Fioralba Cakoni

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Education

- Ph.D. in Mathematics, University of Patras (joint degree with University of Tirana), 1996
  Advisor: George Dassios
- M.S. in Mathematics, University of Tirana, 1990
- Diploma in Mathematics (honor's program) University of Tirana, 1987

Employment

- Rutgers University, USA, January 2025 - June 2027
  Graduate Vice Chair, Department of Mathematics, New Brunswick
- Rutgers University, USA, July 2020 - on
  Distinguished Professor, Department of Mathematics, New Brunswick
- ENSTA Palaiseau, France, September 2024 - December 2024
  Visiting Research Professor
- Rutgers University, USA, September 2015 - June 2020
  Professor, Department of Mathematics, New Brunswick
- Ecole Polytechnique, France, October 2016 - March 2017
  INRIA Visiting Researcher, Centre de Mathématiques Appliquées
- University of Delaware, USA, 2010 - August 2015
  Professor, Department of Mathematical Sciences
- Ecole Polytechnique, France, Fall 2011
  CNRS Visiting Researcher, Centre de Mathématiques Appliquées
- University of Delaware, USA, 2006 - 2010
  Associate Professor, Department of Mathematical Sciences

- University of Delaware, USA, 2002 - 2006
  Assistant Professor, Department of Mathematical Sciences
- University of Delaware, USA, 2000 - 2002
  GIG NSF postdoctoral researcher, Department of Mathematical Sciences
- University of Stuttgart, Germany, 1998 - 2000
  Alexander von Humboldt Research Fellow, Mathematics Institute A/6
- University of Tirana, Albania, 1996 - 1998 Lecturer, Faculty of Natural Sciences, Department of Mathematics

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Awards and Honors

1. Prize AWM-SIAM Kovalevsky Lecture 2026
2. Albanian Presidential Medal "Urdheri i Lisi Akademik" December 10, 2026
3. Fellow of the Society for Industrial and Applied Mathematics – Class 2023
4. Fellow of the American Mathematical Society – Class 2019
5. Simons Fellow in Mathematics – 2016
6. Foreign Member of the Albanian Academy of Science – 2020

Editor in Chief

- Inverse Problems, since January 2026

On the Editorial Boards

1. SIAM Classics, Book Series since January 2024
2. SIAM Journal on Mathematical Analysis, since January 2019, currently corresponding editor
3. Differential and Integral Equations, since January 2021
4. Matematica, AWM Official Journal, since January 2021

5. Inverse Problems, since January 2015
6. Inverse Problems and Imaging, since January 2014
7. SIAM Journal on Applied Mathematics, 2016-2025
8. Proceedings of the Royal Society A, 2021-2025
9. Advances in Continuous and Discrete Models, 2021-2023
10. Journal of Integral Equations and Applications, 2009-2020

Selected Professional Service

1. Scientific Advisory Board, Hausdorff Center for Mathematics at the University of Bonn, January 2026 –
2. Co-organizer - Special Semester on Inverse Problems and Applications, SLMath (MSRI) Berkeley, approved for August-December 2027.
3. Co-organizer - Special Semester on Geometric Spectral Theory and Applications, Isaac Newton Institute for Mathematical Sciences, University of Cambridge, approved for January-June 2026
4. Scientific Advisory Board, ICERM, Brown University, July 2021 – July 2023, Chair July 2023 – July 2025.
5. Scientific Advisory Board, Center of Excellence in Inverse Problems, Finnish Academy of Sciences, 2012 – 2017

Guest Editor

1. F. Cakoni, H. Haddar, Special Issue on Transmission Eigenvalues, *Inverse Problems* **29**, no 10, 2013
2. F. Cakoni, H. Haddar, A. Kirsch Special Issue in Memory of Professor Armin Lechleiter, 1982-2018, *Inverse Problems* **35-36** 2019-2020.

3. F. Cakoni, H. Haddar Special Issue on Transmission Eigenvalues and Related Spectral Problems in Scattering Theory, *Research in the Mathematical Sciences* **8-9**, 2021-2022.

Research Grants

Current

- NSF Grant: DMS-2406313 (sole PI) *Time Harmonic Inverse Scattering for Linear and Nonlinear Media*, August 2021-July 2024. $270,000.
- NSF Grant: DMS-2519641 PI *Conference Grants Geometric Spectral Theory and Applications*, August 2025 - June 2026. $ 44,000
- Research Expertise from the Academic Diaspora (READ) Fellowship, Diaspora PI, September 2025 - June 2026.

Past

- AFOSR Grant: FA9550-23-1-0256, (main PI) *Novel Method fro Non-destructive Testing Using Electromagnetic Waves*, April 2023- March 2025.
- NSF Grant: DMS-2106255 (sole PI) *A New Approach to Imaging by Waves*, August 2021-December 2024.
- AFOSR Grant: FA9550-20-1-0024, (main PI) *Inverse Problems in Electromagnetic Wave Propagation*, January 2020-December 2022.
- NSF Grant: DMS-1813492 (sole PI) *New Approaches to Inverse Scattering for Inhomogeneous Media*, August 2018-July 2022.
- TRIPOD NSF (Senior Personnel) *Data Science Principles of the Human-Machine Convergence*, August 2018-July 2023.
- NSF Grant: DMS1602802 (sole PI) *New Directions in the Qualitative Approach to Inverse Scattering Theory*, 2015-2018.
- AFOSR Grant: FA9550-17-1-0147 (Rutgers PI) *Target Identification Problems in Inverse Scattering Theory*, January 2017- December 2019.

- AFOSR Grant: FA9550-13-1-0199 (Rutgers PI) *Nondestructive Testing and Target Identification*, 2013-2016.
- AFOSR Grants, (sole PI) continuously supported during 2002-2013.
- NSF Grant 2011-2014.
- GIG NSF Postdoc 2000-2002

Advisement

Postdocs

1. Zehui Zhou Sept. 2022 – current, Hill Assistant Professor (Rutgers).
2. Narek Hovsepyan Sept. 2021 – current, Hill Assistant Professor (Rutgers).
3. Jingni Xiao Sept. 2018 – August 2022, Hill Assistant Professor (Rutgers).
4. Yuan Li, current, Sept 2019 – Aug 2020, funded by Chine Scholarship Council, (Rutgers).
5. Thi Phong Nguyen, one year 2018, funded by my NSF Grant (Rutgers).
6. Lihan Liu, funded by Chine Scholarship Council, two years 2015-2016 (Delaware).
7. Andriy Synyavskyy, one year 2012-2013 – Fulbright Fellow (Delaware).

