Octav Cornea: Curriculum Vitae

Date and place of birth: July 15th, 1966, Bucharest, Romania
Canadian Citizen

Address:
Département de Mathématiques et Statistiques
Université de Montréal
CP 6128 Succ. Centre-Ville
Montréal, QC H3C 3J7
Canada
cornea@dms.umontreal.ca
http://www.dms.umontreal.ca/~cornea/

Positions held:

2021 - current. Director Centre de recherches mathématiques.

2015 - 2016. Member, Institute for Advanced Study, Princeton.

2011 - 2014. Deputy Director, Centre de recherches mathématiques.

2010 - 2019. Director, Séminaire de Mathématiques Supérieures.

2009 (Fall). Research Professor, Mathematical Sciences Research Institute, Berkeley.

2006 - 2009. Director, Institut de Sciences Mathématiques de Montréal.

2003 - current. Professor, Université de Montréal.

2000 - 2001. Member of the CNRS (délégation).


1990 - 1993. Teaching Assistant, University of Rochester.

Educational background:

Ph.D. - University of Rochester 1993, advisor Joseph Neisendorfer.


B.A. - University of Bucharest 1990.

Research interests:
Symplectic, algebraic and differential topology.

1Date: July 2021
Distinctions and prestigious invitations
- CARMIN senior researcher, Institut des Hautes Etudes Scientifiques, (postponed, Spring 2021).
- Member, Institute for Advanced Study, (2015-2016).
- Invited Speaker: Mathematical Congress of the Americas, August 2013.
- Research Professor MSRI. Fall 2009.
- Plenary Speaker AMS - sectional meeting, April 2009.

Students and post-doctoral fellows.

Post-doctoral fellows:
- Vukasin Sojaslevich (2021-2022, co-supervision)
- Vardan Oganesyan (2020 - 2021, co-supervision)
- Jun Zhang (2019 -2021, co-supervision)
- Dimitry Faifman (2018-2020, co-supervision)
- Noemie Legout (2018, co-supervision)
- Sarah Tukachinsky (2016-2017, co-supervision)
- Weivei Wu (2014-2016, co-supervision)
- Luis Haug (2014-2016, co-supervision)
- Michael Brandenbursky (2013-2015, co-supervision)
- Egor Shelukhin (2012-2015, co-supervision)
- Yasha Savelyev (2011-2013, co-supervision)
- Roman Golovko (2010-2012, co-supervision)
- Nicolai Dimitrov (2009-2010, co-supervision)
- Martin Pinsonneault (2007-2008, co-supervision)
- Shengda Hu (2007-2008, co-supervision)
- Ozgur Ceyhan (2006-2008, co-supervision)
- Basak Gurel (2006-2008, co-supervision)
- Samuel Lisi (2005-2007, co-supervision)
- Alex Ivrii (2003-2004, co-supervision)
**Doctoral students:**

- John Miller (January 2021-, co-supervision)
- Filip Brocic (January 2020-, co-supervision)
- Dominique Rathel-Fourrier (September 2019-)
- Jean-Philippe Chassé (September 2018-)
- Alexandre Perrier (2019)
- Emily Campling (2019)
- Vincent Letourneau (April 2020, co-supervision).
- François Charest (2012, co-supervision).
- François Charette (2012).
- Anthony Rieser (2010).
- Fabien Ngo (2010, co-supervision).
- Rémi Leclercq (2007).

**Master/DEA students:**

- Paul Fontaine (2020).
- Audrey Morin (2017).
- Florian Duquerroix (2014).
- Tuan Nguyen (2013, co-supervision).
- François Charette (2007).
- Olivier Rousseau (2005).
- François Rose (1997).

**Fellows:**

- Julien Hébert-Dutreloux, (summer 2021).
- Luis Carlos Sodevila, (summer 2021).
- Mathieu Pinneault, (summer 2020).
- Laurent Alcene-Racicot, (summer 2019).
- Simon-Olivier Savard (Summer 2018).
- Samuel DesRoches (Summer 2018).
- Philippe Robitaille-Grou (Summer 2017).
- Alexis Leroux-Lapierre (Summer 2016).
- Stephanie Larocque (Summer 2015).
- Francois Simon Fauteux-Chapleau (Summer 2014 and 2015).
- Alexandre Perrier (ENS - stage Master 2, Spring 2014).
- Vincent Girard (Summer 2014).
- Jean Lagacé (Summer 2013).
- Audrey Morin (Summer 2103).
- Vincent Letourneau (Summer 2012).
- Audrey Morin (Summer 2012).
- Jean-François Viens (Summer 2011 and 2012).
- Jean-François Gagnon (Summer 2009).
- Esteban Herrera (Summer 2008).
- Loic Seguin-Charbonneau (Summer 2007).
- Pierre Pageault (Stage - ENS; Summer 2006).
- Katja Hutschenreuter (Summer 2005).
- François Charette (Summer 2005).
- Daniel Fiorilli (Summer 2005).

