

Senoussi GUESMIA

Born: January 23, 1974, Ain fakroun

Sex: Male

Family situation: Married (3 children)

Algerian, Belgian.

Address office : Mathematics department
College of sciences
Qassim University
Elqassim, Saudi Arabia

Tel: 00 966 563 66 52 99

E-mail: guesmia@math.uzh.ch

<http://user.math.uzh.ch/guesmia/en.htm>

Content

1. Professional Experience
2. Education and Diplomas
3. Fields of research
4. Other activities
5. Knowledge of languages
6. References
7. Communications in meetings and seminars
8. Publications

1. PROFESSIONAL EXPERIENCE

- From 2015 Assoc. Professor
Department of mathematics. Qassim university. Saudi Arabia.
• Training of final year students. "Baccalaureate Diploma"
• Supervision of the master students
• Responsible of the master course. "ODE "
• Responsible of the baccalaureate course. "ODE ".
• Responsible of the baccalaureate course. "Integral and Differential Calculus ".
- 2012-2016 Director of the Research Centre (College of Science).
College of Science. Qassim university. Saudi Arabia.
- 2011-2015 Assist. Professor
Department of mathematics. Qassim university. Saudi Arabia.
• Training of final year students. "Baccalaureate Diploma"
• Responsible of the master course. "PDE "
• Responsible of the baccalaureate course. "ODE ".
• Responsible of the baccalaureate course. "Topics in applied Maths ".

- 2010-2011 Researcher (Long-Term Visitor)
Mathematics Section. International Centre for Theoretical Physics (ICTP).
Trieste, Italy.
- 2008-2010 Postdoctoral researcher "Assistant"
Institute of Mathematics. University of Zürich, Switzerland.
 - Member of a research team under the direction of Professor M. Chipot.
 - Assistant supervision of the master students.
 - Training of the licence students.
- 2007-2008 Associated researcher
Metrology Nuclear Service (SMN). Belgium.
- 2007 College teacher
College, Braine l'Alleud (Belgium).
- 2003-2004 Metrology Nuclear Service (SMN).
Université Libre de Bruxelles (ULB). Belgium
- 2001-2003 Senior Lecturer
Department of mathematics. University Oum EL-bouaghi. (Algeria).
 - Member of a research team.
 - Training of final year students "Mathematics section".
 - Responsible of the Module "Measures and Integration ".
 - Responsible of the Module "Numerical Analysis ".
 - Directed Works of the Module "General Mathematics "
- 2001-2002 Junior Lecturer
Department of economy, University of Constantine (Algeria).
 - Responsible of the Module "Mathematics for the economy ".
Department of mathematics, University Oum EL-bouaghi. (Algeria).
 - Responsible for the Module " Analysis and Differential Calculus ".
- 1999-2000 Lecturer (Assistant)
Department of Mathematics, University of Constantine (Algeria).
 - Lecturer for the Module "Analysis and Differential Calculus ".
- 1999 College teacher
College, Ain kercha (Algeria).

2. EDUCATION AND DIPLOMAS

- 2015 Qualified. Prof. in applied Mathematics
Sections 26, France.
- 2013 Habilitation to Direct Research (HDR)
University of Haute Alsace (UHA), France
Title: RESULTS ON THE ASYMPTOTIC ANALYSIS OF PARTIAL DIFFERENTIAL EQUATIONS
- 2007 Qualified. Ass. prof. in mathematics and applied mathematics
Sections (25 & 26), France.
- 2003-2006 Doctorate thesis in Applied mathematics
University of Haute Alsace (UHA), France
Mention: "very honourable". Title:
STUDY OF THE ASYMPTOTIC BEHAVIOR OF CERTAIN
PARTIAL DIFFERENTIAL EQUATIONS IN CYLINDRICAL DOMAINS
- 1999-2001 Magister in applied mathematical analysis
University of Constantine, Algeria
Mention : Very good (Valedictorian). Title:
ON AN ELLIPTIC BOUNDARY VALUE PROBLEM OF ORDER FOUR
- 1999 Diploma of superior studies in mathematics, option analysis
University of Constantine, Algeria
Mention : Very good (Valedictorian).
- 1994-1998 Non-pedagogic occupations.
- 1991 Baccalaureate in mathematics (secondary school, Algeria)
Mention : Good.

