



## Curriculum Vitæ

**NAKAD Roger**

Born April 14, 1985. Lebanese.

### Professional Address:

Department of Mathematics and Statistics  
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## Present Position

2012-Present: **Assistant Professor**  
Department of Mathematics and Statistics  
Notre Dame University-Louaizé, Lebanon.

## Previous Position

2011-2012: **Postdoctoral Researcher**  
Max Planck Institute for Mathematics, Bonn, Germany.

## Education

2008-2011: **Ph.D in Mathematics**  
University of Nancy I, France.  
2007-2008: **Master II in Fundamental Mathematics**  
University of Paul Verlaine, Metz, France.  
2006-2007: **Master I in Fundamental Mathematics**  
Lebanese University, Fanar.  
2005-2006: **BS in Mathematics**  
Lebanese University, Fanar.  
2002-2003: **Official Lebanese Baccalaureate**, General Sciences  
Notre Dame de la Délivrance, Zalka, Lebanon.

## Teaching Responsibilities

Course Code	Course Title	Level	Location/Semester
MAT 634	Complex Analysis	Grad.	NDU (Spring 2016, Spring 2018)
MAT 623	Real Analysis	Grad.	NDU (Spring 2013)
MAT 423	Advanced Calculus II	Undergrad.	NDU (Spring 2014, Spring 2017, Spring 2018)
MAT 413	Advanced Calculus I	Undergrad.	NDU (Fall 2013)
MAT 400	Elementary Differential Geometry	Undergrad.	NDU (Spring 2015)
MAT 339	Numerical Analysis	Undergrad.	NDU (Fall 2016, Summer 2016, Fall 2015, Summer 2015, Spring 2015, Fall 2014, Spring 2014)
MAT 333	Complex Variables	Undergrad.	NDU (Fall 2015, Fall 2013, Spring 2017)
MAT 326	Probability and Statistics	Undergrad.	NDU (Spring 2015)
MAT 303	Math Logic and Set Theory	Undergrad.	NDU (Fall 2017)
MAT 224	Calculus IV	Undergrad.	NDU (Fall 2016, Summer 2016)
MAT 235	Ordinary Differential Equations	Undergrad.	NDU (Fall 2016, Spring 2016, Fall 2015, Spring 2015, Fall 2014, Spring 2014, Fall 2013, Fall-Spring 2012-2013)
MAT 215	Linear Algebra	Undergrad.	NDU (Spring 2017, Fall 2017, Spring 2018)
MAT 213	Calculus III	Undergrad.	NDU (Fall 2015, Fall-Spring 2012-2013)
MAT 112	Calculus II	Undergrad.	NDU (Spring 2017)
***	Calculus	Undergrad.	University of Henri-Poincaré, France (2008-2011)
***	Teaching training at the CIES (Center for Teaching Professions)	Undergrad.	University of Henri Poincaré, France (2008-2011)

## Advising Responsibilities

### Undergraduate Advising Responsibilities:

- (1) 2013-present: **Academic Advisor** for the undergraduate mathematics program, NDU.

### Graduate Advising Responsibilities:

#### Advisor of Master's thesis:

- (1) Hassan Harb, NDU, June 2015. Thesis entitled: "Spectral properties of the Dirac operator and geometric applications". Hassan Harb is actually a PhD student in Mathematical Physics at Concordia University, Canada.

- (2) Mohamad Mehdi, NDU, June 2016. Thesis entitled: "Conformal Mapping and its Applications".
- (3) Rebecca Yammine, NDU, in progress.

Referee of Master's thesis:

- (1) Joumana El Kassem, BAU (Beirut Arab University), May 2015. Thesis entitled: "On the Systolic Geometry of Tori".
- (2) Michel Daher, NDU, May 2014. Thesis entitled: "On curves and the Hahn-Mazurkiewicz Theorem".

