

CV - Mauricio D Sacchi

Short bio

Mauricio D. Sacchi received a Geophysics Diploma from The National University of La Plata, Argentina, in 1988 and a Ph.D. in geophysics from UBC, Canada, in 1996. He joined the Department of Physics at the University of Alberta (Edmonton, Canada) in 1997. His research interests are in the area of geophysical signal analysis and seismic imaging methods. He directs the Signal Analysis and Imaging Group, an initiative for advanced research for geophysical signal processing and imaging. He has developed and taught short courses for industry and professional associations. He is the recipient of the 2012 Medal of Canadian Society of Exploration Geophysicists (CSEG). He was the 2014 Central and South America Honorary Lecturer for the Society of Exploration Geophysicists and the 2016 CSEG Distinguished lecturer. Also, he was the Editor-in-chief for the journal Geophysics for the period 2016-2018. Recently, he became the recipient of the 2019 Virgil Kauffman Gold Medal. M. D. Sacchi has been the Chair of the Department of Physics at the University of Alberta since 2010. Spite of having a demanding position, M D Sacchi has continued to supervise students, managing a research consortium and teaching both undergraduate and graduate courses.

1 Personal data

Full name: Mauricio Dino Sacchi
Birth place and date: Coronel Brandsen, Argentina, March 3, 1965
Citizenship: Argentine, Italian and Canadian
Marital status: Married, 2 Children
Languages: Spanish, Italian and English

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2 Education

09/1988 Diploma (Geophysics), Universidad Nacional de La Plata (UNLP),
La Plata, Argentina.

01/1996 PhD Geophysics, Department of Geophysics and Astronomy,
University of British Columbia (UBC), Vancouver, Canada.

3 Positions

07/2016-	Chair, Department of Physics, University of Alberta
07/2015-06/2016	Administrative leave, Professor, Department of Physics, University of Alberta
07/2010-06/2015	Chair, Department of Physics, University of Alberta
07/2009-06/2010	Associate Chair for Research, Department of Physics, University of Alberta
07/2007-	Full Professor
07/2003-08/2004	Sabbatical Leave at TU-Delft
07/2001-06/2006	Associate Professor (<i>tenured</i>), Department of Physics, University of Alberta
07/1997-06/2001	Assistant Professor, Department of Physics, University of Alberta
02/1996-06/1997	Post-Doctoral Fellow, Earth and Ocean Sciences, UBC
09/1992-01/1996	Research Assistant, Geophysics and Astronomy, UBC
09/1992-01/1996	PhD Student, Geophysics and Astronomy, UBC
04/1990-08/1992	Instructor, Department of Seismology, UNLP, Argentina
03/1989-04/1992	Instructor, Department of Meteorology, UNLP, Argentina
03/1989-08/1992	Research Fellow, CONICET, Argentina

4 Recognitions

- 2019 SEG Virgil Kauffman Gold Medal. The Virgil Kauffman Gold Medal is awarded to a person who, in the unanimous opinion of the SEG Honors and Awards Committee and the Board of Directors, has made an outstanding contribution to the advancement of the science of geophysical exploration as manifested during the previous five years [Link]
- 2018 Outstanding Achievement in Science & Engineering, ASTech Foundation, Finalist [Link]
- 2018 CSEG Symposium in honor of M D Sacchi. Each year the a CSEG Symposium will honour one or more notable CSEG members, and the themes of the talks presented will relate to the work of the Honouree [Link]
- 2016-2018 Editor-in-Chief, Geophysics, SEG Link
- 2016 CSEG Distinguished Speaker. National lecture tour presented by a distinguished member of the Canadian Society of Exploration Geophysicists (CSEG). The goal is to promote the science and application of geophysics to those working with, studying, and interested in the science of geophysics and highlights a topic of current interest [Link]
- 2014 SEG Honorary Lecturer for Central and South America. Recognizes contributions to the science or application of applied geophysics. The lecture tour is an active effort to promote geophysics and provide a connection to SEG (Society of Exploration Geophysicists) activities and practices worldwide. I was selected to tour South America and Central America During the tour I delivered 18 talks at universities and professional associations in South and Central America [Link]
- 2012 CSEG Medal. The CSEG Medal was introduced in 1988 and is the highest award that the Society bestows. The CSEG Medal is given in recognition of the contribution to Exploration Geophysics by a member of the profession in Canada [Link]
- 2007 CSEG Meritorious Service Awards. The Meritorious Service Award is given to members of the CSEG who have made a prominent and/or lengthy contribution to the Society and/or the industry as a whole.
- 2001 Schlumberger Foundation Award. The award also consisted of a 45,000\$ grant to carry out research in seismic imaging.
- University Graduate Fellowship, UBC, 1993-1996.

5 Publications

h-index: **48**

Total number of citations: 9179

Data from Google Citations retrieved on November 2019: <http://goo.gl/PYqDYd>

5.1 Books

T J Ulrych and M D Sacchi, Information-based Inversion and Processing with Applications. Hardbound, ISBN: 0-08-044721-X, 404 pages, 2005, ELSEVIER.

M D Sacchi, 2002, Statistical and Transform Methods for Geophysical Signal Processing. Textbook I developed for GEOPH 426 - Signal Processing in Geophysics, 278 pages. Last updated: Fall 2011.

M D Sacchi, 1997, Introduction to Seismic Imaging. Textbook I developed for GEOPH 326 - Seismic Imaging, 148 pages. Last updated: Winter 2019.

5.2 Articles

1. F Carozzi and M D Sacchi, 2021, Interpolated Multichannel Singular Spectrum Analysis (I-MSSA): a reconstruction method that honors true trace coordinates: *Geophysics*, accepted.
2. G. Rubio, Y Chen, M D Sacchi and Y Gu, 2021, 3D and 5D reconstruction of P receiver functions via multi-channel singular spectrum analysis, *Geophysical Journal International*, accepted.
3. F Oghenekohwo and M D Sacchi, 2021, Transform-domain noise synthesis and NMO-Stack deconvolution approach to ground roll attenuation, *Geophysics* 86 (1), 1-48
4. K Chen, M D Sacchi, 2020, Time-domain elastic Gauss–Newton full-waveform inversion: a matrix-free approach, *Geophysical Journal International* 223 (2), 1007-1039
5. Wenlei Gao, G. Matharu and M D Sacchi, 2020, Fast least-squares reverse-time migration via a superposition of Kronecker products, *Geophysics* 85 (2), S115–S134
6. Breno Bahia and M D Sacchi, 2019, Widely-linear denoising of multicomponent seismic data, *Geophysical Prospecting*, 68 (2), 431-445
7. Rongzhi Lin and M D Sacchi, 2020, Separation of simultaneous sources acquired with high blending fold data via coherence pass robust Radon operators, *Geophysics* 85 (3), V269-V282
8. Wenlei Gao and M D Sacchi, 2020, Random noise attenuation via the randomized canonical polyadic (CP) decomposition: *Geophysical Prospecting*, 68 (3), 872-891.
9. Minjun Park and M D Sacchi, 2020, Automatic velocity analysis using Convolutional Neural Network and Transfer learning: *Geophysics*, 85 (1), V33-V43.
10. Breno Bahia and M D Sacchi, 2019, Quaternionic rank-reduction methods for vector-field seismic data processing: *Digital Signal Processing*, 87, 178-189.
11. Cheng Jinkun, Gao J and M D Sacchi, 2019, Computational efficient multi-dimensional Singular Spectrum Analysis for prestack seismic data reconstruction: *Geophysics*, 84 (2), 1-36
12. H Haghshenas Lari, M Naghizadeh, M D Sacchi, A Gholami, 2019, Adaptive Singular Spectrum Analysis for Seismic De-noising and Interpolation, *Geophysics* 84 (2), 1-35.
13. Carozzi F and M D Sacchi, 2019, Robust tensor-completion algorithm for 5D seismic-data reconstruction: *Geophysics*, *Geophysics* 84 (2), 1-49.
14. Matharu G and M D Sacchi, 2019, A subsampled truncated-Newton method for multi-parameter full waveform inversion: *Geophysics* 84 (3), 1-33.

