Meteoritics & Planetary Science, Vol. 46, Proceedings of 74th Annual Meeting of the Meteoritical Society, A5185.

Wadhwa M., **Bouvier A.**, Brennecka G. A., Concordant early Solar System timescales from Pb-Pb and extinct chronometers. Meteoritics & Planetary Science, Vol. 46, Proceedings of 74th Annual Meeting of the Meteoritical Society, A5417.

Bouvier A., The first 10 million years of the Solar System, **keynote speaker** at the Goldschmidt conference. Mineralogical Magazine, 75, p. 564.

Bouvier A., Brennecka G. A., Sanborn M. E., Wadhwa M., The formation of the angritic crust. Goldschmidt conference, Mineralogical Magazine, 75, p. 565.

Jourdan F., Bland P. A., **Bouvier A.**, Benedix G., A ~3.63 Ga major impact recorded by the Bunburra Rockhole anomalous basaltic achondrite. Goldschmidt conference, Mineralogical Magazine, 75, p. 1128.

Bouvier A., Brennecka G. A. and Wadhwa M., Absolute Chronology of the First Solids in the Solar System. Workshop on the Formation of the First Solids in the Solar System, Kauai, November 5-7, **Invited Speaker**.

Amelin Y., Yin Q.-Z., Krot A.N, **Bouvier A.**, Wadhwa M., Kleine T., Nyquist L.E., Progress in the early solar system chronology: a sketch of an ever-changing landscape. Workshop on the Formation of the First Solids in the Solar System, Kauai.

Bouvier A., Boyet M., Vervoort J.V., Patchett P.J., The initial Hf isotopic composition of the Earth. AGU, Abstract V43E-04.

2010 (5):

Bouvier A. and Wadhwa M., Pb-Pb isotope dating of the unique basaltic achondrite NWA 2976. 41st Lunar and Planetary Science Conference, A1489.

Spivak-Birndorf L. E., **Bouvier A.**, Wadhwa M., Bland P., and Spurný P., Trace element geochemistry and chronology of the Bunburra Rockhole basaltic achondrite. 41st Lunar and Planetary Science Conference, A2274.

Moynier F., Day J. M. D., **Bouvier A.**, Podosek F., and Walker R., ⁸⁴Sr anomalies in meteorites? Goldschmidt conference, Geochimica et Cosmochimica Acta, v. 74, A732.

Bouvier A., Brennecka G. A., and Wadhwa M., Refining the U-Pb Chronology of the Early Solar System. Goldschmidt conference, Geochimica et Cosmochimica Acta, v. 74, A111, **Invited speaker**.

Bouvier A., Wadhwa M., Bullock E. S., MacPherson G. J., Pb-Pb dating of a CAI from the reduced CV3 Vigarano chondrite. *Meteoritics & Planetary Science*, Vol. 45, Proceedings of 73rd Annual Meeting of the Meteoritical Society, A5400.

2009 (8):

Bouvier A., and Wadhwa M., Synchronizing the absolute and relative clocks: Pb-Pb and Al-Mg systematics in CAIs from the Allende and NWA 2364 CV3 chondrites. 40th Lunar and Planetary Science Conference, A2184.

Bouvier A., Wadhwa M., Simon S. B., and Grossman L., 2009. Magnesium isotope compositions of chondrules from the Murchison and Murray carbonaceous chondrites. 40th Lunar and Planetary Science Conference, A2193.

Albarède F., **Bouvier A.**, and Blichert-Toft J., More old news from Martian meteorites. 40th Lunar and Planetary Science Conference, A1914.

Bouvier A., and Wadhwa M., ²⁶Al-²⁶Mg internal isochrons of two CAIs from Leoville CV3 chondrite, *Meteoritics & Planetary Science*, Vol. 44, Proceedings of 72nd Annual Meeting of the Meteoritical Society, A5408.

Albarède F., **Bouvier A.**, and Blichert-Toft J., Martian atmospheric Ar and the trapped component in meteorites, *Meteoritics & Planetary Science*, Vol. 44, Proceedings of 72nd Annual Meeting of the Meteoritical Society, A5321.

Bouvier A., Blichert-Toft J., and Albarède F., Martian meteorite chronology and effects of impact metamorphism. *Eos Trans. AGU, Fall Meet. Suppl.*, Abstract MR12A-04, **Invited speaker**.