## Fellowships and Research Grants

- June 2017 **Professorship in Mathematics**  
University of Paris-Est, Marne La Vallée, Paris, France.
- 2016-2019 **The Differential Geometry project** entitled:  
"Geometric boundary value problems of the Dirac operator " funded by  
the federal state of Baden-Wurttemberg, Germany.
- 2012-2014 The "**Berlin Einstein Fellowship**", Fellowship in Differential Geometry  
IMU Berlin Einstein Foundation Program (EFP)  
University of Potsdam, Germany
- 2008-2011 **Ph.D. Grant**  
The French Ministry of Education.

## Research Interests

**Geometric Analysis, Differential Geometry, Complex Geometry, CR Geometry, Intrinsic/Extrinsic Spin and  $\text{Spin}^c$  Geometry, Conformal Geometry, Spectral Theory.**

In particular:

- (1) The  $\text{Spin}^c$  Dirac operator on submanifolds and geometric applications.
- (2) The energy-momentum tensor on  $\text{Spin}^c$  manifolds and their hypersurfaces.
- (3) Spinorial characterization of hypersurfaces (and submanifolds) immersed into  $\text{Spin}^c$  manifolds.
- (4) Rigidity results for Riemannian Spin and  $\text{Spin}^c$  manifolds with foliated boundary.
- (5)  $\text{Spin}^c$  structures on Kähler manifolds, CR-manifolds and manifolds with boundary.
- (6) Some embedding into  $\text{Spin}^c$  manifolds with special spinor fields.
- (7) The geometry and topology of Riemannian manifolds carrying special spinor fields.
- (8) Harmonic and Kählerian Killing  $\text{Spin}^c$  spinors.

## Publications

All articles are published in international refereed research journals. Authors of each publication are listed in alphabetical order of their last names.

- (1) **Eigenvalue Estimate for the basic Laplacian on manifolds with foliated boundary, Part II**, F. El Chami, G. Habib, O. Makhoul and R. Nakad, *Mediterr. J. Math.* (2018) 15: 67. <https://doi.org/10.1007/s00009-018-1111-2>.
- (2) **Spinorially twisted spin structures, III: CR structures**, R. Herrera, R. Nakad and Ivan Tellez, *J. Geom. Anal.* (2017), <https://doi.org/10.1007/s12220-017-9958-1>
- (3) **Eigenvalue Estimate for the basic Laplacian on manifolds with foliated boundary**, F. El Chami, G. Habib, O. Makhoul and R. Nakad, *Ricerche Mat.* (2017). <https://doi.org/10.1007/s11587-017-0339-7>.
- (4) **Rigidity results for Riemannian  $\text{Spin}^c$  manifolds with foliated boundary**, F. El-Chami, N. Ginoux, G. Habib and R. Nakad, *Results in Math.* (72), 1773-1806, 2017.
- (5) **Complex and Lagrangian surfaces in the complex projective space via Kählerian Killing  $\text{Spin}^c$  spinors**, R. Nakad and J. Roth, *J. Geom. Phys.* 116 (2017), 316-329.
- (6) **Lower bounds for the eigenvalues of the  $\text{Spin}^c$  Dirac operator on manifolds with boundary**, R. Nakad and J. Roth, *Comptes-rendus-Mathématique, Vol 354, no 4 (2016), pp 425-431*.
- (7) **Rigidity results for Spin manifolds with foliated boundary**, F. El-Chami, N. Ginoux, G. Habib and R. Nakad, *J. Geom.* 107 (2016), 533-555.
- (8) **Eigenvalue estimates of the  $\text{Spin}^c$  Dirac operator and harmonic forms on Kähler-Einstein manifolds**, R. Nakad and M. Pilca, *SIGMA 11 (2015), 54, 15 pages*.
- (9) **Lower bounds for the eigenvalues of the  $\text{Spin}^c$  Dirac operator on submanifolds**, R. Nakad and J. Roth, *Archiv der Mathematik, Volume 104 (2015), Issue 5, pp 451-461*.
- (10) **Riemannian foliations with parallel or harmonic basic forms**, with F. El Chami, G. Habib and R. Nakad, *Archivum Mathematicum (BRNO) 2015, Tomus 51, pp. 51-65*.
- (11) **Complex Generalized Killing Spinors on Riemannian  $\text{Spin}^c$  manifolds**, N. Grosse and R. Nakad, *Results in Mathematics, Vol. 67, Issue 1 (2015), 177-195*.
- (12) **Boundary value problems for noncompact boundaries of  $\text{Spin}^c$  manifolds and spectral estimates**, N. Grosse and R. Nakad, *Proc. London Math.*