15. Chen Ke, and M D Sacchi, 2018, The importance of including density in elastic least-squares reverse time migration: multi-parameter crosstalk and convergence, *Geophysical Journal International* 216 (1), 61-80.
16. Ibrahim A, P Terenghi and M D Sacchi, 2018, Simultaneous reconstruction of seismic reflections and diffractions using a global hyperbolic Radon dictionary: *Geophysics*, 86 (3) V315-V323.
17. Mostafa Naghizadeh, M D Sacchi, 2018, Ground-roll attenuation using Curvelet downscaling: *Geophysics*, 83 (3), V185-V195.
18. Matharu G and M D Sacchi, 2018, Source encoding in multi-parameter full waveform inversion: *Geophysical Journal International*, 214 (2), 792-810.
19. Tho NHT Tran, Lawrence H Le, M D Sacchi, Vu-Hieu Nguyen, 2018, Sensitivity analysis of ultrasonic guided waves propagating in trilayered bone models: a numerical study: *Biomechanics and modeling in mechanobiology* 17 (5), 1269-1279.
20. Anagaw A, and M D Sacchi, 2018, Model parametrization strategies for Newton-based acoustic Full Waveform Inversion: *Journal of Applied Geophysics*, Volume 157, p. 23-36.
21. Mengyao Sun, M D Sacchi and J. Zhang, 2018, An efficient tomographic inversion method based on the stochastic approximation: *Geophysics*, 83 (4), R283-R296.
22. A Anagaw and M D Sacchi, 2018, Edge-preserving smoothing for simultaneous-source FWI model updates in high-contrast velocity models: *Geophysics*, 83 (2), 1-18.
23. Ramin M H Dokht, Y Gu, M D Sacchi, 2018, Migration Imaging of the Java Subduction Zones: *Journal of Geophysical Research: Solid Earth*, 123 (2), 1540-1558.
24. W Gao and M D Sacchi, 2018, Multicomponent seismic data registration by non-linear optimization: *Geophysics* 83 (1), V1-V10
25. Linan Xu and M D Sacchi, 2018, Preconditioned acoustic least-squares two-way wave equation migration with exact adjoint operator: *Geophysics* 83 (1), S1-S13
26. Ismael Vera Rodriguez and M D Sacchi, 2017, Seismic Source Monitoring with Compressive Sensing, *in Compressive Sensing of Earth Observations*, 2017 - CRC Press.
27. S Martins, J M Travassos and M D Sacchi, 2017, Interpolating GPR data using anti-alias singular spectrum analysis (SSA): *Near Surface Geophysics*, 15 (5), 447-455.
28. Vu-Hieu Nguyen, Tho N.H.T. Tran, M D Sacchi, Salah Naili, and Lawrence H Le, 2017, Computing dispersion curves of elastic/viscoelastic transversely-isotropic bone plates coupled with soft tissue and marrow using semi-analytical finite element (SAFE) method. *Venue: Computers in Biology and Medicine*, 87, 371-381.
29. A Stanton and M D Sacchi, 2017, Elastic least-squares wave equation migration: *Geophysics*, 82 (4), 1-58
30. K Chen and M D Sacchi, 2017, Elastic least-squares reverse time migration via linearized elastic full waveform inversion with pseudo-Hessian preconditioning: *Geophysics* 82 (5), S341-S358.
31. A Gholami and M D Sacchi, 2017, Time-Invariant Radon Transform by Generalized Fourier Slice Theorem: *Inverse Problems and Imaging*, 11 (3), 501-519.
32. H Wang, M D Sacchi and J Ma, 2017, Linearized dynamic warping with l1-norm constraint for multicomponent registration: *Journal of Applied Geophysics*, 139, 170-176.
33. R M H Dokht, Yu J Gu and M D Sacchi, 2017, Singular spectrum analysis and its applications in mapping mantle seismic structure: *Geophysical Journal International*, 208 (3), 1430-1442.
34. D Perez, D R Velis and M D Sacchi, 2017, Three-term inversion of prestack seismic data using weighted l2-l1 mixed norm: *Geophysical Prospecting*, 65, 1477-1495

35. R M H Dokht, Y J Gu, and M D Sacchi, 2016, Waveform inversions of SS precursors: An implication of the northwestern Pacific subduction zones and intraplate volcanoes in China: *Gondwana Research*, 40, 77-90.
36. Jianjun Gao, Jinkun Chen and M D Sacchi, 2017, 5D seismic reconstruction using parallel square-matrix factorization: *IEEE Transactions on Geoscience and Remote Sensing: IEEE Transactions of Geoscience and Remote Sensing*, 55(4), 2124-2135.
37. J I Sabbione and M D Sacchi, 2016, Restricted model domain time Radon transforms: *Geophysics*, 81, 6, 1ND-5ND.
38. Ke Chen and M D Sacchi, 2016, Robust f-x projection filtering for simultaneous random and erratic seismic noise attenuation: *Geophysical Prospecting*, 65, 650-668.
39. N Kazemi, E Bongajum, and M D Sacchi, 2016, Surface-Consistent Sparse Multichannel Blind Deconvolution of Seismic Signals: *IEEE Transactions on Geoscience and Remote Sensing*, 54(6), 3200 - 3207.
40. G Li, M D Sacchi, H Zheng, 2016, In situ evidence for frequency dependence of near-surface Q: *Geophysical Journal International* 204 (2), 1308-1315.
41. A Ibrahim and M D Sacchi, 2015, Fast simultaneous seismic source separation using Stolt migration and demigration operators: *Geophysics*, 80(6), WD27-WD36.
42. J Cheng and M D Sacchi, 2016, Fast dual domain reduced rank algorithm for 3D deblending via randomized QR decomposition: *Geophysics*, 81(1), V89-V101.
43. Shiwei Yu, Jianwei Ma, Xiaoqun Zhang and M D Sacchi, 2015, Interpolation and denoising of high-dimensional seismic data by learning a tight frame: *Geophysics*, 80(5), V119-V132.
44. N Kazemi and M D Sacchi, 2015, Block row recursive least-squares migration: *Geophysics*, 80(5), A95-A101.
45. Jianjun Gao, A Stanton and M D Sacchi, 2015, The Parallel Matrix Factorization (PMF) algorithm and its application to 5D seismic reconstruction and denoising: *Geophysics*, 80(6), V173-V187.
46. DR Velis, J Sabbione and M D Sacchi, 2015, Fast and automatic microseismic phase-arrival detection and denoising by pattern recognition and reduced-rank filtering: *Geophysics*, 80 (6), WC25-WC38.
47. YJ Gu , Y Zhang Y, M D Sacchi, Y Chen and S Contenti S, 2015, Sharp mantle transition from cratons to Cordillera in southwestern Canada: *Journal of Geophysical Research (Solid Earth)*, 120 (7), 5051-5069.
48. Guofa Li , M D Sacchi and Y Wang, 2015, Characterization of interbedded thin beds using zero-crossing time stratal amplitude slices: *Geophysics*, 80 (5), N23-N35.
49. Jinkun Cheng and M D Sacchi, 2015, Separation and reconstruction of simultaneous source data via iterative rank reduction: *Geophysics*, 80 (4), V57-V66.
50. J I Sabbione, M D Sacchi and D R Velis, 2015, Radon transform-based microseismic event detection and signal-to-noise ratio enhancement: *Journal of Applied Geophysics*, 113, 51-63.
51. Ke Chen and M D Sacchi, 2015, Robust reduced-rank filtering for erratic seismic noise: *Geophysics*, 80 (1), 1-11.
52. I Vera Rodriguez and M D Sacchi, 2014, Microseismic source imaging in a compressed domain: *Geophysical Journal International*, 198, 1186-1198.
53. Tho N H Tran, L H Le, M D Sacchi, Vu-Hieu Nguyen, and E Lou, 2014, Multichannel filtering and reconstruction of ultrasonic guided wave fields using time intercept-slowness transform: *Journal of the Acoustical Society of America*, 136 (1), 248-59.
54. A Amsalu and M D Sacchi, 2014, Comparison of multi-frequency selection strategies for simultaneous-source full waveform inversion: *Geophysics*, 79 (5), R165-R181.
55. N Kazemi and M D Sacchi, 2014, Sparse multichannel blind deconvolution: *Geophysics* 79 (5), V143-V152.

56. A Ibrahim and M D Sacchi, 2014 Simultaneous source separation using a robust Radon transform: *Geophysics*, 79, 1, V1-V11.
57. Han Li, M D Sacchi and Ligu Han, 2014, Spectral decomposition and de-noising via time-frequency and space-wavenumber reassignment: *Geophysics Prospecting*, 62 (2), 244-357.
58. L H Le, Tho N H T Tran and M D Sacchi, 2014, Imaging ultrasonic dispersive guided wave energy in long bones using linear Radon transform: *Ultrasound in Medicine and Biology*, 40 (11), 2715-2727
59. K C T Nguyen , L H Le, Tho N H T Tran, M D Sacchi, E H M Lou , 2014, Excitation of ultrasonic Lamb waves using a phased array system with two array probes: Phantom and in vitro bone studies: *Ultrasonics*, 54 (5), 1178-1185.
60. A Stanton and M D Sacchi, 2013, All roads lead to Rome: predictability, sparsity, rank and pre-stack seismic data reconstruction: *Recorder*, 38 (10), 32-37. **Best article in the Recorder 2013**
61. M Naghizadeh and M D Sacchi, 2013, Sparsity and band-limitation: Two sides of the same coin?: *Recorder*, 38 (10), 28-31.
62. A Gholami and M D Sacchi, 2013, Fast 3D Blind Seismic Deconvolution via Constrained Total Variation and GCV: *SIAM Journal on Imaging Sciences* 6 (4), 2350-2369.
63. H Li, L H Le, M D Sacchi, E H M Lou, 2013, Ultrasound Imaging of Long Bone Fractures and Healing with the Split-Step Fourier Imaging Method: *Ultrasound in medicine & biology* 39 (8), 1482-1490.
64. D Perez, D. Velis and M D Sacchi, 2013, High-resolution prestack seismic inversion using a hybrid FISTA-Least Squares strategy: *Geophysics*, 78, 5, R185-R195.
65. N. Kreimer, A Stanton and M D Sacchi, 2013, Tensor completion based on nuclear norm minimization for 5D seismic data reconstruction: *Geophysics*, 78 (6), V273-V284.
66. A Stanton and M D Sacchi, 2013, Vector Reconstruction of Multicomponent Seismic Data: *Geophysics*, 78, 4, V131-V145.
67. D Bonar and M D Sacchi, 2013, Spectral decomposition with FXY preconditioning: *Geophysical Prospecting*, 61, s1, 151-165.
68. E Bongajum, J Boisvert and M D Sacchi, 2013, Bayesian linearized seismic inversion with locally varying spatial anisotropy: *Journal of Applied Geophysics*, 88, 31-41.
69. M Naghizadeh and M D Sacchi, 2013, Multidimensional de-aliased Cadzow reconstruction of seismic records: *Geophysics*, 78 (1), A1-A5.
70. N Kreimer and M D Sacchi, 2012, Rank reduction of unfolded tensors for prestack denoising and reconstruction: *Recorder*, 10, 24-27.
71. J J Gao, A Stanton, M Naghizadeh, M D Sacchi and X H Chen, 2013, Convergence improvement and noise attenuation considerations for beyond alias projection onto convex sets reconstruction: *Geophysical Prospecting*, 61, s1, 138-151.
72. J J Gao, M D Sacchi and X H Chen 2013, A fast reduced-rank interpolation method for pre-stack seismic volumes that depend on four spatial dimensions: *Geophysics* 78 (1), V21-V30.
73. I Vera Rodriguez, M D Sacchi, Y J Gu, 2012, A compressive sensing framework for seismic source parameter estimation: *Geophysical Journal International*, 191 (3), 1226-1236
74. A Anagaw and M D Sacchi, 2012, Edge-preserving seismic imaging using the total variation method: *Journal of Geophysics and Engineering*, 9 (2), 138-146.
75. I Vera Rodriguez, M D Sacchi and Y J Gu, 2012, Simultaneous recovery of origin time, hypocentre location and seismic moment tensor using sparse representation theory: *Geophysical Journal International*, 188 (3), 1188-1202.

