Maamar BENBACHIR

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Education

- Ph.D. (Doctorat d'Etat) in Mathematics, USTHB, Algiers, 2010. Thesis: *Systèmes lents-rapides avec problèmes réduits Hamiltoniens et l'équation de Cahn-Hilliard.*
- Magister in Mathematics, USTHB, Algiers, 1996. Thesis: *Problèmes aux limites et Oscillations périodiques.*
- B.Sc. in Mathematics, USTHB, Algiers, 1992.

Research Interests

Dynamical Systems; Averaging Methods; Non-Standard Analysis; Inequalities; Singular Perturbations; Fractional Calculus; Fixed Point Theory; Fractional Differential Equations.

Professional Experience

- **1993–1995**: *Assistant*, Department of Mathematics, University of Sciences and Technology Houari Boumediene (USTHB), Algiers, Algeria.
- **1996–1998**: *Maître Assistant*, Department of Sciences, University of Sciences and Technology Saad Dahleb, Blida, Algeria.
- **1999–2010**: *Maître Assistant*, Department of Sciences, Faculty of Science and Technology, University of Béchar, Béchar, Algeria.
- **2010–2012**: *Associate Professor*, Department of Sciences, Faculty of Science and Technology, University of Béchar, Béchar, Algeria.
- **2012–2015**: *Associate Professor*, Department of Mathematics and Computer Science, Faculty of Science and Technology, University of Khemis-Miliana, Aïn Defla, Algeria.
- **2015–2019**: *Professor*, Department of Mathematics and Computer Science, Faculty of Science and Technology, University of Khemis-Miliana, Aïn Defla, Algeria.
- **2019–August 2022**: *Professor*, Department of Mathematics, Faculty of Sciences, Saad Dahlab University, Blida, Algeria.
- **September 2022–Present**: *Professor*, National Higher School of Mathematics, P.O. Box 75, Mahelma 16093, Sidi Abdellah (Algiers), Algeria.

Professional Activities

- **2001–2012**: Head of Department.
- **2010–2012**: Member of the Scientific Council of the University.
- **2012–2019**: Member of the Scientific Committee of the Department.
- **2012–2013**: Member of the Scientific Council of the Faculty.
- **2013–2019**: Chairman of the Scientific Council of the Faculty.
- **2013–2019**: Responsible for the Mathematics and Computer Science Domain.
- **2013–2018**: Member of the Regional Conference of Central Universities.
- **2013–2017**: Member of the National Council of the Mathematics and Computer Science Pedagogical Domain.
- **2017–2020**: President of the National Council of the Mathematics and Computer Science Pedagogical Domain.

Teaching (Graduate and Post-Graduate)

- **1993–1995**: General Mathematics (First-year students).
- **1993–Present**: Teaching of several undergraduate and graduate courses, including:
  - Ordinary Differential Equations (Fourth-year students)
  - Topology (Second-year students)
  - Complex Analysis (Third-year students)
  - Numerical Analysis (Second-year students)
  - Probability and Statistics (First- and Second-year students)
  - Measure and Integration Theory (Third-year students)
  - Distribution Theory (Third-year students)
  - Spectral Theory of Unbounded Operators
  - Spectral Theory of Bounded Operators
  - Fractional Calculus
  - Fixed Point Theory
  - Fractional Differential Equations
  - Functional Analysis
  - Analysis I and II
- **2005–2006**: Post-graduate course on Ordinary Differential Equations (existence, uniqueness, stability).
- **2010–2012**: Post-graduate course on Sampling for Decision-Making.
- **2010–2012**: Post-graduate course on Probing Techniques.
- **2016–2022**: Post-graduate course on Fractional Differential Equations.

Editorial and Reviewing Activities

- Editorial Board Member: *Journal of innovative applied mathematics and computational sciences*.
- Reviewer: *Mathematical Reviews*, *International Journal of Nonlinear Science*, *Electronic Journal of Differential Equations*, *Real Analysis Exchange*, *Journal of Interdisciplinary Mathematics*, *Mediterranean Journal of Modeling & Simulation*, among others.

Thesis Supervised (Magister)

- **Amina BARI** — *On Statistics Causality Applied in Economics* (2014).
- **Mohammed DEBAGH** — *On Fractional Stochastic Differential Equations: Theory and Applications* (2014).
- **Mohammed GOUMNI** — *On the Monte Carlo Method: Theory and Applications* (2014).

