



# Sami Bedra

Enseignant

## PROFIL

📍 Département de génie industriel, faculté de sciences et technologie, Université Abbes Laghrour - Khenchela, (40004) Algérie.

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## LANGUES

Arabe

Anglais

Français

## FORMATION

### DIPLÔMES ET TITRES

#### 1. Diplômes

- Baccalauréat, science de la nature et de la vie, Batna. Juin 2002
- Ingénieur d'Etat, spécialité Electronique, option Communication, Département d'Electronique, Université de Batna. Juin 2008
- Diplôme d'Etudes Approfondies (DEA), spécialité Electronique, option Micro-ondes, Département d'Electronique, Université de Batna. Décembre 2009
- Magister, spécialité Electronique, option Micro-ondes, Département d'Electronique, Université de Batna. "Utilisation de la méthode de l'équation intégrale du champ électrique et des réseaux de neurones artificiels pour l'étude d'une antenne imprimée bicouche fonctionnant en mode TM11". Décembre 2011
- Doctorat en Sciences, spécialité Electronique, option Micro-onde, Département d'Electronique, Université de Batna. "Evaluation analytique et numérique des caractéristiques électromagnétiques des structures microbandes ouvertes". Mai 2015
- Habilitation universitaire HDR, spécialité Electronique, Département d'Electronique, Université de Batna 2. "Étude des caractéristiques de résonance d'une antenne microbande supraconductrice avec radôme". Mai 2017
- Grade Professeur Décembre 2021
- Membre au Laboratoire d'Electronique Avancée (LEA), Equipe : Micro-ondes, Département d'électronique, Faculté de technologie, Université de Batna 2. Mai 2018 Jusqu'à ce jour

#### 2. Titres

- Membre du comité scientifique du département de Génie Industriel, Université de Khenchela. 15/05/2019 Jusqu'à 5/12/2021
- Membre de conseil de la faculté des sciences et de la technologie (représentant de corps magistral). 15/05/2019 Jusqu'à 15/05/2022
- Président du comité scientifique du département de Génie Industriel, Université de Khenchela 15/02/2016 à 15/05/2019
- Maitres de conférences classe 'A', Université Abbes Laghrour Khenchela. 23/05/2017 Jusqu'à 5/12/2021
- Maitres Assistant classe 'B', Université Abbes Laghrour Khenchela. 22/06/2014 à 22/06/2015
- Maitres de conférences classe 'B', Université Abbes Laghrour Khenchela. 22/06/2015 à 22/05/2017
- Directeur de recherche, Université de Khenchela. 05/12/2021 Jusqu'à ce jour
- Responsable de l'équipe de formation –Master Systèmes des Télécommunications. 30/05/2020 à 30/10/2023