Graduate Students

1. Dana Zilberberg, current (Rutgers)
2. Ansina Haroon, current (Rutgers)
3. Heejin Lee, Graduated in 2022 (Rutgers) - next position postdoc at Purdue University
4. Irene De Teresa Trueba, graduated in 2017 (Delaware) - next position researcher at the University of Heidelberg, Germany.
5. Jake Rezac, graduated in 2017 (Delaware) - next position postdoc at the University of Colorado, Boulder, currently researcher at NIST Labs in Boulder.

6. Shizu Meng, graduated in 2016 (Delaware) - next position postdoc at the University of Michigan, currently tenure track at Texas University, Dallas.

7. Isaac Harris, graduated in 2015 (Delaware) - next position postdoc at Texas A& M, currently tenured Associate Professor at Purdue University.

8. Besiana Hamzallari, graduated in 2015 (Tirana) - currently lecturer at the University of Tirana.

9. Noam Zeev, PhD, graduated in 2008 (Delaware) - next position tenure track assistant professor at Old Dominion University, currently VP, Asset Management at J.P. Morgan.

Invited Lectures - since 2010

Distinguished Speaker

1. Plenary Speaker, PICOF's 2025 Inverse Problems, Control, and Shape Optimization, Tunis, Tunisia, October 28-31, 2025

2. Plenary Speaker, AIP 2025 Rio de Janeiro, Brazil, July 28 - August 01, 2025

3. Plenary Speaker, Inverse Problems in Milan, University of Milano, Milano, Italy, June 9-13, 2025

4. Plenary Speaker, Women in Analysis, BIRS Banff, Canada, May 11-16, 2025.

5. Plenary Speaker, Conference on Mathematics of Wave Phenomena, Karlsruhe, Germany, February 25-28, 2025.

6. Plenary Speaker, UK Workshop on Spectral Theory, ICMS, Bayes Center, Edinburgh, UK, September 09-13, 2024

7. Plenary Speaker, Seventh Chilean WONAPDE 2024, Universidad de Concèpcion, Concèpcion, Chile, January 15-19, 2024.

8. Keynote Speaker at Youth Scholar Symposium and Workshop Invited Speaker, Imaging and Partial Differential Equations, IAS, HKUST, Hong Kong, December 5-12, 2023

9. Plenary Speaker, Spectral Theory and Applications, Texas A&M University, College Station, USA, October 13-15, 2023.

10. Mini-symposia, 11th Applied Inverse Problems, Goettingen, Germany September 4-8, 2023.
11. Workshop on Mathematical Trends in Medical Imaging, University of Chicago, Chicago, USA, August 7-10, 2023.
12. Mini-course, Math@NTUA Summer School, Athens, Greece, June 26-30, 2023.
13. Rich and Nonlinear Tomography - a Multidisciplinary Approach, Isaac Newton Institute, Cambridge, UK, June 19-23, 2023.
14. Mathematical and Applications of Multiple Waves Scattering, Isaac Newton Institute, Cambridge, UK, May 22-26, 2023.
15. Spectral Geometry and Applications, CRM, Quebec City, Canada, May 8-12, 2023.
16. RIMS Workshop on Inverse Problems, Medical Imaging and Related Topics, Kyoto Japan, January 10-13, 2023.
17. Inverse Problems in Analysis and Geometry, Helsinki, Finland, August 1-5, 2022.
18. CIMPA Summer School on Mathematical Methods in Data Analysis, Tirana, Albania July 18-29, 2022 (speaker and co-organiser)
19. Integral Equations and Applications, Summer Graduate School, MSRI Berkeley, USA, June 06-17, 2022 (6-lecture course).
20. Special Semester Tomography Across the Scales Prequel Workshop, RICAM, Linz, Austria, October 11-15, 2021.
21. Plenary Speaker at the 6th Annual Meeting of SIAM Central States Section, The University of Kansas, USA, October 2-3, 2021.
22. Inverse Problems and Nonlinearity, Helsinki, Finland, August 23-27, 2021.
23. Rees Distinguished Lectures two-lecture series, University of Delaware, USA, April 29-30, 2021.
24. Imagine & Inverse Problems: One World Seminar, SIAG IS via Zoom, April 14. 2021.
25. Workshop on Tomographic Reconstructions and their Startling Applications, via Zoom, Schrödinger International Institute for Mathematics and Physics, Vienna, Austria, March 15 - 25, 2021.

26. Distinguished Lecture at Michigan Technological Institute, via Zoom, March 5, 2021

27. Distinguished Lecture for HKSIAM and Hong Kong Universities, via Zoom November 18, 2020.

28. Computational Methods for New Directions in Inverse Problems, Institute for Applied Mathematics and Computational Science, Texas A&M University, USA, February 3-5, 2020.

29. Winter School on PDEs, 15 hours of lecturing, University of Tirana, Albania, January 13-17, 2020.

30. Reconstruction Methods for Inverse Problems, Banff (BIRS), Canada, June 23-30, 2019.

31. Women in Analysis, Leader of the group on scattering, Banff (BIRS), Canada, June 9-14, 2019.

32. Plenary Speaker, The V AMMCS International Conference, Waterloo, Ontario, August 18-23, 2019, Canada.

33. IAS Workshop on Inverse Problems,Imaging and Partial Differential Equations, Institute for Advanced Study, The Hong Kong University of Science and Technology, Hong Kong, May 20-24, 2019.

34. Frontiers in Applied and Computational Mathematics, NJIT, New Jersey, USA, August 24-26, 2018.

35. Spectral Geometry: Theory, Numerical Analysis and Applications, Banff (BIRS), Canada, July 1-6, 2018.

36. Reconstruction Methods in Inverse Problems, Instituto Nazionale di Alta Matematica, Rome, Italy, May 28-June 01, 2018.

37. AIM Workshop on Steklov Eigen-problems, American Institute of Mathematics, San Jose, California, USA, April 30 - May 4, 2018.