76. S Contenti, Y J Gu and M D Sacchi 2012, Shear Wave Reflectivity Imaging of the Nazca-South America Subduction Zone: Stagnant Slab in the Mantle Transition Zone?: *Geophysical Research letters*, 39, L02310., 6 pages.
77. A Gholami and M D Sacchi, 2012, A fast and automatic sparse deconvolution in the presence of outliers: *IEEE Transaction on Geoscience and Remote Sensing*, 50 (10), 4105-4116
78. N Kreimer and M D Sacchi, 2012, A tensor higher-order singular value decomposition (HOSVD) for pre-stack seismic data noise-reduction and interpolation: *Geophysics*, 77 (3), V113-V122.
79. I Vera Rodriguez, D Bonar and M D Sacchi, 2012, Microseismic data de-noising using a 3C group sparsity constrained time-frequency transform: *Geophysics*, 77 (2), V21-V29.
80. M Naghizadeh and M D Sacchi, 2012, Multicomponent f-x seismic random noise attenuation via vector autoregressive operators: *Geophysics*, 77 (2), V91-V99. **Article highlighted in *Geophysics Bright Spots of the TLE*, April 2012**
81. D Bonar and M D Sacchi, 2012, Denoising seismic data using the non-local means algorithm: *Geophysics*, 77 (1), A5-A8. **Article highlighted in *Geophysics Bright Spots of the TLE*, March 2012**
82. I Rodriguez Vera, D Bonar and M D Sacchi, 2011, Improvements in microseismic data processing using sparsity and non-linear inversion constraints: *Recorder* 9, 24-18.
83. I Vera Rodriguez, Y J Gu and M D Sacchi, 2011, Resolution of seismic-moment tensor inversion from a single array of receivers, *Bulletin of the Seismological Society of America*, 101 (6), 2634-2642.
84. W Alemie and M D Sacchi, 2011, High-resolution Three-term AVO Inversion by means of a Trivariate Cauchy Probability Distribution: *Geophysics*, 76, R43-R55.
85. V Oropeza and M D Sacchi, 2011, Simultaneous seismic data de-noising and reconstruction via Multichannel Singular Spectrum Analysis (MSSA): *Geophysics*, 76, V25-V32. **Article highlighted in *Geophysics Bright Spots of the TLE*, May 2011**
86. G Rubino, D Velis and M D Sacchi, 2011, Wave-Induced Fluid Flow Effects on Seismic Monitoring of CO2 Sequestration: *Journal of Geophysical Research*, 116, B03306, 16 pages.
87. S Kaplan, M Naghizadeh and M D Sacchi, 2010, Data reconstruction with shot-profile least-squares migration: *Geophysics*, 75 (6), WB121-WB 136.
88. S Kaplan, P Routh and M D Sacchi, 2010, Derivation of forward and adjoint operators for least-squares shot-profile split-step migration: *Geophysics*, 75 (6), S225-S235.
89. M Naghizadeh and M D Sacchi, On sampling functions and Fourier reconstruction methods: *Geophysics*, 75 (6), WB137-WB151.
90. M Naghizadeh and M D Sacchi, Beyond alias hierarchical scale curvelet interpolation of regularly and irregularly sampled seismic data: *Geophysics*, 75 , (6), WB189-WB202.
91. M Naghizadeh and M D Sacchi, 2009, Robust reconstruction of aliased data using autoregressive spectral estimates: *Geophysical Prospecting*, 58 (6), 1049-1062.
92. M Naghizadeh and M D Sacchi, 2010, Seismic data reconstruction using multidimensional prediction filters: *Geophysical Prospecting*, 58, 157-173.
93. I Vera Rodriguez, M D Sacchi and Y J Gu, 2010, Continuous hypocenter and source mechanism inversion via a Green's function-based matching pursuit algorithm: *The Leading Edge*, 29 334-337.
94. M Naghizadeh and M D Sacchi, 2009, Multidimensional convolution via a 1D convolution algorithm: *The Leading Edge*, 28, 1336.
95. S Leaney, M D Sacchi, and T J Ulrych, 2009, Station-consistent deconvolution for multi-source VSP data: *Journal of Seismic Exploration*, 18, 229-237.

96. R Zheng , L H Le, M D Sacchi, and E Lou, 2009, Broadband Ultrasound Attenuation Measurement of Long Bone Using Peak Frequency of the Echoes: IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control, 56 (2), 396-399.
97. Y J Gu and M D Sacchi, Radon Transform Methods and Their Applications in Mapping Mantle Reflectivity Structure: Surveys in Geophysics, 30, 327-354.
98. Y J Gu, Y An, M D Sacchi and J Ritsema, 2009, Mantle reflectivity structure beneath oceanic hotspots: Geophysical Journal International, 178, 1456-1472.
99. J Wang and M D Sacchi, 2009, Noise reduction by structure-and-amplitude-preserving multi-channel deconvolution: Recorder, 34 (2), 25-27
100. M Naghizadeh and M D Sacchi, 2009, FX adaptive seismic-trace interpolation: Geophysics, 74 (1), V9-V16.
101. S Misra and M D Sacchi, 2008, Global optimization with model space preconditioning: Application to AVO inversion: Geophysics, 73 (5), R71-R8.
102. T J Ulrych, M D Sacchi, M Graul and T Taner, Instantaneous attributes: Exploration Geophysics, 38 (4), 213-219, 2007.
103. R Zheng , L H Le, M D Sacchi, D Ta and E Lou, 2007, Spectral ratio method to estimate broadband ultrasound attenuation of cortical bones in vitro using multiple reflections: Phys. Med. Biol. 52 (19), 5855-5869.
104. M Naghizadeh and M D Sacchi, 2007, Multi-Step Auto-Regressive (MSAR) reconstruction: Geophysics 72 (6), V111-V118.
105. Y An , Y J Gu and M D Sacchi, 2007, Imaging mantle discontinuities using least-squares Radon transform: J. Geophys. Res., 112, B10303, 19 pages.
106. C Escalante, Y J Gu, and M D Sacchi, 2007, Simultaneous iterative time-domain deconvolution to teleseismic receiver functions: Geophys. J. Int., 171 (1), 316-325.
107. S Misra and M D Sacchi, 2007, Non-minimum phase wavelet estimation via optimization of all pass operators: Geophysical Prospecting, 55 (2), 223-234.
108. J Wang and M D Sacchi, 2007, High-resolution wave equation AVP imaging with sparseness constraints: Geophysics, 72 (1), S11-S18.
109. P Zwartjes and M D Sacchi, 2007, Fourier reconstruction of nonuniformly sampled, aliased seismic data: Geophysics, 72 (1), V21-V32.
110. C F Youzwishen and M D Sacchi, 2006, Edge Preserving Imaging: Journal of Seismic Exploration, 15 (4), 45-58.
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112. M D Sacchi, J Wang, and H Kuehl, 2006, Regularized migration/inversion: new generation of imaging algorithms: CSEG Recorder, Volume 31, Special Edition, 54-59.
113. S Misra and M D Sacchi, 2006, Wavelet estimation by non-linear optimization of all-pass filters: CSEG Recorder, 31, Special Edition, 38-42.
114. U Theune, M D Sacchi, and D R Schmitt, 2006, Least-squares local Radon Transforms for dip-dependent GPR image decomposition: Journal of Applied Geophysics, 59 (3), 224-235.
115. U Theune, D Rokosh, M D Sacchi and D R Schmitt, 2006, Mapping fractures with GPR: a case study from Turtle Mountain: Geophysics, 71 (5), B139-B150.
116. M D Sacchi and B Liu, 2005, Minimum Weighted norm Wavefield Reconstruction for AVA imaging: Geophysical Prospecting, 53 (6) , 787-801.