| <b>PUBLICATIONS INTERNATIONALES</b>  |
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| <b>Publications internationales</b>  |
| <p><b>1- S. Bedra</b>, R. Bedra, S. Benkouda, and T. Fortaki, "Efficient CAD Model to Analysis of High Tc Superconducting Circular Microstrip Antenna on Anisotropic Substrates," <i>Advanced Electromagnetics</i>, vol. 6, pp. 40-45, <b>2017</b>.</p> <p><a href="https://aemjournal.org/index.php/AEM/article/view/446">https://aemjournal.org/index.php/AEM/article/view/446</a></p>   |
| <p><b>2- S. Bedra</b>, R. Bedra, S. Benkouda, and T. Fortaki, "Superstrate loading effects on the resonant characteristics of high Tc superconducting circular patch printed on anisotropic materials," <i>Physica C: Superconductivity and its Applications</i>, vol. 543, pp. 1-7, <b>2017</b>.</p> <p><a href="https://www.sciencedirect.com/science/article/abs/pii/S0921453417304082">https://www.sciencedirect.com/science/article/abs/pii/S0921453417304082</a></p>   |
| <p><b>3- S. Bedra</b>, S. Benkouda, and T. Fortaki, "An efficient study of circular microstrip antenna on suspended and composite substrates," <i>Journal of Computational Electronics</i>, vol. 16, no. 3, pp. 922-929, <b>2017</b>.</p> <p><a href="https://link.springer.com/article/10.1007/s10825-017-1012-9">https://link.springer.com/article/10.1007/s10825-017-1012-9</a></p>   |
| <p><b>4- S. Bedra</b>, R. Bedra, S. Benkouda, and T. Fortaki, "Analysis of HTS circular patch antennas including radome effects," <i>International Journal of Microwave and Wireless Technologies</i>, vol. 10, pp. pp. 843-850, <b>2018</b>.</p> <p><a href="https://www.cambridge.org/core/journals/international-journal-of-microwave-and-wireless-technologies/article/abs/analysis-of-hts-circular-patch-antennas-including-radome-effects/BA2F048969B099808D2FDBAC4487CC8A">https://www.cambridge.org/core/journals/international-journal-of-microwave-and-wireless-technologies/article/abs/analysis-of-hts-circular-patch-antennas-including-radome-effects/BA2F048969B099808D2FDBAC4487CC8A</a></p> |
| <p><b>5- A. Gadda</b>, <b>S. Bedra</b>, C. Agaba, S. Benkouda, R. Bedra, and T. Fortaki, "Computer-Aided Design of Superconducting Equilateral Triangular Patch on Anisotropic Substrates," <i>Progress In Electromagnetics Research M</i>, Vol. 86, pp. 203-211, <b>2019</b>.</p> <p><a href="https://www.jpier.org/pierm/pier.php?paper=19090803">https://www.jpier.org/pierm/pier.php?paper=19090803</a></p>  |
| <p><b>6- A. Mahamdi</b>, S. Benkouda, M. Amir, <b>S. Bedra</b>, and T. Fortaki, "Study of two-layered circular patch using moment method and genetic algorithms," <i>International Journal of Electrical &amp; Computer Engineering</i>, vol. 9, pp. 5368-5375, <b>2019</b>.</p> <p><a href="http://ijece.iaescore.com/index.php/IJECE/article/view/17376">http://ijece.iaescore.com/index.php/IJECE/article/view/17376</a></p>  |
| <p><b>6- S. Bedra</b>, R. Bedra, S. Benkouda, and T. Fortaki, "Study of an Inverted Rectangular Patch Printed on Anisotropic Substrates," <i>IETE Journal of Research</i>, pp. 1-8, <b>2019</b>. (In press)</p> <p><a href="https://www.tandfonline.com/doi/abs/10.1080/03772063.2019.1634497?journalCode=tijr20">https://www.tandfonline.com/doi/abs/10.1080/03772063.2019.1634497?journalCode=tijr20</a></p>   |
| <p><b>7- S. Bedra</b>, S. Benkouda, R. Bedra, and T. Fortaki, "Inverted HTS rectangular patch antennas: Theoretical investigation," <i>Physica C: Superconductivity and its Applications</i>, vol. 580, pp. 1353802, <b>2021</b>.</p> <p><a href="https://www.sciencedirect.com/science/article/abs/pii/S0921453420304007">https://www.sciencedirect.com/science/article/abs/pii/S0921453420304007</a></p>   |
| <p><b>8- S. Bedra</b>, S. Benkouda, R. Bedra, and T. Fortaki, "Characteristics of HTS inverted circular patches on anisotropic substrates," <i>Journal of Computational Electronics</i>, vol. 20, no. 2, pp. 892-899, <b>2021</b>.</p> <p><a href="https://rd.springer.com/article/10.1007%2Fs10825-020-01596-1">https://rd.springer.com/article/10.1007%2Fs10825-020-01596-1</a></p>  |