Thesis Supervised (Master)

- **Abderaouf BOUSSEDI** — *Fixed-Point Theory* (2012–2013).
- **Ahmed OUÇAL** — *Adomian Decomposition Method Applied to Differential Equations* (2013–2014).
- **Zineb BENSAADA** — *Some Variants of the Hermite–Hadamard Inequality* (2013–2014).
- **Khayra REFFES** — *Baire Theorem and Its Applications* (2013–2014).
- **Fatma Zohra BOUZARARI** — *Krasnoselskii Fixed-Point Theorem Applied to Differential Equations* (2013–2014).
- **Khadra BOUREGBA** — *Absence de solutions pour certains problèmes aux limites du second ordre* (2014–2015).
- **Zohra HAMIZI** — *Fixed Points in D-Metric Spaces* (2014–2015).
- **Cherifa BENYETTOU** — *Second-Order Differential Equations with Discontinuous Right-Hand Side* (2015–2016).
- **Djemel DJEBBAR** — *Mathematical Tools for Signal Processing* (2015–2016).
- **Amani ZERAIF** — *Convexity and Symmetrization* (2016–2017).
- **Soumeya AMMARI** — *Geometric and Physical Interpretation of Fractional Derivatives and Integrals* (2016–2017).
- **Farid CHABANE** — *Fractional Variants of the Hermite–Hadamard Inequality* (2017–2018).
- **Assia KHASSANI** — *Solvability of a Two-Point Fractional Boundary Value Problem at Resonance* (2019–2020).
- **Fatma MAZEGHOU** — *Sur un problème fractionnaire aux limites non-locales dans un domaine non-borné* (2019–2020).
- **Adlen BELKADI** — *Sur la dérivation fractionnaire* (2022–2023).
- **Amer BADRI** — *On Certain Impulsive Backward Differential Equations with Integer and Fractional Derivatives* (2022–2023).

PhD Theses Supervised

1. **BENLABBES Ali** — *Sur des problèmes aux conditions aux limites et à dérivées fractionnaires* (2016).
2. **HOUAS Mohamed** — *Applications des Inégalités Intégrales aux Problèmes aux Limites d'Ordre Arbitraire* (2016).
3. **ZIDANE Baitiche** — *Sur des problèmes aux limites fractionnaires dans des espaces de Banach* (2020).
4. **BOUTIARA Abdelatif** — *On Some Fixed Point Theorems Applied to Fractional Differential Equations* (2020).
5. **ADJIMI NAAS** — *Contribution à l'étude de certains problèmes aux dérivées fractionnaires* (2021).
6. **SI BACHIR Fatima** — *Sur l'existence et l'unicité de solutions pour quelques problèmes différentiels fractionnaires au sens de Hilfer-Hadamard* (20/06/2022).
7. **BELBALI Hadjer** — *Étude de quelques équations différentielles fractionnaires par l'application de la fonction de Lyapunov* (19/06/2022).
8. **CHABANE FARID** — *Existence de solutions pour un problème aux limites avec p-Laplacien* (20/06/2022).
9. **DJAOUT Abdellah** — *Sur quelques problèmes aux limites à dérivées fractionnaires* (2024).
10. **KHERRAZ Tahar** — *Sur quelques équations différentielles à dérivées fractionnaires* (2024).
11. **BENSAASAA Kamel** — *Sur des problèmes aux limites à dérivées fractionnaires : étude théorique et approche numérique des solutions* 2025.
12. **BENAHMED NABILA** — *Some Results on Existence, Uniqueness, and Stability of Fractional Differential Equations* (2025–2026).

Published Books

- **Linear Algebra**, Dar El Imame Malek, Blida, 2005 (in Arabic).
- **Probability and Statistics**, OPU, 2006 (in Arabic).

Textbooks

- **Ordinary Differential Equations** (for third-year students).
- **Course Notes on Analysis and Applications** (for second-year students).
- **Inferential Statistics** (for second-year students).
- **Topology** (for second-year students).
- **Algebra** (for first-year students).
- **Elementary Statistics** (for first-year students).

- **Functional analysis** (for third-year students).
- **Distributions and applications** (for fourth-year students).
- **Introduction to Fractional Calculus** (for fourth-year students).

Research Projects

- **CODE: B*0801/50/05** — *Certains problèmes d'analyse mathématique*, MESRS (2006–2008).
- **CODE: B03820080001** — *Équations Fonctionnelles et Fonctions Généralisées*, MESRS (2009–2012).
- **CODE: B03820120001** — *Équations Différentielles et Équations Fonctionnelles*, MESRS (2013–2016).
- **CODE: C00L03UN090120220002** — *Équations différentielles fractionnaires : existence, unicité et stabilité*, MESRS (2022–2025).