117. U Theune, D R Schmitt and M D Sacchi, 2005, Looking inside Turtle Mountain: Mapping fracture with GPR: Recorder, 30 (7), 9 pages.
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119. B Liu and M D Sacchi, 2004, Minimum weighted norm interpolation of seismic records: Geophysics, 69 (6), 1560-1568.
120. M Perz, M D Sacchi and A O'Byrne, 2004, Acquisition/Processing: Instantaneous phase and the detection of lateral wavelet stability: The Leading Edge, 23 (7), 639-643.
121. H Kuehl and M D Sacchi, 2003, Least-squares wave-equation migration for AVP/AVA inversion: Geophysics, 68 (1), 262-273.
122. Yexin Liu and M D Sacchi, 2003, Propagation of borehole derived properties via a Support Vector Machine (SVM): CSEG Recorder, 28 (10), 54-58.
123. B Liu and M D Sacchi, 2003, Reconstruction of seismic data using adaptive regularization: Proceedings of SPIE ,4792 , Image Reconstruction from Incomplete Data II, 125-134.
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125. H Kuehl and M D Sacchi, 2002, Least squares seismic migration using wave field propagators for AVP imaging: Canadian Applied Mathematics Quarterly, 10 (2), 307-330.
126. K Beaty, D R Schmitt and M D Sacchi, 2002, Simulated annealing inversion of multimode Rayleigh wave dispersion curves for geological structure: Geophys. J. Int., 151 (2), 622-671.
127. H Kuehl and M D Sacchi, 2001, Least squares wave equation migration: Recorder, 26 (8), 41-46.
128. D Trad, M D Sacchi, and T J Ulrych, 2001, A hybrid hyperbolic Radon Transform: Journal of Seismic Exploration, 9, 303-318.
129. M D Sacchi and H Kuehl, 2001, ARMA Formulation of FX Prediction Error Filters and Projection Filters: Journal of Seismic Exploration, 9, 185-197.
130. D Trad, T J Ulrych and M D Sacchi, 2001, Accurate interpolation with high resolution time variant Radon Transforms: Geophysics, 67 (2), 644-656.
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132. M D Sacchi and T J Ulrych, 2000, Non-minimum phase wavelet estimation using higher order statistics: The Leading Edge, 19 (1), 80-83.
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134. M D Sacchi and T J Ulrych 1995, Model re-weighted least squares Radon operators: 65th Annual Mtg. Soc. Expl. Geophys., Expanded Abstracts, 616-618.
135. M D Sacchi and T J Ulrych, 1995, Aperture compensated discrete Fourier transform and applications: 57th Meeting and technical Exhibition of the EAEG, Abstract P071.
136. M D Sacchi and T J Ulrych, 1994, High Resolution Velocity Gathers: 64th International Annual Meeting of the Society of Exploration Geophysicists, Expanded Abstracts 1469-1472 (**Abstract was considered outstanding by the technical committee.**)
137. X Li, M D Sacchi and T J Ulrych, 1994, Wavelet Transform Inversion with a Priori Scale Information: 64th SEG Meeting, Expanded Abstracts, 973-975.

5.5 Non-refereed conference contributions

1. G. Rubio, M D Sacchi and Y J Gu, 2019, 3D and 5D reconstruction of P receiver functions via multichannel singular spectrum analysis (MSSA) for seismic structure mapping of the mantle transition zone: AGU Fall Meeting 2019.
2. Fernanda Carozzi and M D Sacchi, 2019, MSSA reconstruction without binning: Geoconvention 2019, CSEG, CSPG and CWLS, Abstracts, 5 pages.
3. Amsalu Anagaw and M D Sacchi, Edge-Preserving FWI via Regularization by Denoising: Geoconvention 2019 (CSEG, CSPG and CSW), Abstracts, 5 pages.
4. Wenlei Gao, G Matharu and M D Sacchi, 2019, A Kronecker sum decomposition of the Hessian matrix for fast least- squares RTM migration: Geoconvention (CSEG, CSPG and CSWL), Abstracts, 5 pages.
5. Minjun Park and M D Sacchi, 2019, Convolutional Neural Network with Transfer Learning for Automatic Velocity Analysis: Geoconvention 2019 (CSEG, CSPG and CSWL), Abstracts, 5 pages.
6. Iliana Papathanasaki and M D Sacchi, 2019, Simultaneous signal and ground roll modeling with L2 and L1 constraints: Geoconvention 2019 (CSEG, CSPG and CSWL), Abstracts, 5 pages.
7. Felix Oghenekohwo and M D Sacchi, 2019, Ground roll attenuation via NMO-Stack deconvolution and transform-domain noise synthesis. Geoconvention 2019 (CSPG, CSEG and CWLS), Abstracts, 5 pages.
8. Mostafa Naghizadeh and M. D. Sacchi, 2018, 3D ground-roll attenuation using hybrid Fourier and de-aliased Cadzow reconstruction: Geoconvention 2018, (CSEG-CSPG), Abstracts, 5 pages.
9. Ke Chen and M D Sacchi, 2018, Time-domain elastic Gauss-Newton full-waveform inversion via matrix-free adjoint-state method: Geoconvention 2018 (CSEG-CSPG) , Abstracts, 5 pages.
10. Fernanda Carozzi and M D Sacchi, 2018, Simultaneous reconstruction and denoising of 5D seismic records via robust Parallel Matrix Factorization (PMF): Geoconvention 2018 (CSEG-CSPG), Abstracts, 5 pages.
11. Breno Bahia and M D Sacchi, 2018, Quaternion multichannel SSA for multicomponent seismic data: Geoconvention 2018 (CSEG-CSPG), Abstracts, 5 pages.
12. Fernanda Carozzi, Amsalu Anagaw, and M D Sacchi, 2017, Conformal mapping for RTM from topography: Geoconvention 2017 (CSEG-CSPG), Abstracts, 5 pages.
13. Landon Safron and M D Sacchi, 2017, Least squares Kirchhoff depth migration with anti-aliasing and preconditioning: Geoconvention 2017 (CSEG-CSPG), Abstracts, 5 pages.
14. M D Sacchi, Jinkun Cheng, and Scott Janzen, 2017, Theory and Application of Vector Singular Spectrum Analysis (SSA) for Multicomponent Seismic data Reconstruction: Geoconvention 2017 (CSEG-CSPG), Abstracts, 5 pages.
15. M D Sacchi and Jinkun Cheng, 2017, 5D reconstruction via robust tensor completion. Venue: Geoconvention 2017 (CSEG-CSPG), Abstracts, 5 pages.
16. Ke Chen and M D Sacchi, 2017, Elastic least-squares migration with two-way wave equation forward and adjoint operators: Geoconvention 2017 (CSEG-CSPG), Abstracts, 5 pages.
17. Gian Matharu and M D Sacchi, 2017, Analyzing the role of parametrization in elastic full waveform inversion: Geoconvention 2017 (CSEG-CSPG), Abstracts, 5 pages.
18. Wenlei Gao, M D Sacchi, and Zhenhua Li, 2017, Passive seismic source location using group sparsity constrained strained two-way waveform inversion: Geoconvention 2017 (CSEG-CSPG), Abstracts, 5 pages.
19. Jinkun Cheng and M D Sacchi, 2017, Seismic data reconstruction via fast and memory efficient Singular Spectrum Analysis: Geoconvention 2017 (CSEG-CSPG), Abstracts, 5 pages.

20. A Anagaw and M D Sacchi, 2013, Inexact Full Newton Method for Full Waveform Inversion using Simultaneous Encoded Sources, Geoconvention, Expanded Abstracts, 4 pages.
21. Bhuiyan Md. Majul Islam and M D Sacchi, 2013, Two-Stage Blind Deconvolution, Geoconvention, Expanded Abstracts, 4 pages.
22. E Bongajum, N Kazemi and M D.Sacchi, 2013, Blind Surface Consistent Wavelet Estimation, Geoconvention, Expanded Abstracts, 4 pages.
23. K Chen and M D Sacchi, 2013, Robust Singular Spectrum Analysis for Erratic Noise Attenuation, Geoconvention, Expanded Abstracts, 4 pages.
24. A Ibrahim and M D Sacchi, 2013, Simultaneous Source Separation via Robust Time Variant Radon Operators, Geoconvention, Expanded Abstracts, 4 pages.
25. N Kazemi and M D Sacchi, 2013, Modified Euclid's Blind Deconvolution via Sparsity Optimization on a Sphere, Geoconvention, Expanded Abstracts, 4 pages.
26. N Kreimer, A. Stanton and M D Sacchi, 2013, A Nuclear Norm Minimization Algorithm with Application to Five Dimensional (5D) Seismic Data Recovery, Geoconvention, Expanded Abstracts, 4 pages.
27. M D Sacchi, Md. Mafijul Bhuiyan, and N Kazemi, 2013, Maximum Entropy Acquisition Design and Optimal Interpolation, Geoconvention, Expanded Abstracts, 4 pages.
28. A Stanton and M D Sacchi, 2013, Shear Wave Splitting Parameter Estimation Using a Regular Distribution of Azimuths, Geoconvention, Expanded Abstracts, 4 pages.
29. N Kreimer and M D Sacchi, 2012, Tensor unfolding principles and application to rank reduction, reconstruction and de-noising, Geoconvention, Expanded Abstracts, 4 pages.
30. M Naghizadeh and M D Sacchi, 2012, Dealiasd Cadzow reconstruction, Geoconvention, Expanded Abstracts, 4 pages.
31. A Anagaw and M D Sacchi, 2012, Full waveform inversion using blended acquisition geometry, Geoconvention, Expanded Abstracts, 4 pages.
32. D Bonar and M D Sacchi, 2012, Non-local means denoising of seismic data, Geoconvention, Expanded Abstracts, 4 pages.
33. R Ferner, M Naghizadeh and M D Sacchi, 2012, Frequency enhancement of seismic data via tunable Q-factor wavelet transform, Geoconvention, Expanded Abstracts, 4 pages.
34. A Stanton and M D Sacchi, 2012, 5D reconstruction in the presence of residual statics, Geoconvention, Expanded Abstracts, 4 pages.
35. Li Han, D Bonar and M D Sacchi, 2012, Seismic denoising by time-frequency reassignment, Geoconvention, Expanded Abstracts, 4 pages.
36. A Anagaw and M D Sacchi, 2011, Full waveform inversion with TV regularization, CSEG, Expanded Abstracts, 4 pages.
37. J J Gao, V Oropeza and M D Sacchi, 2011, Evaluation of an algorithm for the eigen-decomposition of large block Toeplitz matrices with application to 5D seismic data interpolation, CSEG, Expanded Abstracts, 4 pages.
38. K Kocon and M D Sacchi, 2011, Ground roll attenuation using Local Wavefield Decomposition (LWD), CSEG, Expanded Abstracts, 4 pages.
39. N Kreimer and M D Sacchi, 2011, Evaluation of a new 5D seismic volume reconstruction method: Tensor Completion vs. Fourier Reconstruction, CSEG, Expanded Abstracts, 4 pages.
40. K H Miah, R H Herrera, M van der Baan and M D Sacchi, 2011, Application of Fractional Fourier Transform in Cepstrum analysis, CSEG, Expanded Abstracts, 4 pages.