Bouvier A., Vervoort J. D., Patchett P. J., and Göpel C., Sm-Nd and Lu-Hf isotope composition of chondritic components. *Eos Trans. AGU, Fall Meet. Suppl.*, Abstract V11E-02.

Wadhwa M., and **Bouvier A.**, The age of the Solar System revisited. *Eos Trans. AGU, Fall Meet. Suppl.*, Abstract P12B-03.

2008 (3):

Bouvier A., Wadhwa M., and Janney P., Pb-Pb isotope systematics in an Allende chondrule. 18th Annual V. M. Goldschmidt Conference, *Geochimica et Cosmochimica Acta*, Vol. 72, A106.

Blichert-Toft J., **Bouvier A.**, and Albarède F., 2008. A new perspective on the evolution of Mars. *Meteoritics & Planetary Science*, Vol. 43, Proceedings of 71st Annual Meeting of the Meteoritical Society, A5242.

Bouvier A., Wadhwa M., and Janney P., ²⁶Al-²⁶Mg and ²⁰⁷Pb-²⁰⁶Pb systematics in an Allende inclusion. *Meteoritics & Planetary Science*, Vol. 43, Proceedings of 71st Annual Meeting of the Meteoritical Society, A5299.

2007 (6):

Bouvier A., Blichert-Toft J., Vervoort J.D., and Albarède F., The Conundrum of the Age of Shergottites, 38th Lunar and Planetary Science Conference, A1683.

Blichert-Toft J., **Bouvier A.**, Vervoort J.D., Gillet P., and Albarède F., *Meteoritics & Planetary Science Supplement*, Vol. 42, Proceedings of 70th Annual Meeting of the Meteoritical Society, A5229.

Bouvier A., Vervoort J.D., and Patchett P.J., Resolving Lu-Hf in chondrites and the Bulk Earth composition. *Meteoritics & Planetary Science*, Vol. 42, Proceedings of 70th Annual Meeting of the Meteoritical Society, A5268.

Bouvier A., Vervoort J.D., and Patchett P.J., The Lu-Hf CHUR value. 17th Annual V. M. Goldschmidt Conference, *Geochimica et Cosmochimica Acta*, Vol. 71, A116.

Bouvier A., and Wadhwa M., An appraisal of ²⁰⁷Pb-²⁰⁶Pb and ²⁶Al-²⁶Mg chronologies in CAIs and chondrules. Workshop on the Chronology of Meteorites and the Early Solar System. LPI Contribution No. 1374, p.36-37.

Bouvier A., Vervoort J.D., and Patchett P.J., The Lu-Hf isotopic composition of CHUR and BSE: Tighter constraints from unequilibrated chondrites. *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract, V43F-03.

2006 (3):

Albarède F., **Bouvier A.**, Blichert-Toft J., and Vervoort J.D., These good old shergottites. Workshop on Surface Ages and Histories: Issues in Planetary Chronology LPI Contribution No. 1320, held May 23-23, 2006, Lunar and Planetary Institute, Houston, Texas, p.8-9.

Albarède F., **Bouvier A.**, Blichert-Toft J., and Vervoort J.D., Pb-Pb Systematics of Martian Meteorites and the Differentiation History of Mars. *Meteoritics & Planetary Science*, Vol. 41, Proceedings of 69th Annual Meeting of the Meteoritical Society, A5125.

Bouvier A., Blichert-Toft J., Vervoort J.D., and Albarède F., Effects of impacts on Sm-Nd and Lu-Hf internal isochrons of eucrites. *Meteoritics & Planetary Science*, Vol. 41, Proceedings of 69th annual Meeting of the Meteoritical Society, p.5348.

2005 (5):

Bouvier A., Blichert-Toft J., Vervoort J. D., and Albarède F., Pb-Pb isotope dating of ordinary chondrites. 36th Annual Lunar and Planetary Science Conference, A2028.

Bouvier A., Blichert-Toft J., Vervoort J. D., McClelland W., and Albarède F., Pb-Pb geochronology of the early Solar System. 15th Annual V. M. Goldschmidt Conference, *Geochimica et Cosmochimica Acta*, Vol. 69, A384.

Moynier F., **Bouvier A.**, Blichert-Toft J., Gasperini D., Telouk P., and Albarède F., Eu Isotopic Variations in Allende CAI. *Meteoritics & Planetary Science*, Vol. 40, Supplement, Proceedings of 68th Annual Meeting of the Meteoritical Society, A5193.