- 1- **S. Bedra**, S. Benkouda, M. Amir and T. Fortaki, "Resonant frequency of tunable microstrip ring antenna printed on isotropic or uniaxially anisotropic substrate," *Advanced Electromagnetics*, vol. 2, no. 2, pp. 6-9, **2013**.  
<http://aemjournal.org/index.php/AEM/article/view/194>
- 2- A. Messai, S. Benkouda, M. Amir, **S. Bedra** and T. Fortaki, "Analysis of high Tc superconducting rectangular microstrip patches over ground planes with rectangular apertures in substrates containing anisotropic materials," *International Journal of Antennas and Propagation*, vol. 2013, Article ID 169893, pp. 1-7, **2013**.  
<https://www.hindawi.com/journals/ijap/2013/169893/>
- 3- **S. Bedra**, S. Benkouda, and T. Fortaki, "Analysis of a Circular Microstrip Antenna on Isotropic or Uniaxially Anisotropic Substrate Using Neurospectral Approach," *COMPEL: The International Journal for Computation and Mathematics in Electrical and Electronic Engineering*, vol. 33, no. 1/2, pp.567 - 580, **2014**.  
<https://www.emerald.com/insight/content/doi/10.1108/COMPEL-10-2012-0225/full/html>
- 4- **S. Bedra**, R. Bedra, S. Benkouda, and T. Fortaki, "Full-Wave Analysis of Anisotropic Circular Microstrip Antenna with Air Gap Layer," *Progress In Electromagnetics Research M*, vol. 34, pp. 143-151, **2014**.  
<https://www.jpier.org/pierm/pier.php?paper=13122205>
- 5- M. Amir, **S. Bedra**, S. Benkouda, and T. Fortaki, "Bacterial foraging optimisation and method of moments for modelling and optimisation of microstrip antennas," *IET Microwaves, Antennas & Propagation*, vol. 8, no. 4, pp. 295 – 300, **2013**.  
<https://ietresearch.onlinelibrary.wiley.com/doi/pdf/10.1049/iet-map.2013.0086>
- 6- **S. Bedra**, R. Bedra, S. Benkouda, and T. Fortaki, "Efficient full-wave analysis of inverted circular microstrip antenna," *Microwave and Optical Technology Letters*, vol. 56, pp. 2422-2425, **2014**.  
<https://onlinelibrary.wiley.com/doi/abs/10.1002/mop.28618>
- 7- **S. Bedra** and T. Fortaki, "Rigorous Full-Wave Analysis of Rectangular Microstrip Patch Antenna on Suspended and Composite Substrates," *Wireless personal communications*, vol. 78, pp. 1455-1463, **2014**.  
<https://link.springer.com/article/10.1007/s11277-014-1827-7>
- 8- M. Hassad, **S. Bedra**, R. Bedra, S. Benkouda, A. S. Boughrara, and T. Fortaki, "Resonant characteristics of rectangular Microstrip antenna printed on electric–magnetic uniaxial anisotropic substrates," *International Journal of Microwave and Wireless Technologies*, vol. 7, pp. 783-790, **2015**.  
<https://www.cambridge.org/core/journals/international-journal-of-microwave-and-wireless-technologies/article/abs/resonant-characteristics-of-rectangular-microstrip-antenna-printed-on-electricmagnetic-uniaxial-anisotropic-substrates/11D767A9F7586BD53F2F4A039CC3291B>
- 9- L. Djouane, **S. Bedra**, R. Bedra, and T. Fortaki, "Neurospectral modeling of rectangular patch with rectangular aperture in the ground plane," *International Journal of Microwave and Wireless Technologies*, vol. 7, pp. 759-768, **2015**.  
<https://www.cambridge.org/core/journals/international-journal-of-microwave-and-wireless-technologies/article/abs/neurospectral-modeling-of-rectangular-patch-with-rectangular-aperture-in-the-ground-plane/EE3B625B819F1A5E6DCFF4EE1EE130E8>
- 10- R. Bedra, **S. Bedra**, S. Benkouda, and T. Fortaki, "Efficient Full-Wave Analysis of Resonant Modes of Circular Microstrip Antenna Printed on Isotropic or Uniaxially Anisotropic Substrate," *Wireless personal communications*, vol. 81, pp. 239-251, **2015**.  
<https://www.springerprofessional.de/en/efficient-full-wave-analysis-of-resonant-modes-of-circular-micro/10766450>
- 11- **S. Bedra** and T. Fortaki, "Hankel transform domain analysis of covered circular microstrip patch printed on an anisotropic dielectric layer," *Journal of Computational Electronics*, vol. 14, pp. 747-753, **2015**  
<https://rd.springer.com/article/10.1007%2Fs10825-015-0708-y>