*Soc. (3) 109 (2014) 946-974.*

- (13) **The twisted  $\text{Spin}^c$  Dirac operator on Kähler submanifolds of the complex projective space**, G. Habib and R. Nakad, *Journal of Geometry and Physics*, 77 (2014), 43-47.
- (14) **The  $\text{Spin}^c$  Dirac operator on hypersurfaces and applications**, R. Nakad and J. Roth, *Differential Geometry and its Applications*, 31 (2013), 93-103.
- (15) **Hypersurfaces of  $\text{Spin}^c$  manifolds and Lawson correspondence**, R. Nakad and J. Roth, *Ann. Glob. Anal. Geom* , Vol. 42, No. 3 (2012), 421-442.
- (16) **The energy-momentum tensor on low dimensional  $\text{Spin}^c$  manifolds**, G. Habib and R. Nakad, *International Journal of Mathematics Vol. 23, No. 9, 2012.*
- (17) **The Hijazi inequalities on complete Riemannian  $\text{Spin}^c$  manifolds**, R. Nakad, *Adv. in Math. Phys.*, 2011, Article ID 471810, doi:10.1155/2011/471810.
- (18) **The energy-momentum tensor on  $\text{Spin}^c$  manifolds**, R. Nakad, *IJGMMP Vol. 8, No. 2, 2011.*
- (19) **Lower bounds for the eigenvalues of the Dirac operator on  $\text{Spin}^c$  manifolds**, R. Nakad, *J. Geom. Phys.* 60 (2010), 1634-1642.

## Research Visits

- (1) Dec. 13 to Dec. 18, 2010: “**Laboratoire d’Analyse et de Mathématiques Appliquées de l’Université Paris-Est, Marne-la-Vallée, France**”.
- (2) Jun. 13 to Jun. 18, 2011: “**Laboratoire d’Analyse et de Mathématiques Appliquées de l’Université Paris-Est, Marne-la-Vallée, France**”.
- (3) Apr. 23 to Apr. 27, 2012: **The Institute of Mathematics, University of Leipzig, Germany.**
- (4) Apr. 29 to May 15, 2012: “**Centro de Investigación en Matemáticas, A.C. (CIMAT), Guanajuato, Mexico.**”
- (5) May 20 to May 23, 2012: **The Institute of Mathematics, University of Regensburg, Germany.**
- (6) May 29 to Jun. 3, 2012: **The Institute of Mathematics, University of Marburg, Germany.**
- (7) Jul. 22 to Jul. 27, 2012: **The Institute of Mathematics, University of Humboldt, Berlin.**
- (8) Feb. 2 to Feb. 18, 2013: **The Institute of Mathematics, University of Leipzig, Germany.**