Bouvier A., Blichert-Toft J., Vervoort J. D., and Albarède F., The age of Zagami and other shergottites. *Meteoritics & Planetary Science*, Vol. 40, Proceedings of 68th Annual Meeting of the Meteoritical Society, A5038.

Bouvier A., Blichert-Toft J., Vervoort J. D., and Albarède F., The Martian Surface is old and so are the Shergottites. *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract, P23B-0196.

Technical Writings (4)

Bouvier A., Gattacceca J., Agee C. B., Grossman J., and Metzler K., 2017. The Meteoritical Bulletin, No. 104, *Meteoritics & Planetary Science*, in press, online document 247 pages. DOI:10.1111/maps.12930

I am the Editor of the Meteorite Bulletin. I compiled the data and submitted the report in June 2017 for publication in *Meteoritics and Planetary Sciences*.

Ruzicka A., Grossman J., **Bouvier A.**, Agee C. B. The Meteoritical Bulletin, No. 103, *Meteoritics & Planetary Science*, 52 (2017), 1014-1014, online document 244 pages.

I was the Deputy Editor of the Meteorite Bulletin and submitted the report in 2017 for publication in *Meteoritics and Planetary Sciences*.

Ruzicka A., Grossman J., **Bouvier A.**, Agee C. B., 2015. The Meteoritical Bulletin, No. 102, *Meteoritics & Planetary Science* 50 (2015): 1662-1662, online document 248 pages.

I was the Deputy Editor of the Meteorite Bulletin

Ruzicka A., Grossman J., **Bouvier A.**, Agee C. B., 2015. The Meteoritical Bulletin, No. 101, *Meteoritics & Planetary Science* 50 (2015): 1661-1661, online document 135 pages.

I was the Deputy Editor of the Meteorite Bulletin

Journal Issue Preface

Usui, T., **Bouvier A.**, Simon J. I. and Kita N., 2016. Preface: Evolution of the early solar system: Presolar

cosmochemical fingerprints and the formation of watery rocky planets. *Geochemical Journal* 50(1): 1-2.

Published Citation

Caillet C. and **Bouvier A.**, 2013. 2013 Leonard Medal for Ahmed El Goresy. *Meteoritics and Planetary Science*, 48, 1702-1704.

Conference Proceedings

Pin C., **Bouvier A.**, and Aleksandrowski P., 2004. Major, trace element and Sr-Nd isotope data on Neogene andesitic rocks from the Pieniny Klippen Belt (southern Poland) and geodynamic inferences. *Mineralogical Society of Poland, Special Papers* 24, 323-327.

Conference Proceedings (reviewed)

Bouvier A., LaFontaine D., and Hill M.-L., 2017. Lu-Hf chronometry and geothermometry of garnet from the gold-bearing sillimanite-garnet-biotite schist at the Borden gold deposit, Chapleau, Ontario. *Society for Geology Applied to Mineral Deposits, Quebec*. 4 pages.

Van Kessel A., **Bouvier A.**, Linnen R. L., and Zajacz Z., 2017. Petrogenesis of Scheelite at the Timmins West Mine, Timmins, Ontario. *Society for Geology Applied to Mineral Deposits, Quebec*. 4 pages.

Submitted Manuscripts and/or Work in Preparation

In progress (6)

Zhang B., **Bouvier A.**, and Shieh S. Raman Spectroscopy of Shocked Enstatite-Rich Meteorites. In preparation for *Meteoritics and Planetary Science*.

LaFontaine, D., **Bouvier, A.**, Gannoun M., and Hill, M.L. Metamorphic history of the gold-bearing sillimanite-garnet-biotite schist at the Borden gold deposit, Chapleau, Ontario. In preparation for *Canadian Journal of Earth Sciences*.

Munro A., **Bouvier A.**, Gannoun M., Nehru C. E. and Sikka D. B. Sm-Nd and Lu-Hf Geochronology of ultramafic dykes from the Malanjkhand porphyry copper mine, India. In preparation for *Mineralium Deposita*.

Piette-Lauzière N., Gaillard N., Guilmette C., **Bouvier A.**, Perrouty S. and Pilote P. Relative timing between the Canadian Malartic footprint and the regional metamorphism of the northeastern Pontiac Subprovince, Abitibi, Québec. In preparation for *Precambrian Research*.