Organizer and speaker at national and international conferences up to 2020

1. M. Benbachir, "Perturbation singulière et Analyse non Standard," First CUB Spring Workshop in Numerical Methods and Programming, Béchar, March 2001.
2. M. Benbachir, "Periodic Oscillating of Singularly Perturbed Ordinary Differential Equations," RAMA 3, Béjaïa, 21–23 May 2002.
3. M. Benbachir, "Sur le problème du Chasseur," Conférences LPSO, Béchar, 2002.
4. M. Benbachir, "Solutions oscillantes de l'équation $\varepsilon u''' + u'' + f(u) = 0$," Laboratoire de Mathématique, Mulhouse, France, 26 March 2003.
5. Participation in CIMPA School, Tlemcen, "Contrôle non linéaire et Applications," 26 April–5 May 2003.
6. M. Benbachir, "Solutions oscillantes des systèmes linéaires dans l'espace," Conférences LPSO, Béchar, 2004.
7. M. Benbachir, "Solutions oscillantes de l'équation $\varepsilon u''' + u'' + f(a) = 0$," Colloque Systèmes Dynamiques, USTHB, 27 September–1 October 2003.
8. M. Benbachir, "Approximation in Hamiltonian Systems," Symposium "Équations Différentielles et Géométrie Différentielle," Saïda, 2008.
9. M. Benbachir, "A Slow and Fast System with a Hamiltonian Reduced Problem," Second International Conference on Dynamical Systems, Boussaâda–Algiers, 18–23 October 2008.
10. M. Benbachir, A. El Farissi, "Extension de l'inégalité de Hermite–Hadamard," Symposium "Réduction de Systèmes Différentiels et Applications," Sidi Bel Abbès, 18–22 March 2012.
11. M. Benbachir, A. El Farissi, "Extension de l'inégalité de Haber et de Fejér," RAMA 8, Algiers, 26–29 November 2012.
12. M. Benbachir, "The Coupled Burgers Equations with Time and Space-Fractional Derivatives Solved by ADM Method," International Conference of Modeling and Simulation (ICMS 2014), Blida, 21–23 September 2014.

13. M. Benbachir, "Existence of Solutions for a Third Boundary Value Problem," First National Conference on Dynamical Systems, Differential Equations and Applications, Oum El Bouaghi, 10–11 March 2015.

14. M. Benbachir, "Existence and Uniqueness of Solutions of a Nonlinear Fractional Differential Equation," Journées Nationales sur les Mathématiques Appliquées, Université du 20 Août 1955, Skikda.

15. M. Benbachir, A. Boutiara, "Sur des problèmes aux conditions aux limites et à dérivées fractionnaires," Workshops on Pure and Applied Mathematics, Université Mohamed Boudiaf de M'sila, December 2018.

16. M. Benbachir, A. Boutiara, "Existence and Uniqueness Solutions of a BVP Involving Caputo–Hadamard Fractional Derivative," Journée de Mathématiques Appliquées (JMA 2019), Centre Universitaire de Mila, 2019.

17. M. Benbachir, A. Boutiara, "About a Nonlinear Caputo–Hadamard Fractional Differential Equation with Hadamard Integral Boundary Conditions in Banach Spaces," Rencontre d'Analyse Mathématique et Applications (RAMA 11), Université de Sidi Bel Abbès, 2019.

18. A. Boutiara, M. Benbachir, K. Guerbati, "Caputo-Type Fractional Differential Equation with Katugampola Fractional Integral Conditions," 2nd International Conference on Mathematics and Information Technology (ICMIT), Adrar University, February 2020.

Symposium School Participation

1. Symposium School on Nonlinear Control and Applications (CIMPA), Tlemcen, 26 April–5 May 2003.

2. Symposium School on Ordinary Differential Equations and Dynamical Systems, L'ENSP, El Marsa, 12–17 November 2005.

3. Symposium School on Singular Perturbation in Theory of Control and Population Dynamics, Tlemcen, 21–25 January 2006.

4. Symposium School on Differential Inclusions and Control Theory, Sidi Bel Abbès, 25–30 March 2006.

5. Symposium School on Ordinary Differential Equations and Differential Geometry, Saïda, 19–24 November 2007.

6. Symposium School on Reduction of Differential Systems and Applications, Sidi Bel Abbès, 18–22 March 2012.

Selected Publications (2009–2025)

2025

1. Solvability of the system involving the mixed derivative and integral Erdélyi-Kober equations of fractional order, *Journal of Inequalities and Applications*, Abdallah Djaout, Maamar Benbachir, Mohammad Esmael Samei, Mustapha Lakrib.