- (9) Jul. 1 to Aug. 31, 2013: **The Institute of Mathematics, University of Postdam, Germany.**
- (10) Sept. 1 to Sept. 25, 2013: **“Laboratoire d’Analyse et de Mathématiques Appliquées de l’Université Paris-Est, Marne-la-Vallée, France”.**
- (11) Feb. 10 to Feb. 20, 2014: **“Centre International de Rencontres Mathématiques, Luminy, Marseille-France”**, Research in pairs with JProf. Nadine Grosse.
- (12) Jul. 1 to Sept. 19, 2014: **The Institute of Mathematics, University of Postdam, Germany.**
- (13) Jul. 20 to Jul. 26, 2014: **The Institute of Mathematics, University of Regensburg, Germany.**
- (14) Aug. 25 to Aug. 30, 2014: **The Institute of Mathematics, University of Regensburg, Germany.**
- (15) Feb. 1 to Feb. 13, 2014: **Institut Élie Cartan de Lorraine, Nancy, France.**
- (16) Aug. 30 to Sept. 6, 2015: **“Laboratoire d’Analyse et de Mathématiques Appliquées de l’ Université Paris-Est, Marne-la-Vallée, France”.**
- (17) Jan. 24 to Feb. 6, 2016: **CIRM (Centro Internazionale per la Ricerca Matematica), Trento, Italy**, Research in pairs with Prof. Nadine Grosse.
- (18) Jan. 11 to Jan. 24, 2017: **The Institute of Mathematics, University of Freiburg, Germany.**
- (19) Jun. 15 to Jul. 15, 2017: **University of Paris-Est, Marne La Vallée, France.**

## Talks, Seminars and Conferences

### Seminars Invitations:

- (1) May 2017: **Surfaces of the complex projective space via Kählerian Killing Spin<sup>c</sup> spinors**, Mathematics Monthly Seminars, NDU, Lebanon.
- (2) Feb. 2015: **Harmonic complex forms on Kähler-Einstein manifolds with Killing Spin<sup>c</sup> spinors**, Élie Cartan Institute, University of Lorraine, Nancy, France.
- (3) Nov. 2014: **Harmonic complex forms on Kähler-Einstein manifolds with Killing Spin<sup>c</sup> spinors**, Geometry and Analysis Seminar, American University of Beirut (AUB), Lebanon.
- (4) Sept. 2014: **Generalized Killing spinors on Riemannian Spin<sup>c</sup> manifolds**, Geometry Seminar, University of Potsdam, Germany.

- (5) Jan. 2014: **Spin<sup>c</sup> generalized Killing spinors**, CAMS (Center for Advanced Mathematical Sciences) of the American University of Beirut (AUB), Lebanon.
- (6) Sept. 2013: **Killing Spin<sup>c</sup> spinors on 3-dimensional Riemannian manifolds**, Differential Geometry Seminar, Élie Cartan Institute, Nancy, France.
- (7) Jul. 2013: **Spin<sup>c</sup> Killing spinors and isometric immersions**, Geometry Seminar, University of Potsdam, Germany.
- (8) Nov. 2012: **The restriction of Spin<sup>c</sup> spinors to surfaces and geometric applications**, Mathematics Seminar, Notre Dame University-Louaize, Zouk Mosbeh, Lebanon.
- (9) Nov. 2012: **Isometric immersions into complex space forms**, CAMS (Center for Advanced Mathematical Sciences), American University of Beirut (AUB), Lebanon.
- (10) Jun. 2012: **Isometric immersions into complex space forms via Spin<sup>c</sup> spinors**, Mathematics Seminar, Notre Dame University-Louaize, Zouk Mosbeh, Lebanon.
- (11) Jun. 2012: **Almost complex, complex and Kähler structures via Spin<sup>c</sup> spinors**, Mathematics Seminar, Lebanese American University, Byblos, Lebanon.
- (12) May 2012: **Isometric immersions into 4-dimensional manifolds and Killing Spinors**, Research Seminar in Geometry and Analysis, Marburg, Germany.
- (13) May 2012: **Spin<sup>c</sup> Killing spinors on Sasaki manifolds**, Global Analysis Seminar, University of Regensburg, Germany.
- (14) May 2012: **Spin<sup>c</sup> spinors on low dimensional manifolds and applications**, Geometry Seminar, Centro de Investigación en Matemáticas, A.C. (CIMAT), Guanajuato, Mexico.
- (15) Apr. 2012: **Isometric immersions in complex space forms via Spin<sup>c</sup> spinors**, Geometry Oberseminar, Max Planck Institute for Mathematics, Leipzig, Germany.
- (16) Jan. 2012: **Spin<sup>c</sup> structures on homogeneous manifolds and geometric applications**, Geometry Seminar, University of Tours, France.
- (17) Jan. 2012: **Hypersurfaces of Kähler and Sasaki manifolds**, Geometry and Global Analysis Seminar, University of Humboldt-Berlin, Germany.
- (18) Dec. 2011: **The Spin<sup>c</sup> Dirac equation on surfaces**, Differential Geometry Meeting, Lebanese University, Fanar.
- (19) Nov. 2011: **The Spin<sup>c</sup> Dirac equation on surfaces**, Geometry Seminar, University of Hamburg, Germany.