3. FIELDS OF RESEARCH

- Elliptic problems in nonsmooth domains.
- PDE in domains becoming unbounded.
- Singular perturbations theory.
- Large time behaviour of evolution problems.
- Nonlocal problems.
- Variational inequalities.
- Nonlinear PDE's and systems arising in physics (free convection, Neutron transport, Kirchhoff-Carrier problems...).

4. OTHER ACTIVITIES

- Director of the research centre, College of Science, Qassim university.

- Member of the supreme commission of quality assurance and accreditation of the faculty of sciences, Qassim university.
- Member of the council of the department of mathematics, Qassim university.
- Member of the council of the research directors, Qassim university.
- Member of the environment committee and community service, Qassim university.
- Member of the committee of applied mathematics, Qassim university.
- The organizer of the specialized research seminars, College of Science, Qassim university, Saudi Arabia.
- Responsible of the college of science preprints, College of Science, Qassim university, Saudi Arabia.
- The organizer of the research scientific day, College of Science, Qassim university, Saudi Arabia.
- PhD-courses. Anisotropic Singular Perturbations; theory and applications, University of Oum Elbougghi. October 18, 2012–November 3, 2012.
- Referee for some journals. (DCDS, CAM, CPAA, AJMS, JADEA, ADE, AMC, Numerish Mathemaik, JEPE, ZAMM...).
- The organizer of the mini-conference “Abstract and differential equations” ICTP, Trieste, Italy, July 29, 2010.
- Member of the organization committee of the 6th ADE school. Oum elbougghi, Algeria. April 17-21, 2011.
- The organizer of the second research day of college of sciences, Qassim university, Saudi Arabia, December 15, 2015.
- The organizer of One-day seminar in "ANALYSIS AND PDEs", Qassim university, Saudi Arabia, Mai 15, 2014.

5. THESIS SUPERVISION

- Supervision of the master thesis of Munira Abdulkarim Aldiaiji, On singular perturbations of the Laplace equation. (Defended December 2016).
- Supervision of the doctorate thesis of A. Sengouga, University of Msila Algeria, (Started in November 2007 and defended July 2012).
- Supervision of the magister thesis of S. Hadi, University of Setif, Algeria (Started in October 2007 and defended June 2009).
- Supervision of the doctorate thesis of R. Kachekar, University of Algiers, Algeria (Started in June 2011).
- Supervision of the doctorate thesis of D. Ben Aoudia, University of Tizi Ouazou, Algeria (Started in October 2011).
- Supervision of the doctorate thesis of S. Harkat, University of Oum Elbougghi, Algeria (Started in November 2012).
- Supervision of the doctorate thesis of S. Azouz, University of Oum Elbougghi, Algeria (Started in November 2012).

6. PROJECTS

- Integro-Differential Problems and Applications. Supported by ANDRU, Algeria (2011-2013).

- Anisotropic singular perturbations method for solving some integro-differential problems. Supported by Qassim university, Saudi Arabia (2012-2014).
- Topics on the large time asymptotic behaviour of some evolution problems. Supported by Qassim university, Saudi Arabia (2014-2016).

7. KNOWLEDGE OF LANGUAGES

Arab:	Mother tongue
French:	Very good knowledge
English:	Good knowledge
Dutch:	Elementary knowledge

8. REFERENCES

Michel Chipot	University of Zurich, Switzerland	m.m.chipot@math.uzh.ch
Bernard Brighi	University of Haute Alsace, France	bernard.brighi@uha.fr
Arbab Ibrahim	Qassim University, S. Arabia (teaching)	arbab.ibrahim@gmail.com
Arnaud Rougirel	University of Poitiers-CNRS, France	Arnaud.Rougirel@math.univ-poitiers.fr