2. New Existence and Stability Results of a Backward Impulsive FDEs, Nabila Benahmed, Maamar Benbachir, Farid Chabane, Mohammad Esmael Samei.

2024

1. On solution of non-linear FDE under tempered Ψ-Caputo derivative for the first-order and three-point boundary conditions, *BULLETIN OF THE KARAGANDA UNIVERSITY-MATHEMATICS*, Kamel Bensassa, Maamar Benbachir, Mohammad Esmael Samei, Soheil Salahshour.

2. On the ρ-Caputo Impulsive p-Laplacian Boundary Problem: An Existence Analysis, *Qualitative Theory of Dynamical Systems*, Farid Chabane, Maamar Benbachir, Sina Etemad, İbrahim Avcı.

2023

1. Advances in Computational Mathematics and Modelling on the Solvability of Time Conformable Fractional Equation Set on Singular Domain of $\mathbf{R}^{n+1}$, Chaouchi Belkacem, Maamar Benbachir, Marko Kostić.

2. Solvability and stability analysis of a coupled system involving generalized fractional derivatives, *AIMS Mathematics*, Djaout Abdellah, Maamar Benbachir, Mustapha Lakrib, Thabet Abdeljawad.

3. Existence and uniqueness results for fractional boundary value problems with multiple orders of fractional derivatives and integrals, *Chaos Solitons & Fractals*, Tahar Kherraz, Maamar Benbachir, Mustapha Lakrib, Shailesh A. Bhanotar.

2022

1. Successive Approximations for Caputo-Fabrizio Fractional Differential Equations, *Tatra Mountains Mathematical Publications*, Fatima Si Bachir, Saïd Abbas, Maamar Benbachir, Mouffak Benchohra.

2. Blowing-up solutions for time-fractional equations on a bounded domain, *Advances in Mechanical Engineering*, Abdelatif Boutiara, Mohammed K A Kaabar, Maamar Benbachir, Xiao-Guang Yue.

3. Existence Solutions for a Nonlinear Langevin Fractional q-Difference System in Banach Space, *Progress in Fractional Differentiation and Applications*, Abdelatif Boutiara, Maamar Benbachir, Mansour Saleman M. Lotayif.

4. Existence of positive solutions for p-Laplacian boundary value problems of fractional differential equations, *Boundary Value Problems*, Farid Chabane, Maamar Benbachir, Mohamed Hachama, Mohammad Esmael Samei.

5. Existence and Uniqueness Results for a Fractional Boundary Value Problems with Multiple Orders of Fractional Derivatives and Integrals, *SSRN Electronic Journal*, Tahar Kherraz, Maamar Benbachir, Mustapha Lakrib, Shailesh A. Bhanotar.

6. Some Further Refinements Of Hermite-Hadamard Type Inequalities For Harmonically Convex And P-Convex Functions Via Fractional Integrals, *Iranian Journal of Mathematical Sciences and Informatics*, Maamar Benbachir, Farid Chabane, İmdat İşcan.

7. A. Boutiara, N. Adjimi, M. Benbachir, M.S. Abdo, Analysis of a fractional boundary value problem involving Riesz-Caputo fractional derivative, *Advances in the Theory of Nonlinear Analysis and its Applications*, Vol. 1, No. 1, 2022, pp. 14–27.

2021

1. Monotone Iterative and Upper–Lower Solution Techniques for Solving the Nonlinear ψ-Caputo Fractional Boundary Value Problem, *Fractal Fract*, Abdelatif Boutiara, Maamar Benbachir, Jehad Alzabut, Mohammad Esmael Samei.

2. Kuratowski MNC method on a generalized fractional Caputo Sturm-Liouville-Langevin q-difference problem with generalized Ulam-Hyers stability, *Advances in Difference Equations*, Abdelatif Boutiara, Maamar Benbachir, Sina Etemad, Shahram Rezapour.

3. Existence and attractivity results for ψ-Hilfer hybrid fractional differential equations, *Cubo (Temuco)*, Fatima Si Bachir, Saïd Abbas, Maamar Benbachir, Gaston M. N'Guérékata.

4. Z. Baitiche, M. Benbachir, K. Guerbati, Solvability for multi-point BVP of nonlinear fractional differential equations at resonance with three dimensional kernels, *Kragujevac Journal of Mathematics*, Vol. 45, No. 5, 2021, pp. 761–780.