Bouvier A., Wadhwa M., Janney P. E., Kita N., Bullock E., Mac Pherson G. Al-Mg and Pb-Pb dating in calcium aluminum-rich inclusions of CV3 chondrites and implications for the chronology of early Solar System materials. In preparation for *Geochemica et Cosmochimica Acta*.

Bouvier A., Blichert-Toft J., Boyet M., Barrat J.-A., El Goresy A., Gillet P., and Albarède F. Martian isotopic muddle. In preparation for *Meteoritics & Planetary Science*.

7. INVITED PRESENTATIONS

a. Seminars and Department Colloquia (21 since 2012, 35 since 2008):

- 2017 (2):

Université d'Aix-Marseille, European Centre Research and Teaching in Geosciences of the Environment (CEREGE) "Grand Séminaire" public lecture and live recording (in French) broadcasted on the university network.

Universität Bayreuth, Bayerisches Geoinstitut

- 2016 (2):

University of Tokyo, Earthquake Research Institute

University of Windsor, Department of Geology

- **2015 (5):**

University of Western Ontario, Department of Physics and Astronomy

University of Ottawa, Department of Earth Sciences

Cornell University, Department of Earth and Atmospheric Sciences

Cornell University, Department of Space Sciences

Washington State University, School of the Environment

- **2014 (5):**

University of Chicago, Department of Geophysical Sciences

Carnegie Institution in Washington, Geophysical Laboratory

University of Maryland, Department of Geology

Universität Bayreuth, Bayerisches Geoinstitut

American Museum of Natural History, Department of Earth and Planetary Sciences

- **2013 (2):**

University of Wisconsin, Madison, Department of Geoscience

University of Western Ontario, Centre for Planetary Science and Exploration Forum

- **2012 (4):**

University of Western Ontario, Department of Earth Sciences

Carleton College, Department of Geology

The Field Museum in Chicago, A. Watson Armour III Research Seminar series

University of Toronto, Department of Earth Sciences

- **2011 (4):**

Centre de Recherches Pétrographiques et Géochimiques, Nancy

Ecole Normale Supérieure de Lyon, Department of Earth Sciences

University of British Columbia, Department of Earth, Ocean and Atmospheric Sciences

Université du Québec à Montréal, GEOTOP, Department of Earth and Atmospheric Sciences

- **2010 (4):**

Washington University in Saint Louis, Department of Earth and Planetary Sciences

University of Minnesota, Department of Earth Sciences

Carnegie Institution in Washington, Department of Terrestrial Magnetism

Smithsonian Institution, Division of Meteorites Research

- **2009 (4):**

Bayerisches Geoinstitut, Universität Bayreuth

Museum National d'Histoire Naturelle de Paris

Arizona State University, School of Earth and Space Exploration Forum

Université Blaise Pascal in Clermont-Ferrand, Laboratoire Magmas et Volcans

- **2008 (3):**

University of California in Los Angeles, Department of Earth and Space Sciences

Planetary Science Institute in Tucson

Northern Arizona University, Department of Geology

b. Invited talks at Conferences and Special Events (13):

- **2018 (planned, 2):**

Invited Speaker, International Space Science Institute, Workshop on the role of sample return missions in addressing outstanding science questions in the field of Planetary Sciences. February 5-8th 2018, Bern, Switzerland.

Keynote speaker, workshop “Puzzles and Solutions in Astrobiology” to be held at the Earth Life Science Institute (ELSI) on May 14-18th 2018 in Tokyo, Japan.

- **2017 (5):**

Keynote speaker, the 1st UK Planetary Science Congress, December 4-5th 2017, Glasgow, Scotland.

Keynote Speaker, Japanese-Canadian Frontiers of Science Symposium, November 2-5th, 2017 in Okinawa, Japan.

Invited speaker, interdisciplinary workshop Before Life to be held in Boulder, Colorado, USA from October 10th to 13th, 2017. This event is convened by the Collaborative for Research in Origins (CRiO), funded by the John Templeton Foundation -FfAME Origins Program.

Invited Speaker, 3rd Beijing International Forum on Lunar and Space Exploration, September 19th-22nd, 2017, Beijing, China.

Keynote speaker, Gordon Research Conference “Interior of the Earth”, June 4-9th 2017, USA.