38. IAS Workshop on Inverse Problems, Imaging and Partial Differential Equations, Institute for Advanced Study, The Hong Kong University of Science and Technology, Hong Kong, March 12-16, 2018.

39. International Conference on Recent Advances in Computational and Applied Mathematics, Wuhan University, China December 14-17, 2017.

40. Plenary Speaker, 9th Applied Inverse Problems, Hangzhou, May 29 - June 2, 2017.

41. Optical Imaging and Inverse Problems, IMA, University of Minnesota, February 13 - 17, 2017.

42. IAS Workshop on Inverse Problems, Imaging and Partial Differential Equations, Institute for Advanced Study, The Hong Kong University of Science and Technology, Hong Kong, December 5-9, 2016.

43. London Mathematical Society – EPSRC Durham Symposium on Mathematical and Computational Aspects of Maxwell's Equations, Durham, UK, July 11- 21, 2016.

44. Franco-German Summer School, Inverse Problems for Waves, Ecole Polytechnique, Paris, France, August 25-28, 2015 (I gave a minicourse on inverse scattering).

45. Inverse Problems in Wave Propagation, IWaP 2015, University of Bremen, Germany April 7-10, 2015

46. Workshop on Applications in Inverse Problems, Universita degli Study di Milano, January 26-29, 2015 (I gave a mini-course of 6 lectures).

47. NSF-CBMS Conference on Inverse Scattering and Transmission Eigenvalues, University of Texas at Arlington, May 27-31, 2014.

48. IPTA 2014, Inverse Problems - from Theory to Applications, Bristol, UK, August 26-28, 2014 an international conference celebrating 30 years of Inverse Problems (plenary speaker).

49. Distinguished Lectures on Inverse Problems, International conference August 4-8, 2014 at the University of Helsinki, Finland.

50. Journées Singulières Augmentèes, Rennes, France, August 26-30, 2013.

51. Numerical Analysis and Inverse Problems, Michigan Technological University, USA, August 12-14, 2013.

52. Inverse Problem: Scattering, Tomography and Parameter Identification, Bad Herrenalb, Germany, April 7-11, 2013.

53. Computational Inverse Problems, Oberwolfach, Germany, October 21-27, 2012.

54. Wave Propagation in Complex Media and Applications, Heraklion, Crete, Greece, May 7-11, 2012

55. Inverse Problems, Control Shape and Optimization, PICOF 2012, Ecole Polytechnique, Palaiseau, France, April 2-4, 2012.

56. Inverse problems for Partial Differential Equations, Oberwolfach, Germany, February 19-25, 2012.

57. Challenges in Synthetic Aperture Radar, IPAM, USLA, Los Angeles, USA, February 6-10, 2012.

58. Workshop on Numerical Electromagnetics and Industrial Applications, University of Santiago de Compostela, Santiago de Compostela, October 25-28, 2011.

59. Inverse Problems in Analysis and Geometry, Isaac Newton Institute for Mathematical Sciences, University of Cambridge, UK, August 1-5, 2011.

60. Workshop on Future Direction in Applied Mathematics, NC State University, March 10-11, 2011.

61. Lecture at Collège de France, Paris December 2, 2011.

62. Inverse Problems: Theory and Applications, MSRI, Berkeley, November 8-12, 2010.

Colloquium and Invited Minisymposium Talks

63. Invited talk at the minisymposium on Inverse Problems, 14th AIMS Conference, NYU, Abu Dhabi, December 16-20, 2024.

64. Colloquium at ENSTA, Paris, France, October 24, 2024.

65. Colloquium at Aarhus University, Aarhus, Denmark, October 3, 2024.

66. Colloquium at Center for Applicable Mathematics, School of Mathematics of the Tata Institute of Fundamental Research, via Zoom Mumbai, India, January 18, 2022.

67. International Zoom Inverse Problems Seminar via Zoom, UC Irvine, California, USA , October 7, 2021.

68. Colloquium at the University of Arizona, via Zoom, Tucson, Arizona, September 3, 2021.

69. Colloquium at Michigan University, via Zoom, East Lansing, Michigan, March 22, 2021.

70. Colloquium at the University of Padova, via Zoom, Italy, March 3, 2021.

71. Colloquium at Academy of Mathematics and Systems Science, Chinese Academy of Science, via Zoom, Beijing, China, December 3, 2020.

72. Colloquium at Center for Mathematics and Artificial Intelligence via Zoom, George Mason, USA, September 11, 2020.

73. International Zoom Inverse Problems Seminar via Zoom, UC Irvine, California, USA , May 7, 2020.

74. Colloquium at New York University, Abu Dhabi, Abu Dhabi, UAE, February 9, 2020.

75. Colloquium at University of Maryland, Maryland, October 31, 2019.

76. Colloquium at University of California at Irvine, Los Angeles, March 4, 2019.

77. Colloquium at University of Colorado at Boulder, Boulder, December 7, 2018.

78. Colloquium at Auburn University, Auburn, October 5, 2018.

79. Invited talks at a minisymposium at the Conference on Mathematics of Wave Phenomena, KIT, Germany, July 23-27, 2018.

80. Invited talks at a minisymposium at the Inverse Problems: Modeling and Simulation, Malta, May 21-25, 2018.

81. Invited talks at two minisymposia at the AIP Conference, Hangzhou, China May 29 - June 2, 2017.

82. Colloquium at Penn State University, State College, April 17, 2017.

83. Colloquium at Institut de Mathématique de Bordeau, France, March 9, 2017.

84. Colloquium at Institut für Numerische und Angewandte Mathematik, University of Göttingen, Germany, January 24, 2017.

85. Colloquium at Fakultät für Mathematik, Karlsruhe Institute of Technology, Germany, January 19, 2017.

86. Colloquium at Ecole Polytechnique Federal de Lausanne, Switzerland, January 13, 2017.

87. Colloquium at CMAP, Ecole Polytechnique, Paris, France, January 10, 2017.

88. Colloquium at the Chinese University of Hong Kong, Hong Kong, December 9, 2016.

89. Colloquium at the University of Versailles, Versailles, December 1, 2016.

90. Invited talk in the Inverse Problems workshop at the Durham Symposium on Mathematical and Computational Aspects of Maxwell's Equations, Durham, UK, July 11- 21, 2016.

