

CURRICULUM VITAE

MOHAMED AIT NOUH

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EDUCATION

Ph.D. Mathematics, May 2000; University of Provence, France.
M.S. Mathematical economics, 1994; University of Marseille II, France.
M.S. (with high distinction) Mathematics, June 1992; University of Provence.
B.S. (with high distinction) Mathematics, June 1991; University of Provence.

RESEARCH INTEREST

- Knot theory, Low-dimensional topology, Geometric Topology, Algebraic Topology, Gauge theory.

AREAS FOR STUDENT RESEARCH PROJECTS

- Knot Theory and its applications to Biology; Quandles; Gauge Theory; Mathematical Statistics.

WORK EXPERIENCE

2011- <i>present</i>	Full-time Lecturer	University of Texas at El Paso.
2007 – 2011	Visiting Assistant Professor	University of California at Riverside.
2004- 2007	Visiting Assistant Professor	California State University Channel Islands.
2001- 2004	Visiting Assistant Professor	University of California at Santa Barbara.
	Instructor	Santa Barbara and Ventura City Colleges.
1999-2000	Visiting Researcher position	Nihon University, Tokyo, Japan.

AWARDS, PRIZES, and HONORS

2007 – 2012 Numerous University and NSF Travel Grants.
July, 2009 Travel Grant from Denison U (Ohio); the undergraduate Knot Theory Conference.
2006 – 2008 Select Marquis Who's is Who in America.
1999 – 2000 Research Grant from Nihon University, Tokyo, Japan.
1998 – 1999 Klein scholarship for distinguished Ph.D. student, France.
1989 – 1994 Undergraduate and Post-graduate French government scholarship.
1988 Gold medal Winner in French National Mathematical Olympiads, France.

COURSES TAUGHT

I have a broad range of teaching experience, having taught more than 20 distinct courses ranging from a vector calculus class with 120 students to advanced graduate topics with only 5 students. My courses have been consistently well-received; for instance, my student evaluations have been excellent.

Students Evaluations are available at [http://math.ucr.edu/~ maitnouh/](http://math.ucr.edu/~maitnouh/)

- (1) University of Texas at El Paso, TX
 - Matrix Algebra (Math 3323), Discrete Mathematics Math (2300).
 - Differential Equations (Math 2326).
 - Calculus I, II and III (Math 1411, Math 1312 and Math 2313), Pre-calculus (Math 1508).
 - Math for Social Sciences I & II (Math 1320 and 2301).
- (2) University of California at Riverside, CA
 - Discrete Mathematics (Math 11) and Elementary Differential Equations (Math 46).
 - First Year Calculus I, II and III (Math 9A, Math 9B and Math 9C) and Precalculus.
 - Multivariable Calculus (Math 10A), Real Analysis (for future teachers of K-12 Mathematics).
- (3) University of California, Santa Barbara, CA
 - I taught similar classes as those taught at the University of California at Riverside.
- (4) California State University Channel Islands, Camarillo, CA
 - Algebraic Topology (Masters course, Math 595).
 - Calculus for Business (Math 140).
(Helped to choose New Custom Edition Calculus Textbook for Math 140).
 - Calculus I.
- (5) Santa Barbara City College, Santa Barbara, CA
 - Calculus for Business and Biology (Math 130).
 - Elementary algebra (Math 100).
- (6) Ventura City College, Ventura, CA
 - College algebra (MathV100); Calculus for Business (Math V46), Intermediate Algebra.
 - Calculus for Social Sciences I (Math V146, Online course).
- (7) Victor Valley College, Victorville, CA
 - Basic Mathematics (Math 10); Elementary Algebra (Math 50); Intermediate Algebra.
- (8) Dowling College, Oakdale , NY
 - Statistics (Math 06A) and Operations Research (Math 10).

SERVICE

- (1) Editorial Service:
 - Referee: Fixed Point Theory Journal, Journal of Knot Theory and Its Ramifications.
 - Reviewer for Mathematical Reviews.
- (2) Presider: Joint Conference: SUnMaRC, MAA and ArizMATYC (March 30-April 1-2012), Pima Community College, Tuscon, Arizona (Southwestern Section).
- (3) Organizer: AMS Sectional Meeting (Low-dimensional Topology), Nov. 7 – 8, 2009. University of California, Riverside, CA (2009 Fall Western Section Meeting).
- (4) Supervisor: Undergraduate students, work submitted for publication.
- (5) Co-adviser: Ph.D. student (Combinatorial methods in knot theory), France.
- (6) Search Committee member for Director of Faculty Development (CSU Channel Islands, 2006)
- (7) Judge: Student Research and Capstone Presentations (CSU Channel Islands, 2006).
- (8) Math. Tutoring Center Coordinator, (2004- 2005, CSU Channel Islands).

STUDENT RESEARCH PROJECTS ADVISOR:

A. Barsha, L. Godkin, J. Carrillo and myself were invited to present our joint research work in form of talks at the undergraduate Knot Theory Conference held at Denison University, Ohio (July 15 – 17, 2009 and 2012).

- University of Texas at El Paso, TX
 1. (With J. Carrillo) “*Twisting of Knots up to eight crossings*,” Submitted.
 2. (With R. Waleeja) “*Twisting of positive knots*,” Submitted.
- University of California at Riverside, CA
 3. (With A. Barsha) “*Twisting of Knots with less than eight crossings*,” Submitted.
 4. (With L. Godkin) “*Twisting of torus knots*,” Submitted.
- California State University Channel Islands, CA
 5. (With Erin Bryant) “*Fox coloring of knots*,” (Senior Student project).
 6. (With Shannan Allyn) “*Quandle coloring of knots*,” (Senior Student project).