- **2016 (1):**

Invited speaker, workshop “Before the Moon” November 5-11th 2016, Tokyo Institute of Technology, Japan.

- **2013 (1):**

Invited speaker at the University of British Columbia for the Grand Opening of the CFI Mass Spectrometry nJUBC Facilities.

- **2011 (2):**

Keynote speaker, Goldschmidt Conference of Geochemistry, session 01b, From Gas and Dust to Planetesimals: Processes and Timescales, “The First 10 Million Years of the Solar System”.

Invited speaker, Workshop on Formation of the first Solids in the Solar System, Kauai, “Absolute Chronology of the First Solids in the Solar System”.

- **2010 (1):**

Invited speaker, Goldschmidt Conference of Geochemistry, session 01b: Early Accretion and Differentiation Processes on Planets and Planetesimals, “Refining the U-Pb Chronology of the Early Solar System”.

- **2009 (1):**

Invited speaker, Fall meeting of the American Geophysical Union, session MR12a: Dynamic Induced Phase Transformation Processes in Terrestrial and Planetary Materials, “Martian Meteorite Chronology and Effects of Impact Metamorphism”.

• **Public & Outreach talks (2)**

- **2017:**

“Les Météorites: roches messagères des astéroïdes, planètes et étoiles”. I developed a talk in French and meteorite display and activities for 51 students in 6th grade (11-12yo) at Lord Roberts French Immersion Elementary School, London, ON, April 6th, 2017.

- **2016:**

“Meteorites: messengers from asteroids, planets and stars”. I developed a talk for the public about meteorites for Asteroid Day, on June 30th, Cronyn Observatory, University of Western Ontario. I and student volunteers also have a booth for the public for “Meteorwrong” inspections.

8. RESEARCH FUNDING:

Submitted (1)

2017-2018, Canada Space Agency, PHASR Lunar Demonstrator Mission Science Maturation Study, PI G. Osinski (UWO), Co-Is, M. Zanetti, M. Bourrassa, A. Bouvier, C. Neish, L. Tornabene, E. Pilles, M. Cross, K. McIsaac (all UWO), in total, \$12,825 for analyses to Bouvier.

Funded (22)

- 2017 (2):

2017-2020, Geological Survey of Canada, Geo-mapping for Energy and Minerals Program (GEM), Geological Framework of the Northern Rae Province on Eastern Devon and Southeastern Ellesmere Islands, PI G. Osinski (UWO), project manager M. Zanetti (UWO), Co-I A. Bouvier (UWO), total budget \$200,000, ~\$10,000/yr for geochemical analyses to Bouvier.

2017, Faculty Research Grant (FRG) at Minnesota State Mankato "Sr-Nd radiogenic isotope study of Minnesota's glacial sediments" awarded to C. Wittkop (MSU), Bouvier. Collaborator for Isotopic Studies \$6,800 in total, \$5,100 to Bouvier.

- 2016 (9):

2016-2021, Canada Foundation for Innovation's (CFI) Infrastructure Operating Fund, "Isotopic and Geochemical Investigations of Planetary Materials. Awarded to Bouvier, \$12,000 per year.

2016 NSERC Connect grant, "Lutetium-Hafnium chronology of scheelites from Lake Shore Gold Corp.'s mine deposits" Awarded to Bouvier, \$1,560 to visit the company with a student.

2016 Jul-Dec NSERC Engage Grant, Isotopic tracers for sulfide formation applied to offset dykes of the Sudbury basin, Ontario, with Wallbridge Mining Company. Awarded to Bouvier, \$25,000 to support student and lab technician's salaries and analytical costs.

2016-2021 Ontario Early Researcher Award "Using isotopic compositions of metals for ore deposit research and exploration" awarded to Bouvier, total \$190,000. \$30,000 per year for students' stipends and their research travels.

2016-2021 European Research Council, Consolidator Grant "ISOREE: New insight into the origin of the Earth, its bulk composition and its early evolution" awarded to M. Boyet. €2,200,000. Collaborator for Isotopic Studies. Funding as in-kind for travels and mass spectrometric analyses.

2016-2019 NASA, Emerging Worlds "Petrologic, Isotopic, and Chemical Aspects of the Origin of the Solar System. PI S. Simon and several collaborators including Bouvier US\$493,000. No incoming funding. Collaborator for Isotopic Studies.