- (20) Nov. 2011: **Surfaces in 3-dimensional Thurston geometries via  $\text{Spin}^c$  spinors**, Geometry Seminar, University of Potsdam, Germany.
- (21) Oct. 2011:  **$\text{Spin}^c$  spinors and their geometric applications**, the Junior Trimester Program, Hausdorff Institute for Mathematics, Bonn, Germany.
- (22) Apr. 2011: **Lawson correspondence for surfaces in 3-dimensional homogeneous manifolds**, Geometry Seminar, Max Planck Institute for Mathematics, Bonn, Germany.
- (23) Mar. 2011: **The  $\text{Spin}^c$  Dirac operator and applications**, Mathematics Seminar, Lebanese University, Fanar.
- (24) Feb. 2011:  **$\text{Spin}^c$  structures on hypersurfaces and applications**, Geometry Seminar, University of Brest.
- (25) Jan. 2011: **The energy-momentum tensor on  $\text{Spin}^c$  manifolds**, Geometry Seminar, University of Luminy, Marseille.
- (26) Dec. 2010: **Spinorial characterization of immersed surfaces**, Geometry Seminar, “Laboratoire d’analyse et de mathématiques appliquées”, University of Marne-la-Vallée, Paris.
- (27) Mar. 2010: **On the energy-momentum tensor of  $\text{Spin}^c$  manifolds**.
- (28) Nov. 2010:  **$\text{Spin}^c$  structures on CR manifolds**, Differential Geometry Seminar, Élie Cartan Institute, Nancy, France.
- (29) Dec. 2010:  **$\text{Spin}^c$  structures on manifolds**, Ph.D students seminar in Mathematics, Élie Cartan Institute, Nancy.
- (30) Oct. 2009: **Kählerian spinors I**, Differential Geometry Seminar, Élie Cartan Institute, Nancy, France.
- (31) Oct. 2009: **Kählerian spinors II**, Differential Geometry Seminar, Élie Cartan Institute, Nancy, France.
- (32) May 2009:  **$\text{Spin}^c$  structures and the Dirac operator**, Ph.D students seminar in Mathematics, University of Luxembourg.
- (33) Mar. 2009: **The spectrum of the Dirac operator on submanifolds**, Differential Geometry Seminar, Élie Cartan Institute, Nancy, France.
- (34) Nov. 2008: **Hypersurfaces of 3-dimensional space forms**, Differential Geometry Seminar, Élie Cartan Institute, Nancy, France.

**Abstracts, Posters and Oral Presentations (Peer-reviewed conferences):**

- (1) Feb. 2018:  **$\text{Spin}^c$  structures CR/complex structures**, the Humboldt Kolleg conference “At the confluence of Analysis, Geometry and Modern Mathematical