91. Invited talk at NSF-SIAM Workshop on Optics and Photonics, Boston, Massachusetts, USA, July 11, 2016.

92. Colloquium at Southeast University, Nanjing, China, June 1, 2016.

93. Invited talks in two minisymposia at AIP Conference, Helsinki, Finland, May 25-29, 2015.

94. Colloquium at NJIT, Newark, September 19, 2014.

95. Colloquium at Clemson University, Clemson, April 22, 2014.

96. Colloquium at the University of Minnesota, Minneapolis, Dept. Civil Engineering, March 22, 2014.

97. Colloquium at Purdue University, Lafayette, November 7, 2013.

98. Colloquium at Rutgers University, New Brunswick, April 26, 2013.

99. Colloquium at Georgetown University, Washington DC, October 5, 2012.

100. Invited talk at Conference on Inverse Problems in Honor of Gunther Uhlmann, University of California, Irvine, June 18-22, 2012.

101. Invited talk at SIAM Conference on Imaging Science, Philadelphia, May 20-22, 2012.

102. Invited talk at FACM 1012, Frontiers in Applied and Computational Mathematics, NJIT, New Jersey, May 18-20, 2012

103. Colloquium at Temple University, Philadelphia, April 23, 2012.

104. Colloquium at Columbia University, New York City, March 20, 2012.

105. Colloquium at Drexel University, Philadelphia, March 6, 2012.

106. Colloquium at CMAP, Ecole Polytechnique December 6, 2011.

107. Colloquium at POEMS, INRIA, Rocquencourt, Paris October 20, 2011.

108. Invited talk at a minisymposium in AIP Conference, Texas A&M University, May 23-27, 2011.

109. Colloquium at Purdue University, Department of Mathematics, April 29, 2011.

110. Colloquium at Wright State University, Department of Mathematics, Ohio, January 14, 2011.

111. Colloquium at Case Western Reserve University, Department of Mathematics, Ohio, October 29, 2010.

112. QNDE Conference (keynote speaker in the Electromagnetic Inverse Scattering session), San Diego California, July 18-23, 2010.

113. IV European Conference on Computational Mechanics, Paris, France, May 16-21, 2010.

114. SIAM Conference on Imaging Science, Chicago, April 12-14, 2010.

115. Colloquium at the University of Minnesota, Department of Civil Engineering, January 29, 2010.

Short Academic Visits

- Isaac Newton Institute, University of Cambridge UK, May-June 2023 Long Term Visitor (Simons fellowship) in the program Mathematical and Applications of Multiple Waves Scattering

- CMAP, Ecole Polytechnique, Paris, France, November 2007, August 2008, April 2009, June 2009, April 2010, May 2010, November 2010, April 2011, June 2011, November 2012, November 2014, March 2016, July 2018, August 2018, March 2019
  Visiting Researcher
- IMA, University of Minnesota, Optical Imaging and Inverse Problems program, April 23 - May 22, 2017 Visiting Researcher
- University of Göttingen, Germany, January 16-31, 2017
  Visiting Researcher
- Karlsruhe Institute of Technology, Germany, January 3-15, 2017
  Visiting Researcher
- Southeast University, Nanjing, China, May 2016
  Visiting Researcher
- University of Minnesota, USA, January 2010, March 2014, May 2015
  MTS Visiting Professor of Geomechanics
- Wright-Patterson Air Force Base Dayton, Ohio, January 2011
- Mathematical Sciences Research Institute (MSRI), Berkley, August, November 2010
  Invited Research Member
- University of Tokyo, Japan, January 2009
  Visiting Researcher
- Politecnico di Milano, Italy, December 2006
  Visiting Researcher
- INRIA, Rocquencourt Paris, France, June 2004, April 2005, November 2006
  Visiting Researcher
- University of Göttingen, Germany, March - April 2005, June - July 2007
  Alexander von Humboldt Fellow
- University of Rennes, France, June - July, 2004
  Visiting Professor (Mâitre de Conference), IRMAR

- Mathematical Sciences Research Institute (MSRI), Berkley, August 2001
  Invited Visitor
- University of Bielefeld, Germany, August - November 1996
  DAAD Research Fellow.

End of CV

Publication List – Fioralba Cakoni

(*Most recent first*)

The files are accessible at sites.math.rutgers.edu/∼fc292/publications.html

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Research Monographs

1. F. Cakoni, D. Colton and H. Haddar, *Inverse Scattering Theory and Transmission Eigenvalues. Second Edition*, CBMS-NSF Regional Conference Series in Applied Mathematics, **98**, SIAM Publications, 2023.

2. F. Cakoni, D. Colton and H. Haddar, *Inverse Scattering Theory and Transmission Eigenvalues*, CBMS-NSF Regional Conference Series in Applied Mathematics, **88**, SIAM Publications, 2016.

3. F. Cakoni and D. Colton, *A Qualitative Approach to Inverse Scattering Theory*, Springer, Applied Mathematical Series, Vol. **188**, 2014.

4. F. Cakoni, D. Colton and P. Monk, *The Linear Sampling Method in Inverse Electromagnetic Scattering*, CBMS-NSF Regional Conference Series in Applied Mathematics **80**, SIAM Publications, 2011.

5. F. Cakoni and D. Colton, *Qualitative Methods in Inverse Scattering Theory*, Springer, Series on Interaction of Mechanics and Mathematics, 2006.

Research Papers in Refereed Journals

6. F. Cakoni and M. Vogelius Transmission eigenvalues and non-scattering, (submitted).

7. F. Cakoni and s. Moskow Asymptotic expansions for the transmission eigenvalues of periodic scatterers of bounded support, *Asymptotic Analysis* (accepted).

8. F. Cakoni, S. Meng and Z. Zehui, On the recovery of two function-valued coefficients in the Helmholtz equation for inverse scattering problems via inverse Born series, *Inverse Problems*, **41**, paper 075004, (2025).

9. F. Cakoni and P. Monk, Target signatures for anisotropic screens in electromagnetic scattering, *SIAM J. Appl. Math*, **85**, no 6 (2025)

10. F. Cakoni, N. Hovsepyan, M. Lassas and M. Vogelius, On the lack of external response of a nonlinear medium in the second-harmonic generation process, *SIAM J. Math Analysis*, **57**, 2, pp. 1370-1405 (2025).

