

## CURRICULUM VITAE

**Name:** ZAIDI

**First name:** Messaoud

**Date of birth:** 04/04/1971

**Place of birth:** Tebessa, Algeria

nationality: Algerian

Family status: married, two children

Personal address: Sonelgaz Agency, Cheria, TEBESSA.

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Current position: **lecturer** -researcher

**Speciality:** Mathematics

### 1. University itinerary :

#### September 2004

Postgraduate diploma in mathematics (partial differential equations), Houari

Boumediene University, Bab ezzouar, Algiers, Algeria

**September 2014:** Magister of the Houari Boumediene University, Bab  
ezzouar, Algiers, Algeria

**Speciality:** Analysis

**Option:** Dynamic Systems and Geometry

**Title:** Thermoelastic deformation of a thick Layer by a Heated Rigid Punch

January 2021: PhD in Sciences from Laarbi Tebessi University, Tebessa, Algeria

**Speciality:** Mathematics

**Title:** Study of global solutions of certain Reaction-Diffusion systems by functional methods

**Mention :** Very honourable distinction

**Language skills:** Arabic, English, French, moderate, spoken, read and written.

### 2. Professional career

#### Since January 2021

Senior Lecturer Class B at Abbas Laghrour University, Khenchela, Algeria

#### 2017 to 2020

Lecturer Class A at Abbas Laghrour University, Khenchela, Algeria

#### 2015 to 2016

Lecturer Class B at Abbas Laghrour University, Khenchela, Algeria

### 3. Supervision in the Master

1. Laouadi Bisma, Reaction diffusion systems and pattern formation. Abbas Laghrour University, Khenchela, 2020.

2. Bakhouche Hannane and Massas Hafidha, pattern formation in a cross-diffusion reaction systems. Abbas Laghrour University, Khenchela, 2022.

3. Bouali Chaima and Ounnas Sana, reaction diffusion systems and some applications in biology.

#### **4. Scientific contributions**

##### **International publications**

Messaoud Zaidia, Samir Bendoukhac, Salem Abdelmaleka, Global existence of solutions for an m-component cross-diffusion system with a 3-component case study, *Nonlinear Analysis: Real World Applications* 45 (2019) 262–284, Elsevier.

##### **5. Research activities**

###### **In the Magister thesis**

In this study, we give an analytical solution of a thermoelastic deformation problem of a thick layer. The elastic layer of thickness  $h$  deforms under the effect of it pressing by a heated and smooth circular punch of radii  $\mathbf{a}$ . The thermoelastic equilibrium differential equations of the problem are solved by the Hankel integral transforms method.

###### **In the PhD of Science thesis**

In this paper, we examine a general m-component reaction–diffusion matrix with a full diffusion matrix and polynomially growing reaction terms through its diagonalization. We establish the invariant regions of the system and derive the necessary conditions for the existence of solutions. The  $3 \times 3$  *case is taken as a case* study, where we determine the exact conditions for the positivity of the eigenvalues, which is necessary for the diagonalization process. Numerical examples are used to illustrate and confirm the findings of this paper.