5. F. Farid, S. Abbas, M. Benbachir, M. Benchohra, G.M. N'Guérékata, Existence of Concave Positive Solutions for Nonlinear Fractional Differential Equation with p-Laplacian Operator, *Vietnam Journal of Mathematics*, 2021.

6. F. Si Bachir, S. Abbas, M. Benbachir, M. Benchohra, Successive approximations for random coupled Hilfer fractional differential systems, *Arabian Journal of Mathematics*, 2021, pp. 1–10.

7. N. Adjimi, A. Boutiara, M.S. Abdo, M. Benbachir, Existence results for nonlinear neutral generalized Caputo fractional differential equations, *Journal of Pseudo-Differential Operators and Applications*, Vol. 12, No. 2, 2021, pp. 1–17.

8. F. Si Bachir, S. Abbas, M. Benbachir, M. Benchohra, G.M. N'Guérékata, Existence and attractivity results for ψ-Hilfer hybrid fractional differential equations, *CUBO, A Mathematical Journal*, Vol. 23, No. 1, 2021, pp. 145–159.

9. B. Hadjer, M. Benbachir, Existence results and Ulam-Hyers stability to impulsive coupled system fractional differential equations, *Turkish Journal of Mathematics*, Vol. 45, 2021, pp. 1368–1385.

10. N. Adjimi, M. Benbachir, K. Guerbati, Existence results for ψ-Caputo hybrid fractional integro-differential equations, *Malaya Journal of Matematik*, Vol. 9, No. 2, 2021, pp. 46–54.

11. N. Adjimi, M. Benbachir, Katugampola Fractional Differential Equation with Erdélyi-Kober Integral Boundary Conditions, *Advances in the Theory of Nonlinear Analysis and its Applications*, Vol. 5, No. 2, 2021.

12. F. Si Bachir, S. Abbas, M. Benbachir, M. Benchohra, Hilfer-Hadamard fractional differential equations; Existence and Attractivity, *Advances in the Theory of Nonlinear Analysis and its Application*, Vol. 5, No. 1, 2021, pp. 49–57.

13. A. Boutiara, M. Benbachir, Implicit fractional differential equation involving ψ-Caputo with boundary conditions, *Bulletin of the Institute of Mathematics Academia Sinica New Series*, Vol. 16, No. 1, 2021, pp. 1–19.

14. A. Boutiara, M. Benbachir, K. Guerbati, Hilfer Fractional Hybrid Differential Equations with Multi-point Boundary Hybrid Conditions, *International Journal of Modern Mathematical Sciences*, Vol. 19, No. 1, 2021, pp. 17–33.

15. H. Belbali, M. Benbachir, Stability for coupled systems on networks with Caputo-Hadamard fractional derivative, *Journal of Mathematical Modeling*, Vol. 9, No. 1, 2021, pp. 107–118.

2020

1. Hilfer-Hadamard Fractional Differential Equations; Existence and Attractivity, *Advances in the Theory of Nonlinear Analysis and its Application*, Fatima Si Bachir, Saïd Abbas, Maamar Benbachir, Mouffak Benchohra.

2. Measure of noncompactness for nonlinear Hilfer fractional differential equation with nonlocal Riemann-Liouville integral boundary conditions in Banach spaces, *Open Journal of Mathematical Sciences*, Abdelatif Boutiara, Maamar Benbachir, Kaddour Guerbati.

3. Stability for coupled systems on networks with Caputo-Hadamard fractional derivative, Belbali Hadjer, Maamar Benbachir.

4. Z. Baitiche, M. Benbachir, K. Guerbati, Solvability of two-point fractional boundary value problems at resonance, *Malaya Journal of Matematik*, Vol. 8, No. 2, 2020, pp. 464–468.

5. A. Boutiara, M. Benbachir, K. Guerbati, Caputo Type Fractional Differential equation With Nonlocal Erdélyi-Kober type Integral Boundary Conditions In Banach spaces, *Surveys in Mathematics and its Applications*, Vol. 15, 2020, pp. 399–418.

2019

1. A. Boutiara, M. Benbachir, K. Guerbati, Measure Of Noncompactness For Nonlinear Hilfer Fractional Differential Equation In Banach Spaces, *Ikonion Journal of Mathematics*, Vol. 1, No. 2, 2019, pp. 55–75.