11. F. Cakoni, H. Haddar and D. Zilberberg, An algorithm for computing scattering poles based on dual characterization to interior eigenvalues, *Proceedings A*, **480**, paper 20240015 (2024).

12. F. Cakoni, H. Haddar and T.P. Nguyen, Fast imaging of local perturbations in an unknown bi-periodic layered medium, *J. Comp. Physics* **501** paper 112773, (2024).

13. F. Cakoni, N. Hovsepyan and M. Vogelius, Far field broadband approximate cloaking for the Helmholtz equation with a Drude-Lorenz refractive index, *Journal de Mathématiques Pures et Appliquées*, **182** 285-318, (2024).

14. F. Cakoni and M. Vogelius, Singularities almost always scatter: regularity results for non-scattering inhomogeneities, *Comm. Pure Appl. Math.* **76** no 12, 4022–4047 (2023).

15. F. Cakoni, M. Vogelius and J. Xiao, On the Regularity of Non-Scattering Anisotropic Inhomogeneities, *Arch. Ration. Mech. Anal.* **247** no 3, paper 31, (2023).

16. F. Cakoni, H. Lee and P. Monk, A spectral target signature for thin surfaces, *Inverse Problems and Imaging*, **16** 1473-1500, (2022).

17. D. Ambrose, F. Cakoni and S. Moskow, A perturbation problem for transmission eigenvalues, *Research in the Mathematical Sciences* **9**, no 11 (2022).

18. F. Cakoni, P. Monk and Y. Zhang, Target signatures for thin surfaces, *Inverse Problems* **38** 025011 (2022)

19. F. Cakoni, S. Cogar and P. Monk, A spectral approach to non-destructive testing via electromagentic waves, *IEEE, Transactions on Antennas and Propagation* **69**, no 12, 8689-8697 (2021).

20. F. Cakoni, D. Colton and H. Haddar, Transmission Eigenvalues, *AMS Notices*, October Issue, **68** no 9, 1499-1510 (2021).

21. F. Cakoni, S. Meng and J. Xiao, A note on transmission eigenvalues in electromagnetic scattering theory, *Inverse Problems and Imaging* **15** no. 5, 999–1014, (2021).

22. F. Cakoni, P. Monk and V. Selgas, Analysis of the linear sampling method for imaging penetrable obstacles in the time domain, *Analysis & PDEs*, **4** no. 3, 667–688 (2021).

23. F. Cakoni, P-Z Kow and J-N Wang The interior transmission eigenvalue problem for elastic waves in media with obstacles, *Inverse Problems and Imaging*, **15** no. 3, 445-474 (2021).

24. F. Cakoni, J. Xiao, On corner scattering for operators of divergence form and applications to inverse scattering, *Comm. PDEs*, **46**, no. 3, 413-441 (2021).

25. F. Cakoni, H.M. Nguyen, On the discreteness of transmission eigenvalues for the Maxwell equation, *SIAM J. Math Analysis*, **53**, no. 1, 888-913 (2021).

26. F. Cakoni, D. Colton and H. Haddar A duality between scattering poles and transmission eigenvalues in scattering theory, *Proceedings of Royal Society A*, **476**, no. 2244, 612-630 (2020).

27. F. Cakoni, S. Moskow and T. Pangburn, Limiting boundary correctors for periodic microstructures and inverse homogenization series, *Inverse Problems*, **36**, 065009, (2020).

28. F. Cakoni, B. Guzina, S. Moskow and T. Pangburn, Scattering by a bounded highly oscillating periodic medium and the effect of boundary correctors, *SIAM J. Appl. Math.*, **29**, no 4, 1448-1474, (2019)

29. M. Bonnet and F. Cakoni, Analysis of topological derivative as a tool for qualitative identification, *Inverse Problems*, **35**, no 10, 104007, (2019).

30. L. Borcea, F. Cakoni and S. Meng, A direct approach to imaging in a waveguide with perturbed geometry, *J. Comp. Physics*, **392**, 556-577, (2019).

31. F. Cakoni and S. Chanillo, Transmission eigenvalues and the Riemann zeta function in scattering theory for automorphic forms on Fuchsian groups of type I, *Acta Mathematica Sinica, English Series*, **35**, no 6, 987-1010, (2019).

32. F. Cakoni, H. Haddar and A. Lechleiter, On the factorization method for a far field inverse scattering problem in the time domain, *SIAM J. Math Analysis*, **51**, 854 - 872, (2019).

33. F. Cakoni, H. Haddar and TP Nguyen, New interior transmission problem applied to a single Floquet-Bloch mode imaging of local perturbations in periodic media, *Inverse Problems*, **35**, 015009 (2019).

34. F. Cakoni, S. Moskow and S. Rome, Asymptotic expansions of transmission eigenvalues for small perturbation of media with generally signed contrast, *Inverse Problems and Imaging* **12**, 971-992, (2018).

35. F. Cakoni, I. De Teresa and P. Monk, Nondestructive testing of delaminated interfaces between two materials using electromagnetic interrogation, *Inverse Problems*, **34**, 065005 (2018).

36. F. Cakoni and V. Kovtunenko, Topological optimality condition for the identification of the center of an inhomogeneity, *Inverse Problems*, **34**, 035009 (2018).

37. F. Cakoni, O. Ivanyshyn-Yaman, R. Kress and F. Le Louer, A boundary integral equations for the transmission eigenvalue problem for Maxwell's equations, *Math. Meth. Appl. Sci.* 1 -15 (2018).

38. L. Audibert, F. Cakoni and H. Haddar, New sets of eigenvalues in inverse scattering for inhomogeneous media and their determination from scattering data, *Inverse Problems* **33**, 125011 (2017).

39. F. Cakoni, I. Harris and S. Moskow, The imaging of small perturbations in an anisotropic media, *Computers and Mathematics with Applications* **74**, 2769-2783 (2017).

40. F. Cakoni, D. Colton and P. Monk, Qualitative methods in inverse electromagnetic scattering theory, *IEEE Antennas and Propagation Magazine* **24-33**, October Issue (2017).