2016-2019 Mitacs Globalink Research Internship 2016 "Chemical and isotopic investigations of planetary materials. Visiting undergraduate student from USTC, Hefei, China for a 12 week internship, ~\$8,000 Summer 2016. My project was selected for funding and funds were awarded to support travel, housing and life expenses for Z. Guo, student selected for the intership. Zhiguo will start his Masters under my supervision in September 2017 to work on achondrite meteorites.

2016-2018 French Centre National de la Recherche Scientifique Projet International de Coopération Scientifique (PICS) Program " GEOCRAT project "Geophysics of Impact craters" awarded to Y. Quesnel and collaborator including Bouvier, Osinski and Webb at Western. \$30,000. And \$1,500 to Bouvier for research travels. I am planning to go to Chile for a meteorite search with the French team (if my teaching schedule allows it) in November 2017.

2016-2019 Ontario Research Fund – Small Infrastructure "Isotopic and Geochemical Investigations of Planetary Materials" awarded to Bouvier as \$499,992 total value, \$199,997 from ORF for infrastructure. This grant funded my qICPMS and lab equipment and renovations.

- 2015 (3):

2015-2016 Canada Foundation for Innovation's (CFI) John R. Evans Leaders Fund "Isotopic and Geochemical Investigations of Planetary Materials" awarded to Bouvier as \$499,992 total value, \$199,997 from CFI for Infrastructure. This grant funded my qICPMS and lab equipment and renovations.

2015-2016 Baffinland Iron Mines Corporation "Lu-Hf dating of garnetiferous schists from Deposit 1 of the Mary River supergroup, Baffin Island, Nunavut." Awarded to Bouvier for \$1,500 for chemical analyses for an undergraduate student project with S. Reese.

2015-2017 France-Canada Research Fund "Looking for the building blocks of the Earth" awarded to Bouvier and Boyet. \$6,000 per year. This project funds travels to France and mass spectrometry costs for Sm-Nd and Lu-Hf isotopic analyses of meteorites.

- **2014 (2):**

2014-2019 NSERC Discovery Grant "Formation and impact histories of the Solar System and planets from chemical and isotopic investigations of planetary materials" awarded to Bouvier for \$35,000 per year for Research. This is the main grant funding my 5-year research program.

2014-2015 Western Faculty of Science and Department of Earth Sciences, Lab construction. \$520,000. This funding was used to renovate a containment level 3 biology lab to a trace metal clean room. I was involved in the design and attended bi-weekly to weekly meetings during the 8 month-construction with architects, mechanical engineers, and external contractors. I installed the equipment and set up the laboratory which opened in February 2015. The last fume hood, installed after receiving CFI funding, was certified in February 2016.

- **2013 (3):**

2013-2014 Western Internal SEED grant "Preparation and Chemical Investigations of Meteorites" awarded to Bouvier. \$25,000 for Lab Infrastructure. This grant funded a total exhaust fume hood and a water filtration system.

2013-2018 NSERC Canada Research Chair "Tier II CRC in Planetary Materials" awarded to Bouvier for \$100,000 per year for the University, including \$14,000 to Bouvier for Research. This funds my research activities and travels, as well as my students B. Zhang and P.-E. Martin's salaries and research support.

2013-2019 Western "Faculty of Science, Start-up" awarded to Bouvier as \$80,000. This funding supported lab renovations, lab equipment, and provides partial salary support for my lab technician.

- **2012 (3)**

2012-2016 NASA, Lunar Advanced Science and Exploration Research program "High Precision U-Pb Chronology of Lunar Impact Melts: New Constraints on the Impact History of the Moon" awarded to Bouvier for Year 1 and Year 2, then transferred to M. Wadhwa (ASU) for Yr 3 due to Bouvier's move to Canada, total USD\$ 274,000. I was the PI on this grant which I allowed to transfer to ASU when moving to Canada.

2012 NASA Space Grant, Minnesota Consortium "Undergraduate student research" awarded to Bouvier to hire a summer undergraduate student USD \$ 4,000

2012-2014 National Science Foundation, Petrology and Geochemistry program "Determination of the 176-Lutetium Decay Constant in Planetary Materials and Implications for the Lu-Hf Evolution of the Interior of the Earth". Awarded to Bouvier, total USD\$143,400. I was sole PI on this grant which provided half of my salary and funding for the analysis of Lu-Hf and Sm-Nd compositions of meteoritic objects. The Sm-Nd results were published in Nature in 2016.