- Physics”, Fanar, Lebanon.
- (2) Jul. 2017: **Eigenvalue Estimate for the basic Laplacian on manifolds with foliated boundary**, An Annual International Symposium on the Future of STEAM (sciences, technology, engineering, mathematics and arts) Education, Athens, Greece.
  - (3) Apr. 2017: **Surfaces of the complex projective space via  $\text{Spin}^c$  spinors**, The seventh Annual meeting of the ”Lebanese Society for the Mathematical Sciences”, LSMS-2017, University of Balamand, Lebanon.
  - (4) Jan. 2017: **Surfaces of the complex projective space via  $\text{Spin}^c$  spinors**, the 18<sup>th</sup> UK-Japan Winter School ”Symmetries, Singularities and Submanifolds”, University College London, UK.
  - (5) Feb. 2016: **Scalar curvature and Dirac operator**, CIRM (Centro Internazionale per la Ricerca Matematica), Trento, Italy.
  - (6) June 2015: **Rigidity results for Spin manifolds with foliated boundary**, the “17<sup>th</sup> Rencontres Mathématiques de Rouen”, Rouen, France.
  - (7) June 2015: **Generalized Killing Spinors on Riemannian  $\text{Spin}^c$  Manifolds**, AMS-EMS-SPM International Meeting, Porto, Portugal.
  - (8) Apr. 2015: **Complex differential forms and the  $\text{Spin}^c$  Dirac spectrum**, the Second International Conference on Mathematics and Statistics, Sharjah, UAE.
  - (9) May 2014:  **$\text{Spin}^c$  spinors and isometric immersions of Riemannian manifolds**, RIGA 2014: Riemannian Geometry and Applications to Engineering and Economics, Bucharest, Romania.
  - (10) Mar. 2014: **Generalized Killing  $\text{Spin}^c$  spinors**, the 20th LAAS International Science Conference, Advanced Research for Better Tomorrow, Hadath, Lebanon.
  - (11) Mar. 2014: **Generalized Killing  $\text{Spin}^c$  spinors**(Poster), International Meeting on Lorentzian and Conformal Geometry, Greifswald, Germany.
  - (12) May 2013: **Imaginary Killing spinors on complete Riemannian  $\text{Spin}^c$  manifolds**, the Fourth Annual Meeting of the “Lebanese Society for the Mathematical Sciences” (LSMS), Saint Joseph University, Lebanon.
  - (13) Mar. 2012: **Immersions of surfaces via  $\text{Spin}^c$  Killing spinors**, the Third Killing-Weierstrass Colloquium, Braniewo, Poland.

## Mini Courses

- (1) Oct. 2011:  **$\text{Spin}^c$  structures on manifolds and geometric applications**, a mini-course given at the Max Planck Institute for Mathematics in Bonn, Germany.

## Thesis Dissertations

- (1) May 2011. **Special submanifolds of  $\text{Spin}^c$  manifolds**, PhD Dissertation. Élie Cartan Institute, University of Lorraine, France. Advisor: Prof. Oussama Hijazi.
- (2) Jun. 2008. **Spectre de l'opérateur de Dirac sur une variété spinorielle compacte**, Master Thesis. University of Metz, France. Advisor: Prof. Oussama Hijazi.

## Conferences and Summer Schools Attended

Date	Location	Event's name
Jul. 2014	LMS-CMI Research School, Imperial College, London, U.K.	An Invitation to Geometry and Topology via $G_2$
Sept. 2013	IHES (Institut des Hautes Études Scientifiques), Paris-France	Conference to honor Jean Pierre Bourguignon
Jul. 2012	Castle Rauischholzhausen, Marburg, Germany	Geometric Structures on Manifolds and their Applications
Mar. 2012	University of Lorraine, Metz campus, France	Conference on Algebraic and Geometric Aspects of Dirac Operators
Jan. 2012	Élie Cartan Institute, Nancy, France	Journées Nancéiennes de Géométrie
Jun. 2011	Élie Cartan Institute, Nancy, France	Geometric and Nonlinear Analysis: Meeting in Lorraine
Jun. 2011	Élie Cartan Institute, Nancy, France	Journée Metz-Nancy des Doctorants de Mathématiques
May 2011	University of Pierre et Marie Curie, Paris 6	Aspects Conformes de la Géométrie
Jan. 2011	Élie Cartan Institute, Nancy, France	Journées Nancéiennes de Géométrie
Oct. 2010	Roscoff, France	Workshop on Geometric Analysis
Jun. 2010	Élie Cartan Institute, Nancy, France	Aspects Géométriques de la Relativité Générale
Jun. 2010	University of Aegean, Samos, Greece	Summer School in Geometric Analysis
Jan. 2010	Elie Cartan Institute, Nancy, France	Geometric Meeting
Dec. 2009	The Mathematics Institute of Toulouse, France	Conference on Fundamental Groups and Hyperbolic Geometry
Oct. 2009	University of Saarland-Saarbrücken, Germany	International Congress in Mathematics
Oct. 2009	Institute Élie Cartan, Nancy, France	Journées Nancéiennes de Géométrie