41. K Rohraff, V Kravchinsky and M D Sacchi, 2011, Application of signal correlation for the construction of age models of lake Baikal sedimentary records, CSEG, Expanded Abstracts, 4 pages.
42. I Vera Rodriguez and M D Sacchi, 2011, Development of a Guided User Interface for microseismicity analysis, CSEG, Expanded Abstracts, 4 pages.
43. R C Rebollo and M D Sacchi, 2010, Time domain least-squares prestack migration, CSEG, Expanded Abstracts, 4 pages.
44. M Naghizadeh and M D Sacchi, 2010, Interpolation of seismic data in the curvelet domain, CSEG, Expanded Abstracts, 4 pages.
45. S T Kaplan and M D Sacchi, 2010, Least-squares shot profile migration, CSEG, Expanded Abstracts, 4 pages.
46. W Alemie and M D Sacchi, 2010 Stable high-resolution three-term AVO inversion, CSEG, Expanded Abstracts, 4 pages.
47. J Melendez and M D Sacchi, 2010, n-th root Entropy functions for blind deconvolution, CSEG, Expanded Abstracts, 4 pages.
48. D Bonar, M D Sacchi, X G Li and H Cao, 2010, Time-frequency analysis via deconvolution with sparsity constraints, CSEG, Expanded Abstracts, 4 pages.
49. N Kreimer and M D Sacchi, 2010, Robust reconstruction of irregularly sampled geophysical time series via a sparse spectral representation, CSEG, Expanded Abstracts, 4 pages.
50. A Anagaw and M D Sacchi, 2010, Edge preserving imaging using the Total Variation (TV) method, CSEG, Expanded Abstracts, 4 pages.
51. S T Kaplan and M D Sacchi, 2009, Analysis of the pre-stack split-step migration operator using Ritz values. In AGU Joint Assembly (2009): , S31A-24 pages.
52. Y J Gu, MD Sacchi, Y An and R Schultz. Imaging Plumes and Slabs Using High-resolution Radon Transforms. In AGU Joint Assembly.. (2009): S24A-02 pages.
53. M D Sacchi, S T Kaplan and S Leaney, 2009, Preconditioned high-resolution imaging. In AGU Joint Assembly.. (2009): S24A-02 pages.
54. M D Sacchi, 2009, A Tour of High Resolution Transforms, CSPG CSEG CWLS Convention, 4 pages
55. M D Sacchi, 2008, FX Singular Spectrum Analysis, CSPG CSEG CWLS Convention, 4 pages.
56. M Naghizadeh and M D Sacchi, 2009, Making FX Interpolation More Robust by Spectrum-guided Reconstruction, CSPG CSEG CWLS Convention, 4 pages.
57. I Vera Rodriguez and M D Sacchi, 2009, Resolvability Analysis of Single Azimuth Seismic Moment Tensor Inversion, CSPG CSEG CWLS Convention, 4 pages.
58. M Naghizadeh and M D Sacchi, 2009, Improving old tricks: FX interpolation beyond alias for irregularly sampled data, for data with large gaps and for data with spatially variant dips. In 71st EAGE Conference & Exhibition : WS 9: Reconstruction, Recovery and Interpolation of Multi-dimensional Seismic Wave Fields, Amsterdam, The Netherland. June 2009. European Society of Geoscientists and Engineers (EAGE).
59. M Naghizadeh and M D Sacchi, 2008, Seismic trace interpolation using adaptive prediction filter, CSEG convention, 188-191.
60. M D Sacchi and T J Ulrych, 2007, On the recovery of missing low and high frequency information from bandlimited reflectivity data, AGU Fall meeting.
61. S Misra and M D Sacchi, 2007, Model Preconditioning Based Global Optimization: Application to Prestack Migration Velocity Analysis, CSEG Convention, 330-333.

62. Y An, Y J Gu. and M D Sacchi, 2007, Large-scale Shear Velocities Beneath Hotspot Locations: New Observations and Travel Time Synthesis, 2007AGUFM.S14A..08A.
63. Naghizadeh M., and Sacchi M.D., 2007, Multi-step Auto-Regressive reconstruction of nonuniformly sampled aliased seismic records, CSPG-CSEG-CWLS Joint Convention, 548-551.
64. S Misra, and M D Sacchi, 2007, One Dimensional Prestack Inversion with VFSA using Edge Preserving Smoothing Filters, CSPG-CSEG-CWLS Joint Convention, 27-30.
65. E Galloway and M D Sacchi, 2007, POCS method for seismic data reconstruction, CSPG-CSEG-CWLS Joint Convention, 555.
66. M D Sacchi, 2007, Filter-Bank Strategies for efficient computation of Radon Transforms for SNR enhancement, CSPG-CSEG-CWLS Joint Convention, 560-562.
67. M Zhang , M D Sacchi, and D R Schmitt , 2006, Time-lapse Inversion with Sparseness, Impedance and Structural Constraints, CSPG-CSEG-CWLS Joint Convention, Abstracts.
68. S Bekleric and M D Sacchi, 2006, Nonlinear autoregressive modeling using second order Volterra filters, CSPG-CSEG-CWLS Joint Convention, 338.
69. S Misra and M D Sacchi, 2006, Wavelet estimation by non-linear optimization of all-pass operators, CSPG-CSEG-CWLS Joint Convention, 490-499.
70. M Naghizadeh and M D Sacchi, 2006, FX and FK Interpolation methods and further developments for irregularly spaced traces, CSPG-CSEG-CWLS Joint Convention, 475
71. M Zhang, M D Sacchi and D R Schmitt, 2005, Simultaneous Inversion of Time-lapse Seismic Data. Canadian Society of Exploration Geophysicists Annual Meeting, Abstracts, 4 pages.
72. M D Sacchi, 2005, A Generalized Deconvolution Approach for Local Radon Transforms." Canadian Society of Exploration Geophysicists, Expanded Abstracts, 4 pages.
73. U Theune, M D Sacchi and D R Schmitt, 2005, Generalized Deconvolution for GPR image enhancement, Canadian Society of Exploration Geophysicists Annual Meeting, Expanded Abstracts, 4 pages.
74. J Wang and M D Sacchi, Sparse regularization for least-squares AVP migration, Canadian Society of Exploration Geophysicists Annual Meeting, Expanded Abstracts, 4 pages.
75. Hong Liu, B Liu , and M D Sacchi, 2004, De-aliasing band-limited uneven data using linear prediction and adaptive weighted least squares, Chinese Petroleum Society and Society of Exploration Geophysicists International convention.
76. U Theune, D R Schmitt and M D: Sacchi, 2004, Mapping fractures with GPR at Turtle Mountain: CSEG Annual Mtg., CDROM
77. M D Sacchi, C Moldoveanu-Constantinescu and D Trad, 2004, Simultaneous signal and noise modeling via Radon transforms, CSEG Annual Mtg., CDROM
78. J Wang, H Kuehl and M D Sacchi, 2004, Preconditioned least-squares wave equation AVP migration, CSEG Annual Mtg., CDROM
79. J Feng and M D Sacchi, 2004, Rock properties inversion with Kirchhoff AVA migration/inversion, CSEG Annual Mtg., CDROM
80. Juefu Wang, H Kuehl and M D Sacchi, 2003, AVA Imaging of 3-D Common Azimuth data: CSPG/CSEG Joint Convention, Expanded Abstracts, 6 pages, CDROM.
81. Bin Liu, M D Sacchi and H Kuehl, 2003, On the impact of wave field interpolation on imaging techniques and AVO analysis: CSPG/CSEG Joint Convention, Expanded Abstracts, 6 pages, CDROM.