Scientific committees and boards.
- Fields Institute board (member, 2019-2021).
- Editor in Chief of the Annales Mathématiques du Québec (2017 -2020).
- Associate Editor of the Annales Mathématiques du Québec (2009 - 2017 and from 2020 on).
- NSERC Discovery Grant Evaluation Group 1508 (maths - stats, 2009-2012).
- NSF Panel on geometric analysis and symplectic geometry, 2010.
- Canada Research Chairs Program College of Reviewers (since 2005).

Grants.

**Individual grants:**

- NSERC - individual Discovery grant, 41000$/year, 2018-2023.
- Institute for Advanced Study, 25000$, 2015-2016.
- NSERC - individual grant, 25000$/year, 2008-2013.
- 1996-2002 recipient of “Prime de recherche et encadrement doctoral” (France).

**Group grants:**

- FRQ-NT - research team grant (Francois Lalonde principal applicant), 41000$/year, 2013-2016.
- NSERC - Banff International Research Station support grant (Nassif Ghoussoub - principal applicant), 636000$/year, 2011-2016.
- FQRNT - group grant (with François Lalonde), 47000$/year, 2010 -2013.
- FQRNT - group grant (with Francois Lalonde). 48000$/year, 2007-2010.
- FQRNT - group grant (coordinator Steven Boyer), 40000$/year, 2003-2006.
- NSERC - Leadership Science Initiative - group grant (coordinator Steven Boyer), 42000$/year, 2003-2006.
Organization of scientific events.

- Symplectic Zoominar, co-organized with the IAS, ENS, and Tel Aviv University, from March 2020.


- Summer school on symplectic topology, CIRM - Marseille, September 2015, (co-organizer).

- Symplectic Topology conference, CRM - Montreal, August 2015, (co-organizer).

- Special session on symplectic geometry, the Mathematical Congress of the Americas, Mexico, August 2013, (co-organizer).

- Conference on non-linear analysis and applications, the Banach Center, Poland, July 2013 (scientific committee member).

- $J$-holomorphic curves in symplectic geometry and topology, CRM, April -May, 2013 (co-organizer).

- Scientific co-director for the Canada - France joint mathematical meeting, Montreal, 2008.


- “Floer theory” meeting at BIRS, 2007, (co-organizer).


- Workshop on “Cluster-Polyfold theory” at the Institute for Advanced Study, October 2005, (co-organizer).

- CRM - ISM Colloquium in 2004-2005 (co-organizer).

- Symplectic informal semester at the CRM, Fall 2004, (co-organizer).


- Colloquium in Lille, Spring 2002.

- Conference on Symplectic Topology in Lille, June 2002, (co-organizer)

- Workshop on the Conley index, Sherbrooke, Quebec, August 2001, (co-organizer).


- ”Journées de théorie de l’homotopie” 12-18 January 1997 at the Centre International de Rencontres Mathematiques (CIRM) in Luminy, France, (co-organizer).

- Mini-conference on the Conley index” at the University of Lille in March 1996.

- Annual series of lectures on “Homotopy theory and applications” from 1995 to 2000 at the University of Lille 1.
Long term scientific visits.

- FIM-ETH, Zürich - two weeks May 2018.
- Research in Pairs Program, Oberwolfach, two weeks in May 2017.
- Simons Center, Stony Brook - three weeks in the Spring of 2014.
- Professeur invité - Université Paul Sabatier Toulouse - June 2013.
- IAS, Princeton, USA - two weeks March 2012.
- ETH, Mathematics Department, Zürich - two weeks July 2011.
- ETH, Mathematics Department, Zürich - two weeks in January 2010.
- MSRI, Fall 2009.
- Tel Aviv University, two weeks in June 2009.
- ETH Mathematics Department, Zürich - December 2007.
- Department of Mathematics, Tel Aviv University - April 2005.
- Pisa, Centro di Giorgi - February 2005.
- Fields Institute, Toronto - Symplectic semester, March 2001.
- University of Campinas, November 2001.
- Centre de Recerca Matematica, Barcelona - the homotopy semester, Spring 1998.
- The Fields Institute, Toronto -the homotopy year, 1996.
- Université de Lille 1, May 1994.

Selected invited talks.