9. COMMUNICATIONS IN MEETINGS AND SEMINARS

- From solid mechanics to mathematical analysis. Paris, June 15-16, 2017, France.
- Second Workshop Algéro-Français EDP's et Applications. *Asymptotic analysis of some PDE's*, Tlemcen, April 30, to may 3, 2017, Algeria. (Invited speaker)
- Second research day, *Evolution problems in blowing up domains*, Qassim university, December 15, 2015, Saudi Arabia.
- Conférence franco-algérienne EDP et Applications. *Anisotropic singular perturbations theory*, Poitiers 16-19 June 2014, France. (Invited speaker).
- International Symposium on Applied Analysis. *Asymptotic analysis of anisotropic singular perturbations*, Zürich, June 10-11, 2014, Switzerland. (Invited speaker)
- Conference on Partial Differential Equations. *Anisotropic singular perturbations method for solving some integro-differential problems*, Novacella, May 28-31, 2014, Italy.
- One-day seminar in "Analysis and PDEs". *Anisotropic singular perturbations method*, Qassim university, May 15, 2014, Saudi Arabia.
- 8th European Conference on Elliptic and Parabolic Problems. *Asymptotic expansions for anisotropic singular perturbations problem*, Gaeta, May 26-30, 2014, Italy.
- Swiss-Japanese Seminar. *Large time behaviour of evolution problems in non-cylindrical domains of large size*, Zürich, December 16-18, 2012, Switzerland. (Invited speaker).
- Workshop on Nonlocal Problems (in the framework of the EU Programme FIRST). *Existence of solutions to some degenerate integro-differential problems*, Zürich, December 12-14, 2012, Switzerland. (Invited speaker)
- Workshop: Free Boundary Problems, Theory and Applications, MSRI, Berkeley, Ca. January 18-21, 2011, USA.

- 5ème ÉCOLE EDA-EDO. *Anisotropic singular perturbations, theory and applications*. Guelma, June 6-10, 2010, Algeria. (Invited speaker)
- 7th Euro-Maghreb Workshop on Evolution Equations. *Some remarks on the Garding inequality*, Annaba, May 30-June 3, 2010, Algeria.
- ICTP mathematics seminars. *Anisotropic singular perturbations theory*, Abdus Salam International Centre for Theoretical Physics, Trieste, April 6, 2010, Italy.
- International Conference on Partial Differential Equations, (for the 60th birthday of Prof. M. Chipot). *Anisotropic singular perturbations method to solve some integro-differential problems*, Université de Poitiers, February 17-20, 2010, France.
- 6th European Conference on Elliptic and Parabolic Problems. *Anisotropic singular perturbations method*, Gaeta, May 25-29, 2009, Italy.
- Journées de Metz 2009. *Anisotropic singular perturbations method for solving some integro-differential problems*, University of Metz, April 2-4, 2009, France.
- Numerik Literaturseminar. *Introduction to Gamma-convergence and its applications in the calculus of variations*, Universität Zürich (Zürich), March 13, 2009, Switzerland.
- 9ème Colloque Franco-Roumain de Mathématiques Appliquées, Universitatea Transilvania, Brasov, août 28- septembre 02, 2008, Romania.
- Numerik Literaturseminar. *Time discretization Method for solving evolution Problems*, Universität Zürich (Zürich), May 23, 2008, Switzerland.
- Workshop: Fluides et structures. *Perturbations singulières partielles pour des problèmes elliptiques*, Mulhouse, December 7-8, 2006, France.
- Sixth International Conference on Dyn. Systems, Diff. Equations and Application. *Asymptotic behavior of solution of hyperbolic problems*, Université de Poitiers, 2006, France.
- Journée de l'école doctorale, Mulhouse, 2005, France.
- Rencontre Algérienne de Mathématiques Appliquées RAMA3, Bejaia , 2002, Algeria.

10. PUBLICATIONS

Research publications

- (1) With M. Chipot and M. Sengouga. Anisotropic singular perturbations of variational inequalities. (Accepted in **Calc. Var. Partial Differential Equations**)
- (2) With S. Azzouz. Asymptotic development of anisotropic singular perturbations problems. **Asympt. Anal.** 100 (3-4), 2016, 131-152.
- (3) With R. Kechekar, M. S. Moulay. Existence results for some partial integro-differential equations. **Mediterr. J. Math.** 13 (6), 2016, 4063–4079.
- (4) With B. Brighi. On a nonlinear system of PDE's arising in free convection. **J. Ellip. Para. Equ.** 1(2), 2015, 263-271.
- (5) Large time and space size behaviour of the heat equation in non-cylindrical domains. **Arch. Math. (Basel)**, 101 (3), 2013, 293–299.
- (6) Existence results for some Kirchhoff-Carrier problems, **Nonlinear Analysis**, 75 (5), 2012, 2904–2921.