41. F. Cakoni and J. Rezac, Direct imaging of small scatterers using reduced time dependent data, *J. Comp. Physics*, **338** 371-387 (2017).

42. F. Cakoni and R. Kress, A boundary integral equation method for the transmission eigenvalue problem, *Applicable Analysis*, **96**, 23-38 (2017).

43. F. Cakoni, I. De Teresa, H. Haddar and P. Monk, Nondestructive testing of the delaminated interface between two materials, *SIAM J. Appl. Math.*, **76**, no 6, 2306-2332, (2016).

44. F. Cakoni D. Colton and J. Rezac, The Born transmission eigenvalue problem, *Inverse Problems* **32** paper 105014 (2016).

45. F. Cakoni, D. Colton, S. Meng and P. Monk, Steklov eigenvalues in inverse scattering, *SIAM J. Appl. Math.* **76**, No 4, 1737-1763 (2016).

46. F. Cakoni, B. Guzina and S. Moskow, On the homogenization of a transmission problem in scattering theory for highly oscillating media, *SIAM J. Math. Analysis*, **48**, no 4, 2532-2560, (2016).

47. F. Cakoni, H. Haddar and S. Meng, Boundary integral equations for the transmission eigenvalue problem for Maxwell's equations, *J. Int. Eqns. Appl.*, **27**, 377-406, (2015).

48. F. Cakoni, H. Haddar and H. Harris, Homogenization of the transmission eigenvalue problem for periodic media and application to the inverse problem, *Inverse Problems and Imaging*, **9**, no 4, 1025 - 1049, (2015).

49. F. Cakoni, S. Moskow and S. Rome, Perturbations of transmission eigenvalues for inhomogeneous media in the presence of small inclusions, *Inverse Problems and Imaging*, **9**, no 3, 725 - 748, (2015).

50. F. Cakoni and I. Harris, The factorization method for a defective region in an anisotropic material, *Inverse Problems*, **31**, 025002 (2015).

51. F. Cakoni, N. Chaulet and H. Haddar, Asymptotic analysis of the transmission eigenvalue problem for a Dirichlet obstacle coated by a thin layer of non-absorbing media, *IMA J. Appl. Math*, **80**, 1063-1098, (2015).

52. F. Cakoni, Y. Hu and R. Kress, Simultaneous reconstruction of shape and generalized impedance functions in electrostatic imaging, *Inverse Problems*, **30**, 105010 (2014)

53. F. Cakoni, P. Monk and J. Sun, Error analysis of the finite element approximation of transmission eigenvalues, *Computational Methods in Applied Mathematics*, **14**, 419-427, (2014).

54. Y. Hu, F. Cakoni and J. Liu, The inverse problem for a partially coated cavity with interior measurements, *Applicable Analysis*, **93**, no 5, 936-956 (2014).

55. S. Meng, H. Haddar and F. Cakoni, The factorization method for a cavity in an inhomogeneous medium", *Inverse Problems*, **30**, paper 045008 (2014).

56. I. Harris, F. Cakoni and J. Sun, Transmission eigenvalues and non-destructive testing of anisotropic magnetic materials with voids, *Inverse Problems*, **30**, paper 035016 (2014).

57. F. Cakoni, D. Colton and S. Meng, The inverse scattering problem for a penetrable cavity with internal measurements, *AMS Contemporary Mathematics*, **615**, 71-88 (2014).

58. F. Cakoni, N. Chaulet and H. Haddar, On the asymptotic of a Robin eigenvalue problem, *C. R. Math. Acad. Sci. Paris, Ser. I*, **351** 517-521, (2013).

59. F. Cakoni and S. Moskow, Asymptotic expansions for transmission eigenvalues for media with small inhomogeneities, *Inverse Problems*, **29**, 104014 (2013).

60. C. Bellis, M. Bonnet and F. Cakoni, Acoustic inverse scattering using topological derivative of far-field measurements-based L^2 cost functionals, *Inverse Problems*, **29**, 075012 (2013).

61. F. Cakoni and R. Kress, Integral equation methods for the inverse obstacle problem with generalized impedance boundary condition, *Inverse Problems*, **29**, 015005, (2013).

62. C. Bellis, F. Cakoni and B. Guzina, Nature of the transmission eigenvalue spectrum for elastic bodies, *IMA Journal of Applied Mathematics*, **78** No 5, 895-923, (2013).

63. F. Cakoni, A. Cossonniere and H. Haddar, Transmission eigenvalues for inhomogeneous media containing obstacles, *Inverse Problems and Imaging* **6**, No 3, 373-398 (2012).

64. F. Cakoni, D. Colton and H. Haddar, The interior transmission eigenvalue problem for absorbing media, *Inverse Problems*, **28**, No 4, paper 045005, (2012).

65. F. Cakoni, M. Di Cristo and J. Sun, A multistep reciprocity gap functional method for the inverse problem in a multi-layered medium, *Complex Variables and Elliptic Equations* **57**, Nos 2-4, 261-276, (2012)

66. F.Cakoni and H. Haddar, Transmission Eigenvalues in Inverse Scattering Theory, in *Inside Out 2*, G. Uhlmann Ed. MSRI Publications, Volume 60, 527-578, (2012).

67. F. Zheng, F. Cakoni and J. Sun, An inverse electromagnetic scattering problem for cavity, *Inverse Problems*, **27**, No 12, paper 125002, (2011).

68. H. Qin and F. Cakoni, Nonlinear integral equations for shape reconstruction in the inverse interior scattering problem, *Inverse Problems*, **27**, No 3, paper 035005, (2011).

69. F. Cakoni, R. Kress and C. Schuft , Simultaneous reconstruction of shape and impedance in corrosion detection, *Methods and Applications of Analysis*, **17**, No 4, 357-378 (2010).

70. F. Cakoni and P. Monk, The determination of anisotropic surface impedance in electromagnetic scattering, *Methods and Applications of Analysis*, **17**, No 4, 379-394 (2010).

71. B. Guzina, F. Cakoni and C. Bellis, On multi-frequency obstacle reconstruction via linear sampling method, *Inverse Problems*, **26**, No 12, paper 125005, (2010).

72. F. Cakoni, D. Colton and D. Gintides, The interior transmission eigenvalue problem, *SIAM J. Math. Analysis*, **42**, no 6, 2912-2921, (2010).