Prior to 2012: As PhD student and post-doctoral researcher, from 2004 to 2007, I applied to the Programme National de Planétologie (France) grants which were awarded to Albarède, Bouvier, Blichert-Toft as ~\$4000 per year for research costs associated with my PhD thesis projects.

9. OTHER SCHOLARLY AND PROFESSIONAL ACTIVITIES:

EXTERNAL

Editorship

2015 – 2018 Editor of the Meteorite Bulletin. I am appointed by the President of the Meteoritical Society. I am also an ex-officio member of the Nomenclature Committee of the Meteoritical Society. As Editor, I lead this 12-person reviewing committee to evaluate the classifications, guidelines, and names of over non-Antarctic 2,000 meteorites every year. With the growing number of meteorite finds, I spend 8 to 10 hours weekly on communication with submitters, preparation of reports for voting on names, classifications and establishments of dense collection areas, votes, revisions of reports before publication in the Meteorite Bulletin, establishment of guidelines, review of meteorite names in LPSC and MetSoc conference abstracts, and reporting to the Chair.

2014 – 2015 Deputy Editor of the Meteorite Bulletin.

I was assisting Editor Dr. Carl Agee (UNM) as a training before becoming Editor.

2014 – 2016 Guest Editor of the Geochemical Journal for a special issue in Cosmochemistry.

I was invited as a guest editor for a special issue of the journal. This issue raised from the contributions given within the Theme 1 Cosmochemistry which I organized at the Goldschmidt Conference in 2014.

Conference organizer

2017-2018 Theme Chair of the program organization (sessions and conveners) for Theme 1 “From Stars to Planets” for the 2018 Goldschmidt conference (expected >4,000 participants).

2016 – Organizing committee member of the workshop “Before the Moon” (25 invited speakers) at the Earth-Life Science Institute, Tokyo, Japan, which took place on November 6-10, 2016.

2014 – 2015 Principal organizer with V. Assis Fernandes, W. K. Hartmann, and M. Norman of a 2-day international workshop (40 attendees) “The First Billion Years of Impact Records” prior to the Meteoritical Society meeting in July 2015.

2013 – 2014 Theme Chair of the program organization (sessions and conveners) for Theme 1 “Cosmochemistry” for the 2014 Goldschmidt conference (2,400 participants).

2007-2016 Co-convenor and co-chair of sessions:

- Goldschmidt conference (2008, 2011, 2013, 2014)
- Team member for the Goldschmidt Conference Theme 2 Early Earth (2013)
- Lunar and Planetary Science Conference (2009, 2011)
- Meteoritical Society meetings (2007, 2009, 2010, 2016)
- American Geophysical Union (2011, 2014, 2015)

Reviewer & Panelist

Panelist for the National Aeronautics and Space Administration (NASA) between 2011 and 2016 for Solar System Workings, Emerging Worlds, Lunar Advanced Science and Exploration Research, and Cosmochemistry research funding programs.

Reviewer for research funding agencies from 2008 to 2017:

- NASA in 2009, 2011, 2012, 2013, 2014, 2015, 2016, 2017 (1 to 20 proposals/yr) for the Lunar Advanced Science and Exploration Research, Cosmochemistry, Laboratory Analysis of Returned Samples, Emerging Worlds, Solar System Workings, Graduate Student Fellowship, and Earth and Space Sciences Fellowship programs
- US National Science Foundation in 2008 and 2013 (1 proposal/yr) for the Oceanography and

Petrology and Geochemistry programs

- NSERC in 2016 (1 proposal) for the Discovery Grant program
- Swiss National Science Foundation in 2016 (1 proposal)
- European Research Council 2016 and 2017 (1 proposal/yr) for the Starting Grant and Advanced Grant programs
- French Embassy in Canada in 2016 and 2017 (5 proposals/yr) for the France-Canada Research Fund program

Reviewer for scientific journals (~4/yr) since 2005: Antarctic Meteorite Research, Comptes Rendus Geoscience, Chemical Geology, Earth and Planetary Science Letters, Journal of Geophysical Research - Planets, Geochemical Perspectives Letters, Geochimica et Cosmochimica Acta, Geology, Icarus, Meteoritics and Planetary Science, Nature Geoscience, Proceedings of the National Academy of Sciences, and Science.