June 2009	Institute Fourier, Grenoble	Spectral Theory and Geometry, in honor of P. Berard et S. Gallot
May 2009	University of Cergy-Pointoise, Paris	Conference on Geometric and Nonlinear Analysis
Apr. 2009	Élie Cartan Institute, Nancy, France	Differential Geometry Meeting 2009Bis
Apr. 2009	Fourier Institute, Grenoble, France	A Differential Geometry Meeting
Jan. 2009	Élie Cartan Institute, Nancy, France	A Differential Geometry Meeting
Dec. 2008	École Normale Supérieure de Lyon, France	Meeting of Mathematicians Awarded by the Academy of Sciences

## Organizing Committees

- (1) **Meeting on Differential Geometry**, Center for Advanced Mathematical Sciences (CAMS) and Lebanese University, 21–23 March 2013.
- (2) **Meeting on Differential Geometry**, Center for Advanced Mathematical Sciences (CAMS) and Lebanese University, 9 and 10 May 2014.
- (3) **International Conference on Differential Geometry**, Center for Advanced Mathematical Sciences (CAMS) and Notre Dame University-Louaizé (NDU), 27–30 April 2015.
- (4) **LSMS 2016**, Annual conference of the Lebanese Society for the Mathematical Sciences.
- (5) **LAAS 2016**, Annual conference of the Lebanese Association for the Advancement of Sciences.
- (6) **Conference on Differential Geometry**, Center for Advanced Mathematical Sciences (CAMS) and AUB, 26-28 May 2016.
- (7) **NDU Math Competition for High School Students**, NDU, March 2018.
- (8) **NDU Math Competition for Al-Rabih School Students**, NDU, March 2018.

## Conferences Chairing

- (1) Chair of the session "Mathematics and Computer Sciences I" during the **LAAS 2017** conference, Fanar-Lebanon, April 2017.

## Scientific Committees

- (1) **LSMS 2018**, the Eight Annual Meeting of the "Lebanese Society for the Mathematical Sciences", Lebanese American University, May 11-12, 2018.

- (2) **LAU Math Tournament 2018**, a Mathematics Tournament day for students, LAU, Byblos, Lebanon.
- (3) **LSMS 2017**, the Seventh Annual Meeting of the "Lebanese Society for the Mathematical Sciences", University of Balamand, April 20-21, 2017.
- (4) **LAU Math Tournament 2017**, a Mathematics Tournament day for students, LAU, Beirut, Lebanon.

## Special Achievements/Accomplishments

- (1) **NDU Monthly Mathematics Seminars:** In fall 2012 and with the collaboration of the Chair of the Mathematics and Statistics department at NDU; Dr. Bassem Ghalayini, we began to host **monthly seminars**. These monthly seminars are intended to keep faculty members updated of the latest development in Mathematics, as well as to encourage research among faculty members. Mathematics monthly seminars are led by experts coming from various universities in Lebanon, Europe and United States.
- (2) Under my supervision, **Notre Dame University-Louaize (NDU) has placed second in the 2017 LAU Mathematics Tournament for undergraduate students**. This tournament took place at the Lebanese American University (LAU) with the purpose of bringing together undergraduate mathematics students, from various universities in Lebanon, in a context on Applied Mathematics related problems.