2. A. Boutiara, M. Benbachir, K. Guerbati, Caputo-Hadamard fractional differential equation with three-point boundary conditions in Banach spaces, *AIMS Mathematics*, Vol. 5, No. 1, 2019, pp. 259–272.

3. Z. Baitiche, M. Benbachir, K. Guerbati, Application of a generalization of Miranda's theorem for solutions of two-point BVP of nonlinear fractional differential equations at resonance, *Canadian Journal of Applied Mathematics*, Vol. 1, No. 1, 2019, pp. 89–98.

2018

1. A. Benlabbes, M. Benbachir, M. Lakrib, An existence and uniqueness result for nth-order nonlinear fractional differential equations, *International Journal of Nonlinear Analysis and Applications*, Vol. 9, No. 2, 2018, pp. 33–45.

2015

1. M. Houas, M. Benbachir, Z. Dahmani, Some Results for a Four-Point Boundary Value Problems for Coupled System involving Caputo Derivative, *Malaya Journal of Matematik*, Vol. 3, No. 1, 2015, pp. 30–44.

2. M. Houas, M. Benbachir, Existence solutions for three point boundary value problem for differential equations, *Journal of Fractional Calculus and Applications*, Vol. 6, No. 1, 2015, pp. 160–174.

3. M. Houas, M. Benbachir, Existence solutions for four point boundary value problems for fractional differential equations, *Pure and Applied Mathematics Letters*, Vol. 2015, 2015, pp. 37–49.

4. M. Houas, M. Benbachir, Existence and Uniqueness Results For a Nonlinear Differential Equations of Arbitrary Order, *International Journal of Nonlinear Analysis and Applications*, Vol. 2, No. 2, 2015, pp. 24–42.

5. A. Benlabbes, M. Benbachir, M. Lakrib, Boundary value problems for nonlinear fractional differential equations, *FACTA UNIVERSITATIS (NIS), Series: Mathematics and Informatics*, Vol. 30, No. 2, 2015, pp. 157–168.

2014

1. M. Benbachir, A. Saadi, The Kawahara Equation With Time and Space-Fractional Derivatives Solved by The Adomian Method, *Journal of Interdisciplinary Mathematics*, Vol. 17, No. 3, 2014, pp. 243–253.

2. A. Benlabbes, M. Benbachir, M. Lakrib, Existence solutions of nonlinear fractional differential equations, *Journal of Advanced Research in Dynamical and Control Systems*, Vol. 6, No. 4, 2014, pp. 56–67.

2013

1. A. El Farissi, M. Benbachir, M. Dahmane, An Extension of Hermite-Hadamard inequality for symmetrized convex function, *Real Analysis Exchange*, Vol. 38, No. 2, 2013, pp. 467–478.

2. A. El Farissi, M. Benbachir, Oscillation of fixed points of solutions of some linear differential equations, *Electronic Journal of Differential Equations*, Vol. 2013, No. 41, 2013, pp. 1–9.

3. M. Houas, Z. Dahmani, M. Benbachir, New results for a boundary value problem for differential equations of arbitrary order, *International Journal of Modern Mathematical Sciences*, Vol. 7, No. 2, 2013, pp. 195–211.

2012

1. A. Saadi, A. Benmezai, M. Benbachir, Positive solutions to three-point nonlinear fractional semi-positone boundary, *PanAmerican Mathematical Journal*, Vol. 22, No. 4, 2012, pp. 41–57.

2011

1. A. Saadi, M. Benbachir, Positive solutions for three-point nonlinear fractional boundary value problems, *Electronic Journal of Qualitative Theory of Differential Equations*, No. 2, 2011, pp. 1–19.

2. M. Benbachir, Z. Dahmani, The ADM Method For Solving the Modified Kawahara Equation With Fractional Spatial and Temporal Derivatives, *Journal of Interdisciplinary Mathematics*, Vol. 14, No. 5&6, 2011, pp. 523–533.

2010

1. M. Benbachir, K. Yadi, R. Bebbouchi, Slow and fast systems with Hamiltonian reduced problems, *Electronic Journal of Differential Equations*, Vol. 2010, No. 06, 2010, pp. 1–19.

2009

1. A. Saadi, M. Benbachir, Numerical solution of the coupled Burgers equations with time and space fractional derivatives, *Annals de l'Université de Bechar* No. 5, 2009, pp. 37–45.

2. Z. Dahmani, M. Benbachir, Solutions of the Cahn-Hilliard Equation with Time-and Space-Fractional Derivatives, *International Journal of Nonlinear Science*, Vol. 8, No. 1, 2009, pp. 19–26.