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| <p><b>12- S. Bedra</b> and T. Fortaki, "High-Tc superconducting rectangular microstrip patch covered with a dielectric layer," <i>Physica C: Superconductivity and its Applications</i>, vol. 524, pp. 31-36, <b>2016</b>.</p> <p><a href="https://www.sciencedirect.com/science/article/abs/pii/S0921453416300028?via%3Dihub">https://www.sciencedirect.com/science/article/abs/pii/S0921453416300028?via%3Dihub</a></p>   |
| <p><b>13- S. Bedra</b> and T. Fortaki, "Resonant and Radiation Characteristics of Rectangular Microstrip Patch Antenna on Suspended-Composite Substrates," <i>Applied Computational Electromagnetics Society Journal</i>, vol. 31, pp. 138-143, <b>2016</b>.</p> <p><a href="https://aces-society.org/includes/downloadpaper.php?of=ACES_Journal_February_2016_Paper_6&amp;nf=16-2-6">https://aces-society.org/includes/downloadpaper.php?of=ACES_Journal_February_2016_Paper_6&amp;nf=16-2-6</a></p>   |
| <p><b>14- S. Bedra</b> and T. Fortaki, "Effects of Superstrate Layer on the Resonant Characteristics of Superconducting Rectangular Microstrip Patch Antenna," <i>Progress In Electromagnetics Research C</i>, vol. 62, pp. 157-165, <b>2016</b>.</p> <p><a href="https://www.jpier.org/pierc/pier.php?paper=15122902">https://www.jpier.org/pierc/pier.php?paper=15122902</a></p>  |
| <p><b>15- R. Bedra, S. Bedra,</b> and T. Fortaki, "Analysis of elliptical-disk microstrip patch printed on isotropic or anisotropic substrate materials," <i>International Journal of Microwave and Wireless Technologies</i>, vol. 8, no. 2, pp. 251-255, <b>2016</b>.</p> <p><a href="https://www.cambridge.org/core/journals/international-journal-of-microwave-and-wireless-technologies/article/abs/analysis-of-elliptical-disk-microstrip-patch-printed-on-isotropic-or-anisotropic-substrate-materials/63B277B000979B1133CAE0C6FB58D24F">https://www.cambridge.org/core/journals/international-journal-of-microwave-and-wireless-technologies/article/abs/analysis-of-elliptical-disk-microstrip-patch-printed-on-isotropic-or-anisotropic-substrate-materials/63B277B000979B1133CAE0C6FB58D24F</a></p>  |
| <p><b>16- L. Barkat, S. Bedra,</b> T. Fortaki, and R. Bedra, "Neurospectral computation for the resonant characteristics of microstrip patch antenna printed on uniaxially anisotropic substrates," <i>International Journal of Microwave and Wireless Technologies</i>, vol. 9, pp. 613-620, <b>2017</b>.</p> <p><a href="https://www.cambridge.org/core/journals/international-journal-of-microwave-and-wireless-technologies/article/abs/neurospectral-computation-for-the-resonant-characteristics-of-microstrip-patch-antenna-printed-on-uniaxially-anisotropic-substrates/859FA2B6042DA2EA14F0A4FEF3E2BF9B">https://www.cambridge.org/core/journals/international-journal-of-microwave-and-wireless-technologies/article/abs/neurospectral-computation-for-the-resonant-characteristics-of-microstrip-patch-antenna-printed-on-uniaxially-anisotropic-substrates/859FA2B6042DA2EA14F0A4FEF3E2BF9B</a></p> |
| <p><b>COMMUNICATIONS INTERNATIONALES</b></p>  |
| <p><b>1-</b> A. Mahamdi, <b>S. Bedra,</b> R. Bedra, and S. Benkouda, "CAD cavity model analysis of high Tc superconducting rectangular patch printed on anisotropic substrates," <i>5th International Conference on Electrical Engineering- in Boumerdes (ICEE-B)</i>, <b>2017</b>, pp. 1-4, Algeria.</p>   |
| <p><b>2-</b> A. Gadda, A. Mahamdi, S. Benkouda, and <b>S. Bedra</b> "Resonant characteristics of a superconducting thin film resonator using the two-fluid method and artificial neural networks," <i>2nd International Conference on Automatic Control, Telecommunication &amp; Signals - in Annaba (ICATS'17)</i>, <b>2017</b>, pp. 1-4, Algeria.</p>   |
| <p><b>3-</b> A. Mahamdi, <b>S. Bedra,</b> L. Barkat, and S. Benkouda "Neurocomputational model of annular-ring microstrip antenna with air gap layer," <i>2nd International Conference on Automatic Control, Telecommunication &amp; Signals - in Annaba (ICATS'17)</i>, <b>2017</b>, pp. 1-4, Algeria.</p>   |
| <p><b>4-</b> A. Mahamdi, S. Benkouda, and <b>S. Bedra,</b> "Artificial Neural Network Model Analysis of Tunable Circular Microstrip Patch Antenna," in <i>2019 International Conference on Advanced Systems and Emergent Technologies (IC_ASET)</i>, <b>2019</b>, pp. 229-233, Tunis, Tunisia.</p>  |
| <p><b>5-</b> A. Mahamdi, S. Benkouda, and <b>S. Bedra,</b> "Fast and Accurate Model to Determine the Resonant Characteristics of Elliptical Microstrip Patch Antenna," in <i>2019 International Conference on Advanced Systems and Emergent Technologies (IC_ASET)</i>, <b>2019</b>, pp. 234-237, Tunis, Tunisia.</p>   |
| <p><b>1- S. Bedra,</b> and T. Fortaki, "Resonant frequency of tunable circular microstrip patch antennas using artificial neural networks," <i>International Congress on Telecommunication and Application (ICTA12)</i> 11-12 APRIL 2012, Bejaia, <b>Algeria</b>.</p>   |