82. M D Sacchi, C Moldoveanu-Constantinescu and Jiang Feng, 2003, Enhancing resolution via non-quadratic regularization - next generation of imaging algorithms, CSPG/CSEG Joint Convention, 4 pages, CDROM.
83. B Liu B, and M D Sacchi, 2002, Minimum DFT-weighted norm interpolation of seismic data using FFTs, CSEG Annual Mtg., CDROM
84. Yexin Liu and M D Sacchi, 2002, Regularization of inverse problems using Total Least Squares, CSEG Annual Mtg., CDROM.
85. H Kuehl and M D Sacchi, 2002, Least-squares wave-equation migration AVP/AVA inversion: CSEG Annual Mtg., CDROM.
86. B Liu and M D Sacchi, 2001, Reconstruction of incomplete data using a minimum weighted norm least squares algorithm: CSEG Annual Mtg., CDROM.
87. Q Li and M D Sacchi, 2001, Multiple removal using hyperbolic Radon operators: CSEG Annual Mtg., CDROM.
88. H Kuehl and M D Sacchi, 2001, Least squares DSR migration using common angle imaging condition: CSEG Annual Mtg., CDROM.
89. H Kuehl and M D Sacchi, 2001, Separable offset least squares DSR migration of incomplete data: CSEG Annual Mtg., CDROM.
90. C Youzwishen and M D Sacchi, 2001, An edge preserving algorithm for 2D seismic wave field inversion: CSEG Annual Mtg., CDROM.
91. D Trad, M D Sacchi and T J Ulrych, 2001, A hybrid linear-Hyperbolic Radon Transform: CSEG Annual Mtg., CDROM.
92. J B Gallop and M D Sacchi, 2000, Regularization of nonlinear seismic problems: Geo-Canada 2000, Abstracts.
93. Q Li and M D Sacchi, 2000, Regularization of velocity stacks using the Huber norm: Geo-Canada 2000, Abstracts.
94. M D Sacchi and H Kuehl, 2000, FX eigen-filters: Geo-Canada 2000, Abstracts.
95. C Youzwishen and M D Sacchi, 2000, Inversion of the generalized Radon transform using edge-preserving regularization methods, Geo-Canada 2000, Abstracts.
96. Bin Liu and M D Sacchi, 1999, Migration of wavelet transform filtered data: CSEG Annual Mtg., 244-245
97. M D Sacchi, T J Ulrych and C Magnuson, 1998, Eigen-image analysis of common offset sections: Signal-to-noise enhancement and data pre-stack data compression, CSEG Annual Mtg.
98. M D Sacchi and T J Ulrych, 1997, Bidiagonalization and compression of velocity stack operators, 24rd CSEG annual meeting, Calgary.
99. M D Sacchi, 1996, A Bootstrap procedure for velocity analysis, 23rd CSEG annual meeting, Calgary,
100. M D Sacchi and T J Ulrych, 1996, Bayesian priors for sparse inversion, 23rd CSEG annual meeting, Calgary.
101. M D Sacchi and T J Ulrych, 1995, Effect of regularization on the resolution of some seismic operators, Workshop on Maximum Entropy and Bayesian Methods, Santa Fe, Jul-Ago. 1995.
102. Bostock M G and M D Sacchi, 1996, Deconvolution of Teleseismic Recordings for Mantle Structure, AGU Fall Meeting 1996.
103. M D Sacchi, T J Ulrych and S Leaney, 1995, Reconstruction of impedance profiles below the total depth of a log, 22nd Convention of the CSEG, Abstracts 107-108, Calgary, May 1995.
104. M D Sacchi and T J Ulrych, 1995, Improving resolution with aperture compensated linear operators, 22nd Convention of the CSEG, Abstracts 139-140, Calgary, May 1995.

105. M D Sacchi, D R Velis and A H Cominguez, Minimum structure deconvolution with frequency constraint, 17th meeting of the Argentinian Association of Geophysicists, Buenos Aires., October 26-30 1992.
106. M D Sacchi, D R Velis and A H Cominguez, Simplicity norms in seismic deconvolution, 4th meeting on Information Processing and Control, Buenos Aires, November 18-22, 1991.
107. J C Gianibelli, M D Sacchi and E Suarez, Non-linear periodicities in atmospheric pressure data, 4th meeting on Information Processing and Control, Buenos Aires, November 18-22, 1991.
108. M E Giusso, M D Sacchi and J Ainchil, Integrated seismic-electric hydrogeological study, Sierra de la Ventana, Province of Buenos Aires, 16th meeting of the Argentinian Association of Geophysicists, Bahia Blanca, Buenos Aires., October 1991.
109. M D Sacchi and A H Cominguez, A strategy to extract the seismic wavelet based on the homomorphic transform, 16th meeting of the Argentinian Association of Geophysicists, Bahia Blanca, Buenos Aires, October 1991.

5.6 Papers solicited for reprinting in books

M D Sacchi, D R Velis and A H Cominguez, 1994, Minimum entropy deconvolution with frequency-domain constraints: *Geophysics*, 59, 938-946. Reprinted in "Deconvolution II", *Geophysical Reprints No. 17*, E. A. Robinson and O. M. Osman (eds.) 1996, Soc. Expl. Geophys.

T J Ulrych, D Velis and M D Sacchi, 1995, Wavelet estimation: revisited: The Leading Edge, 14, 1139-1143. Reprinted in *Seismic "Signature Estimation and Measurement"*, *Geophysical Reprints 18*, Osman M. Osman and Enders A. Robinson (eds.) 1996, Soc. Expl. Geophys.

5.7 Other Publications in the form of chapters in consortia annual reports

A Valenciano, M Brown, M D Sacchi, and A Guitton, 2003, Interval velocity estimation using edge-preserving regularization, *SEP-114*, 123-150.

B Artman and M D Sacchi, 2004, Basis pursuit for geophysical inversion: *SEP-114*, 151-165.

M D Sacchi, 2003, High Resolution Imaging *Delphi P&A VIII*, Chapter 7, 120-122.

A K Dey, M D Sacchi and A Gisolf, 2007, High-Resolution Imaging: file data example, *Delphi P&A XI*, Chapter 5, 100-114.

SAIG (Signal Analysis and Imaging Group). Annual reports for sponsors with articles by M. D. Sacchi and HQPs for SAIG-1 (2000) to SAIG-19 (2018) can be found in the following site:

<https://saig.physics.ualberta.ca/doku.php?id=publications:annualreports>

6 Contribution to the training of highly qualified personnel

6.1 Graduate students I have supervised (Theses completed)

1. Minjun Park, MSc 2019, Automatic semblance velocity analysis using Convolutional Neural Networks (PhD Program, Stanford)
2. Landon Safron, MSc 2018, Multicomponent least-squares Kirchhoff depth migration (Earth Signal Processing, Calgary)
3. Ke Chen, PhD 2018, Elastic Least-squares Reverse Time Migration and Elastic Gauss-Newton Full-waveform Inversion (PDF, Lawrence Berkeley National Laboratory)
4. Kevin Cheng, PhD 2017, Gradient projection methods with applications to simultaneous source seismic data processing (CGG, Calgary)

5. Aaron Stanton, PhD, 2017, Vector interpolation and regularized elastic imaging of multicomponent seismic data (Key Seismic, Calgary)
6. Wubshet Alemie, PhD, 2017, Time-Lapse Full Waveform Inversion Methods
7. Nasser Kazemi Nojadeh, PhD, 2017, Efficient algorithms for least squares wave equation migration and source signature estimation (PDF, University of Calgary)
8. Linan Xu, MSc, 2017, Acoustic and elastic least-squares two-way wave equation migration with exact adjoint operator (PHD program, ETH)
9. Rob Ferner, MSc 2017, Applications of Reverse-time Migration (Kuby Renewable Energy, Edmonton)
10. Amr Ibrahim, PhD 2016, Separating simultaneous seismic sources using robust inversion of Radon and migration operators (PDF, Kaust, Saudi Arabia)
11. Amsalu Anagaw, PhD, 2014, Full waveform inversion using simultaneous encoded sources based on first- and second-order optimization methods (CGG, Calgary and now PDF, UofA)
12. Nadia Kreimer, PhD, 2013, Multidimensional seismic data reconstruction using tensor analysis (Shell Canada, and now Ocean Network Canada)
13. Ke Chen, MSc 2013, Robust matrix rank reduction methods for seismic data processing (PhD UofA, and then PDF, Lawrence Berkeley National Laboratory)
14. Ismael Vera Rodriguez, PhD 2012, Near real-time estimation of the seismic source parameters in a compressed domain (Schlumberger Cambridge Research Centre, now Norsar)
15. David Bonar, MSc 2012, Sparsity and group sparsity constrained spectral decomposition of seismic data (Encana, Calgary)
16. Jiajun Gao, PhD 2012, 5D seismic data reconstruction via Multichannel Singular Spectrum Analysis (Associate Professor, China University of Geoscience, Beijing China)
17. Sam T Kaplan, PhD 2010, Regularized wave equation migration for imaging and data reconstruction (Chevron, Houston, TX)
18. Vicente Oropeza, MSc 2010, The Singular Spectrum Analysis method and its application to seismic data denoising and reconstruction (Shell Canada, Calgary)
19. Baoli Wang, PhD 2010 Amplitude preserving Radon-demultiple, China Scholarship Council (Assistant Professor, University of Petroleum Geoscience East China)
20. Amsalu Anagaw, MSc 2009, Total variation and adjoint state methods for seismic wavefield imaging (UofA PhD program)
21. Wubshet Alemie, MSc 2009, Regularization of the AVO inverse problem by means of a Multivariate Cauchy Probability distribution
22. Mostafa Naghizadeh, PhD 2009, Parametric reconstruction of multidimensional seismic records (Assistant Professor, Laurentian University, Canada)
23. Somanath Misra, PhD, 2008, Global optimization with application to Geophysics (BHP, Houston)
24. Naser Yousefzadeh, MSc 2008, Least-squares prestack time migration (PhD UofC, Calgary)
25. Soner Bekleric, MSc, 2007, Non-linear time series analysis via Volterra series (PGS, London)
26. Cristina Moldoveanu-Constantinesu, MSc, 2006, Coherent noise attenuation using Radon techniques (ION geo, Calgary)
27. Juefu Wang, PhD 2005, 3-D Least-squares Wave-equation AVP/AVA Migration of common Azimuth data (Alberta Ingenuity Industrial Postdoctoral Fellow and then CGG, Calgary)