73. F. Cakoni, R. Kress and C. Schuft, Integral equations for shape and impedance reconstruction in corrosion detection, *Inverse Problems*, **26**, No 9, paper 095012 (2010).

74. F. Cakoni and A. Kirsch, On the interior transmission eigenvalue problem, *Int. Jour of Comp. Sci. Math*, **3**, No 1-2, 142-167 (2010).

75. F. Cakoni, D. Colton and P. Monk, The determination of boundary coefficients from far field measurements, *J. Integral Equations and Applications*, **42**, No 2, 167-191 (2010).

76. F. Cakoni, D. Colton, P. Monk and J. Sun, The inverse electromagnetic scattering problem for anisotropic media, *Inverse Problems*, **26**, No 7, paper 074004 (2010).

77. F. Cakoni, G. Gintides and H. Haddar, The existence of an infinite discrete set of transmission eigenvalues, *SIAM Journal of Mathematical Analysis*, **42**, No 1, 237-255 (2010).

78. F. Cakoni, D. Colton and H. Haddar, On the determination of Dirichlet and transmission eigenvalues from far field data, *C. R. Math. Acad. Sci. Paris, Ser. I*, **348**, No 7-8, 379-383 (2010).

79. F. Cakoni, D. Colton and H. Haddar, The interior transmission problem for regions with cavities, *SIAM Journal of Mathematical Analysis* , **42**, No 1, 145-162 (2010).

80. F. Cakoni, G. Nakamura, M. Sini and N. Zeev, The identification of a partially coated dielectric medium from far field measurements, *Applicable Analysis*, **89**, No 1, 29-47 (2010).

81. F. Cakoni and D. Gintides, New results on transmission eigenvalues, *Inverse Problems and Imaging* **4**, No 1, 39-48 (2010).

82. F. Cakoni and H. Haddar, On the existence of transmission eigenvalues in an inhomogenuous medium, *Applicable Analysis*, **88** no 4, 475-493 (2009).

83. F. Cakoni, D. Colton and H. Haddar, The computation of lower bounds for the norm of the index of refraction in an anisotropic media, *J. Integral Equations and Applications*, **21** 203-227 (2009).

84. N. Zeev and F. Cakoni, The identification of thin dielectric objects from far field and near field scattering data, *SIAM J. Appl. Math.*, **69** 1024-1042 (2009).

85. F. Cakoni, D. Colton and M. Cayoren, Transmission eigenvalues and the nondestructive testing of dielectrics, *Inverse Problems*, **26**, paper 065016 (2008).

86. F. Cakoni and D. Colton, Inequalities in inverse scattering theory, *J. Inverse and Ill-Posed Problems*, **15** 483-491 (2007).

87. F. Cakoni and H. Haddar, A variational approach for the solution of electromagnetic interior transmission problem for anisotropic media, *Inverse Problems and Imaging* **1**, No 3, 443-456 (2007).

88. F. Cakoni, D. Colton and P. Monk, On the use of transmission eigenvalues to estimate the index of refraction from far filed data, *Inverse Problems*, **23** 507-522 (2007).

89. F. Cakoni and R. Kress, Integral equations for inverse problems in corrosion detection from partial Cauchy data, *Inverse Problems and Imaging*, **1**, No 2, 299-245 (2007).

90. F. Cakoni and H. Haddar, Identification of partially coated anisotropic buried objects using electromagnetic Cauchy data, *J. Integral Equations and Applications*, **19**, No 3, 361-391 (2007).

91. F. Cakoni, D. Colton and P. Monk, The inverse electromagnetic scattering problem for a partially coated dielectric, *J. Comput. Appl. Math.* **204**, 256-267 (2007).

92. F. Cakoni, Recent developments in the qualitative approach to inverse electromagnetic scattering theory, *J. Comput. Appl. Math.* **204**, 242-255 (2007).

93. F. Cakoni and D. Colton, Target identification of buried coated objects, *J. Comput. Appl. Math.*, **25** No 2-3, 269-288 (2006).

94. F. Cakoni, MB. Fares and H. Haddar, Analysis of two linear sampling methods applied to electromagnetic imagining of buried objects, *Inverse Problems*, **22**, 845-867 (2006).

95. F. Cakoni, G. Hsiao and W. Wendland, Boundary integral equation method for a mixed boundary value problem for the biharmonic equation, *Complex Variables*, **50**, 681-696 (2005).

96. F. Cakoni and D. Colton, Open problems in the qualitative approach to inverse electromagnetic scattering theory, *European Jour. Appl. Math.*, **16**, 1-15 (2005).

97. F. Cakoni, D. Colton and P. Monk, The determination of the surface conductivity of a partially coated dielectric, *SIAM J. Appl. Math.*, **65**, No.3, 767-789 (2005).

98. F. Cakoni and E. Darrigrand, The inverse electromagnetic scattering problem for a mixed boundary value problem for screens, *J. Comput. Appl. Math.*, **174**, 251-269 (2005).

99. F. Cakoni, D. Colton and P. Monk, The electromagnetic inverse scattering problem for partially coated Lipschitz Domains, *Proc. Royal. Soc. Edinburgh*, **134A**, 661-682 (2004).

100. F. Cakoni and D. Colton, A target signature for distinguishing perfect conductors from anisotropic media of finite conductivity, Math. Comp. Sim. **66**, No 4-5, 325-335 (2004).

101. F. Cakoni and D. Colton, The determination of the surface impedance of a partially coated obstacle from far field data, *SIAM J. Appl. Math.*, **64**, 709-723 (2004).

102. F. Cakoni and D. Colton, A uniqueness theorem for an inverse electromagnetic scattering problem in inhomogeneous anisotropic media, *Proc. Edinburgh Math. Soc.*, **46**, 293-314 (2003).

103. F. Cakoni, D. Colton and E. Darrigrand, The inverse electromagnetic scattering problem for screens, *Inverse Problems*, **19**, 627-642 (2003).

104. F. Cakoni and D. Colton, The linear sampling method for cracks, *Inverse Problems*, 19, 279-295 (2003).

105. F. Cakoni and D. Colton, On the mathematical basis of the linear sampling method, *Georgian Math. J. Kupradze's special issue*, **10**, No 3, 411-425 (2003).