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| <p><b>2- S. Bedra</b>, M. Amir, S. Benkouda, and T. Fortaki, "Study of dual-resonant frequency of elliptical microstrip antenna using artificial neural networks," <i>Première Conférence Nationale sur les Télécommunications (CNT 2012)</i>, 11&amp; 12 Novembre, 2012, Guelma, <b>Algérie</b>.</p>   |
| <p><b>3- M. Amir, S. Bedra</b>, S. Benkouda, and T. Fortaki, "New formula for the calculation of the resonant frequency of double-layer circular patch based on cavity model and genetic algorithm (GA)," <i>Première Conférence Nationale sur les Télécommunications (CNT 2012)</i>, 11&amp; 12 Novembre, 2012, Guelma, <b>Algérie</b>.</p>  |
| <p><b>4- S. Bedra</b>, F. Chebara, and T. Fortaki, "Analysis of resonant characteristics and radiation patterns of a circular microstrip antenna on isotropic or uniaxially anisotropic substrate using artificial neural network," <i>International Conference on Electronics &amp; Oil: From Theory to Applications (ICEO'2013)</i>, March 05-06, 2013, Ouargla, <b>Algeria</b>.</p>                      |
| <p><b>5- S. Bedra</b>, S. Benkouda, L. Djouane, and T. Fortaki, "The air gap effect on the resonant frequency of circular microstrip antenna using artificial neural network," <i>International Conference on Systems and Information Processing (ICSIP 2013)</i>, May 12-14, 2013, Guelma, <b>Algeria</b>.</p>   |
| <p><b>6- S. Bedra</b>, L. Djouane, S. Benkouda, and T. Fortaki, "Analysis of tunable annular ring microstrip antenna printed on isotropic or uniaxial anisotropic substrate," <i>International Conference on Systems and Information Processing (ICSIP 2013)</i>, May 12-14, 2013, Guelma, <b>Algeria</b>.</p>  |
| <p><b>7- S. Benkouda, S. Bedra</b>, I. Benacer, and T. Fortaki, "Radiation pattern of circular disc antenna printed on isotropic or uniaxially anisotropic substrate," <i>International Conference on Nanoelectronics, Communications and Renewable Energy 2013 (ICNCRE 2013)</i>, pp. 237–242, ISBN: 978-81-925233-8-5, September 22-23, 2013, Jijel, <b>Algeria</b>.</p>                                  |
| <p><b>8- S. Bedra</b>, S. Benkouda, I. Benacer, and T. Fortaki, "Resonant characteristics of circular microstrip antenna using genetic algorithm optimization," <i>International Conference on Nanoelectronics, Communications and Renewable Energy 2013 (ICNCRE 2013)</i>, pp. 255–259, ISBN: 978-81-925233-8-5, September 22-23, 2013, Jijel, <b>Algeria</b>.</p>   |
| <p><b>9- S. Benkouda, S. Bedra</b>, M. Benacer, and T. Fortaki, "Modeling and design of rectangular microstrip patch antenna with iso/anisopropic substrate using neuro-spectral computation approach," <i>International Conference on Nanoelectronics, Communications and Renewable Energy 2013 (ICNCRE 2013)</i>, pp. 264–269, ISBN: 978-81-925233-8-5, September 22-23, 2013, Jijel, <b>Algeria</b>.</p> |
| <p><b>10- A. Messai, S. Bedra</b>, M. Amir, and T. Fortaki, "Resonant frequency of tunable microstrip ring antenna printed on isotropic or uniaxial anisotropic substrate," <i>The 2nd Advanced Electromagnetics Symposium (Proceedings of AES 2013)</i>, pp. 67–68, ISBN: 978-2-9545460-1-8, March 19 – 22, 2013, Sharjah, <b>United Arab Emirates</b>.</p>  |
| <p><b>11- R. Bedra, S. Bedra</b>, S. Benkouda, and T. Fortaki, "Comportement Bifréquences des Antennes Microbandes Empilées Gravées sur des Matériaux à Anisotropie Electrique et Magnétique," <i>International Congress on Telecommunication and Application (ICTA14)</i> 23-24 APRIL 2014, Bejaia, <b>Algeria</b>.</p>  |
| <p><b>12- S. Bedra</b>, R. Bedra, S. Benkouda, and T. Fortaki, "Spectral-domain Analysis of Rectangular Microstrip Patch Over Ground Plane with Rectangular Aperture and Variable Air Gap ," <i>International Congress on Telecommunication and Application (ICTA14)</i> 23-24 APRIL 2014, Bejaia, <b>Algeria</b>.</p>  |