Professional memberships

American Geophysical Union (2003-), Meteoritical Society (2005-), Geochemical Society (2005-), and Society for Geology Applied to Mineral Deposits (2017-)

National collaboration activities:

Collaborator on the Canada Mining Innovation Council - NSERC Exploration Footprints Network for geochronological studies (PI Linnen) (since 2015).

Collaborator of CREATE training network at Western (PI Osinski) (2014-2017)

Collaborator of Canadian Space Agency-funded ASTRO (Astromaterials Training and Research Opportunities) program (2014-2016)

Current national collaborators: Drs. Linnen, Longstaffe, Osinski, Moser, Shieh and Withers at Western, Dr Georg at Trent University, Dr Yakimchuk at University of Waterloo, Dr Guilmette at Laval Université, and Dr. Hill at Lakehead University.

10. UNIVERSITY ADMINISTRATIVE DUTIES:

- 1) Since July 2015- Curator of the Western Meteorite collection. Department of Earth Sciences.
- 2) July 2015- present, Nominating Committee of the Faculty of Science
- 3) July 2013- present, Member of the Outreach committee, Department of Earth Sciences, Faculty of Science.

Participation in open house events for the departments of ES, P&A, and CPSX such as Open House, Cronyn Observatory, or Fall Preview, and public and school talks.

- 4) Since 2014: Core Member and Executive Committee Member of the Centre for Planetary Science and Exploration (CPSX).

Past:

2014-2016 Collaborator of Canadian Space Agency-funded ASTRO (Astromaterials Training and Research Opportunities) program

2015 Department of Earth Sciences, Faculty of Science. Member of the faculty retreat organizing committee.

2014-2015 Department of Earth Sciences, Faculty of Science. Member of Workload Committee.

2014 Faculty member on a panel with international exchange students during International week, which consisted of 3 meetings with students and panel discussion.

2013-2014 Department of Earth Sciences, Faculty of Science. Member of Graduate Studies Committee.

11. COMMUNITY SERVICE:

Outreach activities:

I contribute and participate in events as curator but also as faculty member for open house events organized throughout the year, public talks and school visits.

Recent Interview and Media Relations:

May 2017: Featured in the **CRC Newsletter** for my collaboration on a European Research Council project, http://www.chairs-chaieres.gc.ca/whats_new-quoi_de_neuf/2017/european_commission-eng.aspx?utm_source=Dialogue&utm_medium=Outlook&utm_campaign=june_2017&utm_content=title

Geochemical Newsletter of the Geochemical Society, listed on the **20 Top Geochemical News in 2016** for "Primitive Solar System materials and Earth share a common initial ^{142}Nd abundance" published in Nature in September 2016.

Email Interview for the Christian Science Monitor, online article, <https://www.csmonitor.com/Science/Spacebound/2017/0202/What-can-a-Martian-meteorite-tell-us-about-volcanism-on-the-Red-Planet>, 2 February 2017:

Magazine Québec Science. Interview on Space Exploration and Mining. December 7th, 2016.

Many media and science websites highlighted a research letter published in Nature in September 2016, including:

- New discovery shatters previous beliefs about Earth's origin, <http://mediarelations.uwo.ca/2016/09/14/new-discovery-shatters-previous-beliefs-earths-origin/>
- Primitive Solar System materials and Earth share a common initial ^{142}Nd abundance, <http://phys.org/news/2016-09-discovery-shatters-previous-beliefs-earth.html>
- Earth's not a snowflake, <http://www.thelondoner.ca/2016/09/16/earths-not-a-snowflake>

The X Fanshawe's radio station, Radio interview, February 10th 2016, The Moon's formation event.

NHK Japan public television recording for an episode of the "Cosmic Front, NEXT" TV series (<http://www.nhk.or.jp/space/cfn/>). Recorded on June 11-12th 2015 at the LMV in Clermont-Ferrand, aired on TV in September 2015. I recreated the study and analysis of the CAI anchoring the formation age of the Solar System.

"The age of the Solar System redefined by the oldest Pb–Pb age of a meteoritic inclusion" highlighted in January 2013 by Nature Geoscience editors as 1 of the 10 favourite papers in the web focus that celebrates the 5th anniversary of the journal, nature.com/ngeo/focus/5th-anniversary/index.html