PUBLICATIONS

- Papers available at www.math.utep.edu/Faculty/manouh/research.htm

PUBLISHED AND ACCEPTED

1. “*Twisting of composite torus knots,*”
To appear in “Michigan Mathematical Journal”, Vol. 65, 2016.
2. “*The minimal genus problem in $\mathbb{CP}^2 \# \mathbb{CP}^2$,*”
“Algebraic & Geometric Topology”, 14(2014), p. 671 – 686.
3. “*Genera and degrees of torus knots in \mathbb{CP}^2 ,*”
Journal of Knot Theory and Its Ramifications, Vol. 18, 2009.
4. (With D. Matignon and K. Motegi) “*Geometric types of twisted knots,*”
Annales mathématiques Blaise Pascal, 13 no. 1 (2006), p. 31 – 85.
5. (With D. Matignon and K. Motegi) “*Obtaining graph knots by twisting unknots,*”
Topology and Its Applications, Vol. 146-147, **1**, p. 105-121, January 2005.
6. (With D. Matignon et K. Motegi) “*Knots obtained by twisting unknots,*”
Acta of the Colloquium 'Topology of Knots VI' Nihon Univ. Dec. 16th-19th, 2003.
(2004), p. 151 – 160.
7. (With D. Matignon and K. Motegi) “*Twisted Unknots,*”
C.R. Acad. Sci. Paris, Ser. I 337 (2003) 321 – 326.
8. (With D. Matignon and K. Motegi) “*Gromov volumes of twisted knots,*”
Proceedings of Japan-Mexico Conference (published by Top. and its Applications), June 2002.
9. (With A. Yasuhara) “*Torus knots that can not be untied by twisting,*”
Revista Math. Univ. Compl. Madrid, Vol. 14, (2001), 353-380.

Preprints

10. “*A new invariant of knots via characteristic twisting,*” Preprint.
11. (With J. Purcell) “*Twisting and hyperbolic knots,*” Preprint.

INVITED CONFERENCE TALKS

- Denison University, Granville, Ohio, “*Unknot Conference*” (July 2009 and July 2012).
- Joint Mathematics Meetings: (1) San Diego, CA Jan. 2013 and 2008 (2) Washington D.C. 2009 (3) San Diego, CA Jan. 2008 (3) New Orleans, LA Jan. 2007 (4) San Antonio, TX Jan. 2006 (5) Atlanta GA Jan. 2005 (6) Phoenix, AZ January 2004.
- Orsay International low-dimensional topology Conference, Paris VI, Orsay, 1999.
- Sussex International low-dimensional topology Conference, Sussex University, England, 1997.

INVITED ONE-HOUR SEMINAR TALKS

- Apr, 2013 “*The minimal genus problem in $\mathbb{CP}^2 \# \mathbb{CP}^2$* ,” New Mexico State University, NM.
- Nov, 2009 “*Genera and degrees of torus knots in \mathbb{CP}^2* ,” AMS Sectional Meeting, Low-dimensional Topology, U of California Riverside, Nov. 7 – 8, 2009.
- Feb, 2009 “*Scharlemann Cycles and Cocycles*,” U of California at Riverside.
“*Combinatorial methods in Knot Theory*,” U of California at Riverside.
“*Geometric types of twisted knots*,” U of California at Riverside.
- Feb, 2008 “*Genera and degrees of torus knots in \mathbb{CP}^2* ,” Pitzer College.
- Sep, 2007 “*Minimal genus problem and Lawson’s conjectures*,” U of California at Riverside.
- May, 2006 “*A new invariant of knots*,” International Conference of Marseille, France.
- Apr, 2006 “*A new invariant of knots via Kirby Calculus*,” Pitzer college.
“*Knot theory*,” California State University Channal Island Graduate seminar.
- Mar, 2006 “*A new invariant of knots via characteristic twisting*,” U of California at Riverside.
“*A new invariant of knots via characteristic twisting*,” Kansas SU Top. seminar.
“*Genus of torus knots in the complex projective plane*,” KSU Graduate seminar.
- June, 2005 “*Applications of twisting to dimension four*,” U of Provence, France.
- Feb. 2004 “ *\mathbb{CP}^2 -genus and Lawson’s conjectures*,” U of California at Santa Barbara.
- Jan. 2004 “*Characteristic twisting of knots in S^3* ,” AMS national meeting, Phoenix-Arizona.
- May 2003 “*Obtaining graph knots by twisting unknots*,” U of California at Santa Barbara.
- Mar. 2001 “*Torus knots that can not be untied by twisting*,” U of Texas at Austin.
- Dec. 2001 “*Torus knots that can not be untied by twisting*,” U of California at Santa Barbara.
- Apr. 2000 “*Twist and dimension four*,” Université Paul Sabatier, Toulouse, France.
- Nov. 1999, “*Classification of twisted satellite knots*,” Nihon University, Tokyo, Japan.

COMPUTER SKILLS

- Sharelatex advisor.
- Classroom Technology: Webassign, Blackboard, Powerpoint, Beamer.
- Statistics Softwares: SPSS and SAS.
- Latex, Adobe Illustrator CS6, Adobe Flash CS6, C^{++} , HTML.

MEMBERSHIP

- Member of the American Mathematical Society.
- Member of the Mathematical Association of America.

LANGUAGES

Fluent in English, French and Spanish.

HOBBIES: Competitive Running

Performances: 14 mins 45s in 5 km, 32 mins 29s in 10 km, 1 h 10 mins in half-Marathon.

- Third in El Paso Marathon (2012).
- Winner of "no child left behind" 5K, El Paso, TX (2011).
- Winner of Highland Half-marathon, Highland, CA (2011).
- Winner of the 7th Annual Ceasar E. Chavez 5K, UC Riverside, CA (2008).

REFERENCES

Martin Scharlemann, Professor (Research)

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