## Professional Developments

- (1) **Dec. 2017:** Participation in "**Approaches to service learning in our classroom at NDU**", organized by the Faculty of Humanities and Center for applied research in Education, NDU, Lebanon.
- (2) **Dec. 2017 - Feb. 2018:** A learner/student in the **OpenMed online course: Opening up Education in South-Mediterranean countries**. The primary objective of completing five modules of the OpenMed online course is to use OER in order to build/design/develop/modify/deliver/adapt math courses that fit the needs of students and their curricular. In particular, my participation aimed to transform the NDU calculus course *MAT 112-calculus II* to an open course. For more information, please visit: The OpenMed project.
- (3) **Mar. 2018:** Speaker in the event: "**Open Education Week at NDU**". Talk's title: "**OER for Teaching Mathematics**". The goal of this event is to bring together Higher Education Institutions from around the world raising awareness about free and open educational opportunities. The event familiarized the NDU community with ongoing efforts in the adoption of Open Educational Resources (OER) and the use of open licenses. For more information, please visit: The 2018 Open Week at NDU.

## Services

### University Services:

- (1) 2013–: **Academic Advisor** for the undergraduate mathematics program, Notre Dame University-Louaizé.
- (2) 2013–: Member of the **Ad-hoc committee for Brochures and Posters**, Notre Dame University-Louaizé.
- (3) 2013–: Member of the **Department Curriculum Committee (DCC)**, Notre Dame University-Louaizé.
- (4) 2014-2015: Member of the departmental **Strategic Plan Committee** for the Mathematics Department (FNAS), Notre Dame University-Louaizé.
- (5) 2014-2015: Member of the University Committee: **NDU’s Strategic Plan - Goal II**, Notre Dame University-Louaizé.
- (6) 2015–: Member of the **Faculty Curriculum Committee (FCC)**, Notre Dame University-Louaizé.
- (7) 2015–: Member of the **Math Placement Test Committee**, Notre Dame University-Louaizé.
- (8) 2015–: Preparing more than 40 questions in Mathematics for the **Annual NDU Rally Paper**, Notre Dame University-Louaizé.
- (9) 2015–: Chair of the **Outcome Assessment Committee (OAC)**, and member of the **Faculty Ad-hoc committee on Outcome Assessment (OAC)**, Notre Dame University-Louaizé.
- (10) 2016: **NDU representative of the ”Validation des Acquis de l’Experience”**, USJ, Beirut, Lebanon.
- (11) 2016–: Member of the **Department Personnel Committee (DPC)**, Notre Dame University-Louaizé.
- (12) 2016: Member of the University Committee: **Accreditation Sub-Committee for the Self-Study; The Academic Program**, Notre Dame University-Louaizé.
- (13) 2016: Member of the Faculty Committee: **Open Educational Resources, OER**, Notre Dame University-Louaizé.
- (14) 2017: Member of the **Department Graduate Committee (DGC)**, Notre Dame University-Louaizé.

- (15) 2017: Member of **Ad-hoc Faculty Committee: FNAS Clusters**, Notre Dame University-Louaizé.
- (16) 2017: Preparing the **NDU Aptitude Tests for Sciences, Business and Architecture students**, Notre Dame University-Louaizé.

**Scientific Services:** Reviewer for:

- (1) The American Mathematical Society.
- (2) Abhandlungen aus dem Mathematischen Seminar der Universitt Hamburg.
- (3) Annales Polonici Mathematici.
- (4) Journal of Geometry and Physics.
- (5) Pacific Journal of Mathematics.
- (6) RJournal of Mathematical Research with Applications.
- (7) Differential Geometry and its Applications.
- (8) Advances in Applied Clifford Algebras.
- (9) Journal of Mathematical Physics.

**Community Services:**

- (1) Volunteer from NDU at sciences days since 2012.
- (2) Volunteer with the German DAAD for the promotion of the DAAD scholarships.

## Languages and Computer Skills

- (1) Arabic (my mother tongue).
- (2) French: reading, speaking and writing.
- (3) English: reading, speaking and writing.
- (4) Unix, Linux, Windows, Latex, Matlab, Matematica, HTML, C++.