- (7) With A. Sengouga. Some singular perturbations results for semilinear hyperbolic problems, **Discrete. Cont. Dyn. Syst.** Ser. S, 5(3), 2012, 567-580. [Special issue dedicated to Prof. M. Chipot on the occasion of his 60th birthday.]
- (8) With M. Chipot, M. Sengouga. Singular perturbations of some nonlinear problems, **J. Math. Sci.** 176 (6), 2011, 828-843 [Special issue dedicated to Prof. V. V. Zhikov on the occasion of his 70th birthday.]
- (9) With M. Sengouga. Anisotropic singular perturbations for hyperbolic problems, **Appl. Math. Comput.** 217 (22), 2011, 8983-8996.
- (10) With M. Chipot. On some anisotropic, nonlocal, parabolic singular perturbations problems, **Applicable Anal.** 90(12), 2011, 1775-1789.
- (11) Garding inequality on unbounded domains, **Differential Integral Equations**, 23(11-12), 2010, 1091-1103.
- (12) With M. Chipot. Correctors for some asymptotic problems, **Proc. Steklov Inst. Math.** 270, 2010, 263-277.
- (13) With M. Chipot. On a class of integro-differential problems. **Commun. Pure Appl. Anal.** 9(5), 2010, 1249-1262.
- (14) With B. Brighi. Existence of Solutions and Iterative Approximations for Nonlinear Systems Arising in Free Convection. **Anal. Appl. (Singap.)**. 7(3), 2010, 225-241.
- (15) Some convergence results for quasilinear parabolic boundary value problems in cylindrical domain of large size. **Nonlinear Anal.** 70(9), 2009, 3320-3331.
- (16) With M. Chipot. On the asymptotic behavior of elliptic, anisotropic singular perturbations problems. **Commun. Pure Appl. Anal.** 8(1), 2009, 179-193.
- (17) Some results on the asymptotic behavior for hyperbolic problems in cylindrical domains becoming unbounded. **J. Math. Anal. Appl.** 341(2), 2008, 1190-1212.
- (18) With B. Brighi. On elliptic boundary value problems of order $2m$ in cylindrical domain of large size. **Adv. Math. Sci. Appl.** 18(1), 2008, 237-250.
- (19) Asymptotic behavior of elliptic boundary-value problems with some small coefficients. **Electron. J. Diff. Equ.** 2008(59), 2008, 1-13.
- (20) With B. Brighi. Asymptotic behavior of solutions of hyperbolic problems on a cylindrical domain. **Disc. Cont. Dyn. Syst.** Suppl. 2007, 160-169.

Papers in refereed proceedings

- (21) With S. Azouz, Asymptotic Development of Singular Perturbations Problems, Proceedings of the CIMPA School and Workshop on Nonlinear PDE & Applications Theoretical and Numerical Study, Tangier, Morocco, 5-7 May 2014, pp. 70-73.
- (22) With S. Harkat, Asymptotic behaviour of evolution problems defined on non-cylindrical domains becoming unbounded. Proceedings of the CIMPA School and Workshop on Nonlinear PDE and Applications Theoretical and Numerical Study. Tangier, Morocco, May 2014. pp. 229-232.

- (23) With A. Sengouga. On anisotropic singular perturbations of wave equations. Proceedings of the 9th International Conference on Mathematical and Numerical Aspects of Waves Propagations, Pau (France). June, 2009. pp. 150-151.

In preparation or submitted manuscripts

- (24) With A. Aibeche. Exponent of singularity for a fourth order elliptic boundary value problem on a polygon.
- (25) With S. Harkat. Nonlinear evolution problems in non-cylindrical domains.
- (26) With S. Harkat. Evolution problems in blowing up domains.
- (27) With M. Chipot, S. Harkat. Minimal solution of some variational inequalities.
- (28) With S. Azzouz. Inner and outer expansion for anisotropic singular perturbations.
- (29) Some convergence results for eigenvalue and eigenfunction problems.
- (30) On some degenerate integro-differential problems arising in the neutron transport theory.