28. Jiang Feng, MSc 2004, Rock properties inversion with Kirchhoff AVA migration/inversion (Husky, Calgary)
29. Liu Bin, PhD 2004 , Multi-dimensional reconstruction of seismic data (CGGVeritas, Houston)
30. Henning Kuehl, PhD 2002, Least squares AVA/AVP wave equation migration/inversion (Shell, USA)
31. Veronica Martinez, MSc 2002, Stratigraphic filtering in the Western Canadian Basin (Geopark, Buenos Aires)
32. Carrie Youzwishen, MSc 2001, Non-linear sparse and blocky constraints for seismic inverse problems (Husky, Calgary)
33. Qiang Li, MSc 2000, High-resolution hyperbolic Radon transform multiple removal (Saudi Aramco)
34. Liu Bin, MSc 1999, Kirchhoff migration in compressed spaces (CGGVeritas, now TGS Houston)

6.2 Students I have co-supervised

1. Tho N.H.T. Tran , PhD 2019, Cortical bone characterization using guided wave ultrasonography. Main supervisor was Dr L. Le, Radiology and Diagnostic Imaging (now PDF at Fudan University, China)
2. Mengyao Sun, PhD, 2018, Tomographic inversion by stochastic optimization. Main supervisor was Professor Jie Zhang, University of Science and Technology of China (USTC) (PDF at Tsinghua University)
3. Hairong Wang, PhD 2016, Registration of PP and PS waves via sparsity constraints. Main supervisor was Dr Jianwei Ma at Harbin Institute of Technology, Harbin, China
4. Daniel Perez, PhD, 2015, High Resolution AVO inversion. Main supervisor was Dr Danilo Velis at UNLP, Argentina (Daniel is now a research scientist with Y-TECH)
5. Li Han, PhD, 2015, Reassignment methods for seismic attribute analysis. Main supervisor was Dr Liguang Han at Jilin University (now Technology Research & Development Centre, CNOOC Research Institute)
6. Sean Contenti, MSc 2012, Regional reflectivity analyses of the upper mantle using SS precursors and receiver functions. Main supervisor was Dr. Jeff Gu, Physics (Sean is now with Imperial Oil, Calgary)
7. Karol Rohraff, MSc 2011, Time series processing: stratigraphic and paleoclimatic implications. Main supervisor was Dr Vadim Kravchinsky (Karol became a staff geophysicists with Shell Canada, Calgary)
8. Li, Hongjiang, MSc 2011, Inversion of ultrasonic data for bone characterization. Main supervisor was Dr L. Le, Radiology and Diagnostic Imaging (Hongjiang is with a Telecommunication company, Beijing, China).
9. Rui (Rachel) Zheng, PhD 2011, Ultrasonic imaging and cortical thickness determination of long bones. Co-supervised by Dr L. Le, Radiology and Diagnostic Imaging (Rachel is now an assistant professor at ShanghaiTech University, China)
10. Yuling An, MSc 2007, Imaging mantle discontinuities and velocity structures using the Radon transform. Co-supervised by Dr. Jeff Gu, Physics (Yuling joined CGG, Calgary)
11. Sharareh Karmand, MSc, 2006, Eigenstructure-based signal processing for geophysical data analysis. Co-supervised with Dr. Frances Fenrich, Physics (Sharareh became a physics instructor at Grant McEwan University, Edmonton, AB)
12. Yifu Qiu, MSc 2006, Ultrasonic wave dispersion and attenuation in cancellous bone. Co-supervised by Dr L. Le, Radiology and Diagnostic Imaging (Yifu joined Geo-System, Calgary)
13. Randy Zhang, MSc, 2005, Simultaneous inversion of time-lapse data. Co-supervised by D. Schmitt (Randy joined Gedco, Calgary)

6.3 Graduate students currently under my supervision

Expected date of program finalization is also indicated.

1. Gian Matharu, PhD, Subsampled truncated-Newton methods for elastic waveform inversion (Winter 2020, Kronecker product decomposition)
2. Gao Wenlei, PhD, Registration methods for converted wave processing and Kronecker product decomposition of large Hessian matrices with application to linearized seismic imaging (Winter 2020, Kronecker product decomposition)
3. Fernanda Carozzi PhD, Robust tensor completion and applications to seismic wavefield reconstruction (September 2020)
4. Iliana Papathanasaki, PhD, Attenuation of surface waves via multi-directional/multi-scale frame operators (September 2021)
5. Breno Bahia, PhD, Quaternion signal representation for vector-field seismic data processing (September 2020)
6. Andres Ambros, MSc, Application of the regularization by denoising method to diving wave tomographic inversion (January 2020)
7. Gonzalo Rubio, MSc, Reconstruction and interpretation of multi-dimensional receiver functions for high-resolution mantle structure imaging (January 2020)
8. Rongzhi Lin, PhD, Deep learning and applications to coherent seismic noise suppression (September, 2021)
9. Yi Guo, PhD, Acquisition design via optimal sensor placing (September 2021)
10. Ehsan Soleymani, MSc, Local spatio-temporal decomposition of seismic wavefields via parsimonious inversion (September 2020)
11. Kristian Torres Bautista, Compression of FWI kernels via Kronecker product decompositions (September 2022)

6.4 Supervision of postdoctoral fellows

PDFs I have supervised in the past

1. Dr Juan Ignacio Sabbione, Restricted domain Radon transforms and applications, May 2015- May 2017 (Assistant Professor, UNLP, Argentina)
2. Dr Saulo Martins, Reconstruction and processing of Ground Penetrating Radar data for environmental near surface studies, October 2015-October 2015, funded by Science without borders, Brazil (Professor, Universidade Federal Rural do Rio de Janeiro, Brazil)
3. Dr Jiajun Gao, Tensor completion methods for 5D seismic wavefield reconstruction, June 2014-June 2015 (Associate professor, China University of Geoscience, Beijing)
4. Dr Emmanuel Bongajum, May 2011-May 2013. Geostatistical seismic data inversion (Research project with Dr J. Boisvert, Department of Civil and Environmental Engineering, now with CGG Calgary)
5. Dr Khalid Miah, June 2009-September 2011, Fractional Fourier Transforms (NSERC Visiting Fellow at Geological Survey of Canada, now professor at Montana Tech)
6. Dr Mostafa Naghizadeh , September 2009-December 2009, Curvelet transform regularization and coherent noise removal (Shell Canada, Calgary and now professor at Laurentian University, Ontario)
7. Dr Ulrych Theune , 2003-2005, 3D seismic noise attenuation (Statoil Research Centre, Norway)
8. Dr Jeremy Gallop, 1999-2000, Elastic seismic inversion (Cenovus, Calgary)
9. Dr Yexin Liu, 2000-2001, Lithology prediction with Support Vector Machines (Chief Scientist at SoftMirrors Ltd., Calgary)

6.5 Supervision of postdoctoral fellows - current

1. Dr. Mohammad Akbar Hosain Zuberi, Application of full waveform inversion to seismic data sets from the Western Canadian Sedimentary Basing (Akbar came from Western Ontario, Pratt's group)
2. Dr. Felix Oghenekohwo, Time-lapse full-waveform inversion (Felix came from UBC, Hermann's group)
3. Dr. Amsalu Anagaw, 3D full waveform inversion from topography (Amsalu was my PhD student, moved to industry and then returned for a PDF)

6.6 Supervision of undergraduate projects and summer students

1. Jessica Zerb, summer 2017, Research Assistant, Application of SSA to tree-ring datasets (Earth Signal Processing, Calgary)
2. Ji Lin, summer 2017, Research Assistant, Adaptive minimum entropy deconvolution (MSc Program UofA)
3. Scott Janzen, summer 2016, Research Assistant, Converted wave reconstruction (Government of Alberta)
4. Matt Halma, summer 2014, Research Assistant, Total variation regularization (MSc program, Biophysics, UofA)
5. Landon Safron, summer 2014, NSERC Undergraduate Student Award, Total variation regularization for geophysical inverse problems (Earth Signal Processing, Calgary)
6. Haiyang Hu, summer 2012, International undergraduate summer internship, Sparse minimum phase deconvolution and surface consistent sparse deconvolution (MSc student, Electrical Eng., Tsinghua University)
7. Rob Ferner, summer 2011, Research Assistant, Tuneable Q-wavelet decomposition (MSc geophysics program, University of Alberta)
8. Mark Simms, summer 2011, Research Assistant, Non-minimum phase deconvolution (Lab technician, EAS, University of Alberta)
9. Kenny Kocou, 2009, NSERC Undergraduate Student Award, Learning basis functions for seismic data processing (ESG Solutions, Kingston Ontario)
10. Dave Bonar, 2008, NSERC Undergraduate Student Award, Predictive deconvolution to attenuate internal multiples produced by seam coals (Encana, Calgary)
11. Lauren Stiglitz, 2008, NSERC Undergraduate Student Award, Experimental measurement of acoustic waves in bones (Co-supervised with Dr L. Le, Radiology) (CGGV, Calgary)
12. Devin Baillie, 2007, Phys 499, Imaging by seismic waves propagation and back-propagation (UofA Medical Physics grad program)
13. Patrick Findley, 2001, Phys 499, GPR surveying applied to archaeological studies (EAA, Edmonton)
14. Josh Harrison, 2001, Phys 499, Analysis of teleseismic data using receiver functions (Shell Canada, Calgary)
15. Sean Chapman, 2000, Phys 499, Non-stationary deconvolution, 2000 (Encana Ltd., Calgary)
16. Carl Reine, 2000, Phys 499, Coherence measures for fault detection (Nexen, Calgary)
17. Coleen Wellehan, 1999, Phys 499, Reverse time migration (Encana Petroleum, Calgary)
18. Scott Sverdhal, 1998, Phys 499, Seismic tomography using constrained linear inversion (CNRL, Calgary)
19. Carrie Youzwishen, 1998, Phys 499, Integral geometry and the Radon Transform (Husky, Calgary)

Phys 499: Physics research project for undergraduate students.