**13- S. Bedra**, T. Fortaki, R. Bedra, and A. Messai, "Extended Cavity Model to Analysis Tunable Circular Disk Microstrip Antenna Using Genetic Algorithm," *The 7th International Conference on Information Technology (ICIT 2015)*, pp. 679-684, ISBN 978-9957-8583-3-9, May 12-15, 2015, Al Zaytoonah University of Jordan, Amman, **Jordan**.

**14- S. Bedra**, T. Fortaki, R. Bedra, and A. Messai, "Modeling and Design of Anisotropic Circular Microstrip Patch Antenna Using Neurospectral Computation Approach," *The 7th International Conference on Information Technology (ICIT 2015)*, pp. 127-133, ISBN 978-9957-8583-3-9, May 12-15, 2015, Al Zaytoonah University of Jordan, Amman, **Jordan**.

**15- S. Bedra**, R. Bedra, L. Barkat, and T. Fortaki "Extended Cavity Model to Analysis Circular Disk Microstrip Antenna on Isotropic or Uniaxial Anisotropic Substrate with Air Gap Layer," *3rd International Conference on Signal, Image, Vision and their Applications (SIVA'15)*, University of Guelma - November 23-25, 2015 - [www.pimis.net/siva15](http://www.pimis.net/siva15), **Algeria**.

**16- S. Bedra**, L. Barkat, R. Bedra, and T. Fortaki "Estimation of Resonant Frequency of a Circular Ring Microstrip Antenna Using Artificial Neural Network," *3rd International Conference on Signal, Image, Vision and their Applications (SIVA'15)*, University of Guelma - November 23-25, 2015 - [www.pimis.net/siva15](http://www.pimis.net/siva15), **Algeria**.