106. F. Cakoni and D. Colton, Combined far field operators in electromagnetic inverse scattering theory, *Math. Meth. Appl. Sci.*, **26**, No. 5, 413-429 (2003).

107. M. Bochniak and F. Cakoni, Domain sensitivity analysis of the elastic far-field patterns in scattering from nonsmooth obstacles, *J. Math. Anal. Appl.*, **272**, No.1, 318-334 (2002).

108. F. Cakoni, D. Colton and H. Haddar, The linear sampling method for anisotropic media, *J. Comput. Appl. Math.*, **146**, 285-299 (2002).

109. M. Bochniak and F. Cakoni, Domain sensitivity analysis of the acoustic far-field pattern, *Math. Meth. Appl. Sci.*, **25**, 595-613 (2002).

110. F. Cakoni, D. Colton and P. Monk, The direct and inverse scattering problems for partially coated obstacles, *Inverse Problems*, **17**, 1997-2015 (2001).

111. F. Cakoni, Boundary integral method for thermoelastic screen scattering problem in R^3, *Math. Meth. Appl. Sci.*, **23**, 441-466 (2000).

112. F. Cakoni and G. Dassios, The Atkinson-Wilcox theorem in thermoelasticity, *Quart. Appl. Math.*, **LVII**, N.4, 711-795 (1999).

113. F. Cakoni and G. Dassios, The coated thermoelastic body within a low-frequency elastodynamic field, *Int. J. Ingng. Sci.*, **36**, 1815-1838 (1998).

Other Refereed Publications

114. F. Cakoni, H. Haddar and S. Meng, A boundary integral equation approach for the transmission eigenvalue problem for Maxwell's equations, *Proceedings of the 12th International Conference on Mathematical and Numerical Aspects of Waves*, (2015).

115. F. Cakoni, B. Guzina and S. Moskow, On the homogenization of a transmission problem, *Proceedings of the 12th International Conference on Mathematical and Numerical Aspects of Waves*, (2015).

116. F. Cakoni and H. Haddar, Transmission Eigenvalues: Editorial, *Inverse Problems*, **29**, paper 100201 (2013).

117. F. Cakoni and S. Moskow, Perturbation of transmission eigenvalues due to small inhomogeneities, *Proceedings of the 11th International Conference on Mathematical and Numerical Aspects of Waves*, 333-335, (2013).

118. F. Cakoni, N. Chaulet and H. Haddar, Asymptotic analysis of transmission eigenvalues for perfect conducting body coated by a thin dielectric layer, *Proceedings of the 11th International Conference on Mathematical and Numerical Aspects of Waves*, 343-345, (2013).

119. F. Cakoni and D. Colton, Inverse Problems and Imaging: Past, Present and Future *UNESCO-EOLSS On-line* (2012).

120. B. Guzina, F. Cakoni and C. Bellis, Multi-tonal reconstruction of penetrable obstacles by way of the linear sampling method, Proceedings of the 8th International Conference on Structural Dynamics, Book Series: EURODYN-International Conference on Structural Dynamics, 2594-2601, (2011).

121. F. Cakoni, On the existence of an infinite set of transmission eigenvalues, *Albanian Journal of Natural and Technical Sciences*, **28**, 3-14 (2010).

122. F. Cakoni, D. Colton and D. Gintides, The interior transmission problem, *Mathematical Methods in Scattering Theory and Biomedical Engineering, World Scientific Publishing*, 368-380 (2010).

123. F. Cakoni and D. Colton, The inverse scattering problem for anisotropic media, *Mathematical Methods in Scattering Theory and Biomedical Engineering, World Scientific Publishing*, 21-31 (2008).

124. F. Cakoni, D. Colton and H. Haddar Inverse scattering for anisotropic media, *in Proceedings of the 8th International Conference on Mathematical and Numerical Aspects of Waves*, University of Reading, 150-152 (2007).

125. F. Cakoni and P. Monk, The 3D inverse electromagnetic scattering problem for a coated dielectric' *Numerical Mathematics and Advance Applications* Springer, 119-135 (2006).

126. F. Cakoni and H. Haddar, A new linear sampling method for the electromagnetic imaging of buried objects, *Mathematical Methods in Scattering Theory and Biomedical Engineering* World Scientific Publishing, 19-30 (2006).

127. F. Cakoni and E. Darrigrand, Linear sampling method for the inverse electromagnetic scattering problem for screens, *Proc. Appl. Math. Mech.* **5**, 645-646 (2005).

128. F. Cakoni and D. Colton, Mixed boundary value problems in inverse electromagnetic scattering, *Advances in Scattering and Biomedical Engineering*, World Scientific Publishing, 60-70 (2004).

129. F. Cakoni and H. Haddar, Interior transmission problem for anisotropic media, *Mathematical and Numerical Aspects of Wave Propagation*, Springer Verlag, 613-618 (2003).

130. F. Cakoni and G. Hsiao, Mathematical model of the interaction problem between electromagnetic field and an elastic body, *Acoustics, Mechanics, and Related Topics of Mathematical Analysis*, 48-54 (2003).

131. M. Bochniak and F. Cakoni, Domain sensitivity analysis of the elastic far-field patterns. Scattering from nonsmooth obstacles, *IUTAM Symposium on Diffraction and Scattering in Fluid Mechanics and Elasticity*, Kluwer Academic Publishers, 217-226 (2002).

132. F.Cakoni and H.Haddar, The linear sampling method for anisotropic media: Part 2, 2001/26, MSRI Berkeley, California, (2001).

133. M. Bochniak and F. Cakoni, Domain sensitivity analysis for acoustic scattering problems, *Mathematical and Numerical Aspects of Wave Propagation*, SIAM Publications, Philadelphia, 450-454 (2000).

134. M. Bochniak and F. Cakoni, The method of adjoint problems for the domain sensitivity analysis of the acoustic far-field pattern, (3D domains with smooth edges), 2000/13, Sonderforschungsbereich 404, Mathematiches Institut A, University of Stuttgart, (2000).

135. F. Cakoni, Dense sets and far-field patterns for the vector thermoelastic equation, *Equadiff 9 Proceedings*, 73-82 (1998).

End of Publication List