- IHP - Symplectic Semainr, June 2021.
- London Symplectic Topology seminar, July 2020.
- Symplectic dynamics conference, Lausanne, August 2019.
- Symplectic Topology seminar talk, ETH, November 2018.
- Topological Data Analysis meets Symplectic Topology, Tel Aviv University, April 29 - May 3, 2018.
- Workshop on Immersed Lagrangian Cobordisms, April 6 - 9, 2018, University of Ottawa.
- Special session on Symplectic Geometry, PRIMA, Guanajuato, Mexico, August 2017.
- Workshop on symplectic and contact topology, Montreal, May 2016.
- Conference on symplectic topology and dynamics, Madrid, May 2016.
- Seminar talk, MIT, April 2016.
- Seminar talk, Stanford, April 2016.
- IAS/Princeton University symplectic topology seminar, September 2015.
- Moduli spaces in symplectic topology and gauge theory, CIRM, Marseille, June 2015.
- Loop spaces and symplectic topology, Nantes, September 2014.
- Technical aspects in moduli spaces 2nd workshop, Simons Center for Mathematics and Physics, June 2014.
- Symplectic topology and Dynamical systems, Madrid, November 2013.
- Summer school on Symplectic Topology in Lagone, June 2013 - principal speaker.
- Holomorphic curves in low-dimensional and symplectic topology, Stanford, August 2012.
- Oberwolfach meeting on Dynamics and symplectic Topology, July 2012.
- Haifa conference on symplectic topology, June 2012.
- CIRM - Marseille conference on Algebraic Topology, June 2012.
- Ottawa conference on algebraic topology, May 2012.
- Seminar talk, Chicago University, December 2011.
- Colloquium, Waterloo University, September 2011.
- Dynamical Systems, Campinas, Brazil, May 2011 - plenary speaker.
- Symplectic Topology Workshop, Kyoto, February 2011.
- Geometric group theory, dynamics and symplectic topology, Oberwolfach, July 2010.
- Puzzles in symplectic geometry and topology, MSRI Berkeley, March 2010.
- Introductory workshop to the Symplectic Program, MSRI Berkeley, August 2009.
- CMS Summer meeting in St. John's, NF (sectional speaker), June 2009.
- Florida Topology Conference, March 2009 - semi-plenary invited speaker.
- Geometric group theory, dynamics and symplectic topology, Oberwolfach, July 2006.

- Computational and topological aspects of dynamics”, Lorenz Center the Netherlands, May 2006.


- Colloquium, Technion, April 2005.

- Colloquium, Bar Ilan University, April 2005.

- Distinguished Topology lectures, Tel Aviv University, April, 2005.


- NATO summer school, Montreal, July 2004.


- AMS sectional meeting in Los-Angeles, April 2004.


- AMS sectional meeting in Binghamton, October 2003.

- Non-linear analysis meeting in Bedlevo, Poland, June2003.


- Colloquium, Dartmouth University, avril 2003.

- NYU-SUNY, Symposiumic topology seminar, février 2003.


- Louvain-la-Neuve - Mini-course on “Morse theory”

- Oberwolfach, Topology conference, September 2001

- Barcelona Euro-PhD conference, Barcelona, July 2001

- Skye Algebraic Topology conference, Skye, June 2001

- Non-linear analysis, Banach Inst., Poland, June 2001

- Fields-CRM Symplectic Topology workshop, April 2001

- Algebraic topology meeting in Strasbourg, September 2000

- Algebraic topology worship in Haifa, June 2000

- The AMS regional meeting in Charlotte (special session on Dynamical Systems), October 1999.


- Conference on the Conley index at the Banach center, Warsaw, June 1997.
- The AMS regional meeting in Detroit, May 1997.
- Homotopy miniconference; Matagne la Petite, November 1996.
- The homotopy year at the Fields Institute; Toronto, May 1996.
- AMS regional meeting at Kent State University; November 3-4, 1995.
- Topology; Oberwolfach, September 3-9, 1995.
- Rational Homotopy Summer School at Breil sur Roya, France; May 24 - June 4, 1994.
- AMS conference Trent University, October 1993.
- Algebraic topology miniconference; Malaga, Spain, October 1993
- The AMS regional meeting in Syracuse, September 1993.
- The Cech Centennial Homotopy Conference; Northeastern University, June 1993.
- Algebraic Homotopy; Schloss Ringberg, Germany, April 1993.
- Ontario Topology conference; University of Rochester, April 1992.

Teaching.
I taught at all levels: calculus, complex analysis, general topology, algebraic topology, differential geometry and a variety of specialized advanced courses - Morse theory, Lagrangian topology etc.

Administration.
- From 2010 to 2019 I was director of the Séminaire de Mathématiques Supérieures (http://www.dms.umontreal.ca/ sms/).
- Deputy director of the Centre de Recherche Mathématiques from 2011 to 2014.
- Director of the Institut de Sciences Mathématiques de Montréal (http://www.math.uqam.ca/ism/) from 2006 to 2009.
Publication list.

Refereed papers, published or accepted:


**Books:**


Preprints:


Non-refereed publications:

ii.5 Geometrizing the Fukaya Category via Lagrangian Cobordism and Immersions, Report of an Oberwolfach Research in pairs program (2017).

ii.4. Towards categorification of Lagrangian topology, Oberwolfach Reports, 9 (2012).

ii.3. Lagrangian submanifolds: their fundamental group and Lagrangian cobordism, Oberwolfach Reports, 7 (2010).


ii.1. Towards quantization of the Morse complex, Oberwolfach Reports, 3 (2006).