7 Teaching

7.1 Teaching at the University of Alberta

Course	Title	Term
Geoph 326	Seismic Imaging	F-1997
Geoph 421	Seismology and the Physical Structure of the Earth	W-1998
Geoph 326	Seismic Imaging	F-1998
Geoph 623	Inverse Problems in Geophysics	F-1998
Geoph 426	Signal Processing in Geophysics	F-1999
Geoph 421	Seismology and the Physical Structure of the Earth	W-1999
Geoph 426	Signal Processing in Geophysics	W-1999
Geoph 326	Seismic Imaging	W-2000
Geoph 426	Signal Processing in Geophysics	F-2000
Geoph 623	Inverse Problems in Geophysics	F-2000
Geoph 336	Seismic Imaging	W-2001
Geoph 426	Signal Processing in Geophysics	F-2001
Geoph 421	Seismology and the Physical Structure of the Earth	F-2001
Geoph 326	Seismic Imaging	W-2002
Geoph 623	Inverse Problems in Geophysics	W-2002
Geoph 426	Signal Processing in Geophysics	F-2002
Geoph 326	Seismic Imaging	W-2003
Geoph 421	Seismology and the Physical Structure of the Earth	W-2003
—	Sabbatical	F-2003
—	Sabbatical	W-2004
Geoph 431	Geophysical Inverse Theory	F-2004
Geoph 326	Seismic Imaging	W-2005
Geoph 438	Seismic Data Processing	W-2005
Geoph 623	Inverse Problems in Geophysics	F-2005
Geoph 438	Seismic Data Processing	W-2006
Geoph 326	Seismic Imaging	F-2006
Geoph 325	Gravity, Magnetic, and Electrical Techniques	F-2006
Geoph 326	Seismic Imaging	W-2007
Geoph 325	Gravity, Magnetic, and Electrical Techniques	F-2007
Geoph 426	Signal Processing in Geophysics	F-2008
Geoph 326	Seismic Imaging	W-2009
Geoph 431	Geophysical Inverse Theory	W-2009
Geoph 326	Seismic Imaging	F-2010
Geoph 426	Signal Processing in Geophysics	F-2011
Geoph 431	Geophysical Inverse Theory	W-2013
Geoph 531	Geophysical Inverse Theory	W-2013
Phys 699	Seismic Imaging	W-2014
—	Administrative leave	F-2014
—	Administrative leave	W-2015
Geoph 531	Geophysical Inverse Theory	W-2015
Geoph 326	Seismic Imaging	W-2017
Phys 699	Full-waveform Inversion	W-2017
Geoph 326	Seismic Imaging	W-2018
Geoph 326	Seismic Imaging	W-2019
Phys 699	Advanced methods for geophysicists	W-2019

7.2 Academic teaching at other universities

Invited Professor, National University of La Plata, April 2019

Invited Professor, Universidade Federal de Natal, Brazil, 3 weeks per year in 2016 and 2017

Invited Professor, Universidad Nacional de San Juan. Graduate course: Advanced signal processing for geophysicists, 30 hours course, San Juan, June 2015.

Invited Professor, China Petroleum University. Graduate course: Advanced signal processing for geophysicists, 32 hours course, Beijing, May 2014.

Invited Professor, China University of Geoscience, Graduate course: Signal processing for geophysicists, 16 hours course, Beijing, April 2013.

Invited Professor, China Petroleum University. Graduate course: Advanced signal processing for geophysicists, 32 hours course, Beijing, April 2013.

Invited Professor, National University of La Plata. Graduate course: Processing and inversion of seismic data with special emphasis on compressive solutions. Graduate program in Geophysics, 32 hours course, La Plata, Argentina, March 2012.

Invited Professor, China Petroleum University. Graduate course: Advanced signal processing for geophysicists, 32 hours course, Beijing, May 2012.

7.3 Short courses in the area of signal processing

I have developed and taught short courses for industry and technical associations concerned with advanced signal processing for applied seismologists.

Inverse Problems and Imaging lectures, International School on Astronomy and Geophysics: Inverse Method in Geophysics, National University of La Plata, 8-12 April 2019.

5 Lectures on Inverse Problems, Harbin International Summer School on Applied Mathematics, Harbin Institute of Technology, Harbin, China, August 2017

Processing, Inversion and Reconstruction of Seismic Data, Society of Exploration Geophysicists, 2 days course for their education program, New Orleans, October 2015

Course on data reconstruction, Statoil Beijing Research Centre, Beijing, China, 1 day course, April 2014

Course on signal processing inversion and data reconstruction, CGG Research Centre, Massy, France, 2 days, May 2014

Course on signal processing inversion and data reconstruction, CGG Research Centre, Crawley, UK, 2 days, May 2014

Processing, Inversion and Reconstruction of Seismic data, Society of Exploration Geophysicists, 2 days course for their education program, Houston, February 2014

Processing, Inversion and Reconstruction of Seismic Data, SEG course prepared for Dhahran Geoscience Society (Saudi Arabia), 2 days, November 2013

ABC of seismic data reconstruction, 1 day, CSEG education week, November 2013

ABC of seismic data reconstruction, 1 day, CSEG education week, November 2012

Seismic data regularization and Inversion, Short course offered for ION-Geophysical, 2 days, Houston (TX), June 2012

Two courses on Seismic data reconstruction, 2 days, CGG-Veritas, Houston, September 2012.

- Seismic data processing and inversion, SEG course prepared for Kuwait National Oil Company, 4 days, May 2012
- Técnicas y estrategias para la regularización de datos sísmicos, 1 day course, Mar del Plata, Argentina, November 2011
- ABC of seismic data reconstruction, 1 day, CSEG education week, November 2011
- Seismic data reconstruction, EXPEC Research Centre Saudi Aramco, 3 days, July 2011
- ABC of seismic data reconstruction, ConocoPhillips, 1 day, Houston, July 2011
- Canadian Society of Exploration Geophysicists, 1 day pre-convention course on Seismic Data Regularization, April 2011
- PGS, Leiden, The Netherlands, 2 days course, February 2011
- Shell, Rijswijk, The Netherlands, 1 day course on Seismic data regularization, February 2011
- Processing, Inversion and Reconstruction of Seismic data, Society of Exploration Geophysicists, 2 days course for their education program, Denver, October 2010
- Processing, inversion and regularization of seismic data, SEG Continuing Education Program, 2 days course, in-house for Chevron, San Ramon, CA. April 2010
- Processing, inversion and regularization of seismic data, SEG Continuing Education Program, 2 days course, Houston, May 2010
- Processing, inversion and regularization of seismic data, CSEG Education Week, 2 days course, November 2009
- Inversion and signal processing, 2 days course, Statoil Research Centre, May 2009
- Inversion and signal processing, 2 days course, Saudi Aramco, April 2008
- Processing, inversion and regularization of seismic data, CSEG Education Week, 2 days course, November 2007
- Inversion, processing and reconstruction of seismic data [1 day], ConocoPhillips, Houston, April 2007.
- Inversion, processing and reconstruction of seismic data [1 day], BHP-Billiton, Houston, September 2006.
- Inverse problems in exploration seismology, PIMS Seismic Imaging Workshop and Summer School [2 days], University of Calgary, August 2006.
- Course on seismic data processing and inversion [5 days], IMP (Instituto Mexicano del Petróleo), Ciudad de Mexico, Mexico, February 2007.
- Strategies for noise attenuation [2 days], CSEG Education Week, November, 2006
- Seismic Data Processing and Inversion, PanAmerican Petroleum [1 day], Buenos Aires, July 2006.
- Seismic Data Processing and Inversion, Veritas Argentina, Buenos Aires [1 day], July 2006
- Statistical and Transform Methods for Seismic Signal Processing:* Short course developed seismic data processing contractors. Offered to the following organizations and companies:
- EAGE Education Days, London, UK, March 2006
 - CSEG, Calgary, November 2005
 - Norsk Hydro Research Centre, Bergen, Norway, May 2005
 - EAGE Education Days, London, UK, March 2005
 - CSEG Education Week, October 2004
 - Veritas LTD, Calgary, September 2004
 - Veritas LTD, Houston, August 2004

Geophysics program, Dept. of Geosciences, University of Leeds (UK), May 2004

EAGE Education Days, The Hague, The Netherlands, March 2004

Veritas LTD, Crawley, UK, March 2004

Compagnie Générale de Géophysique, Massy, France, January 2004

CSEG Convention, Calgary, April 2002

CSEG Convention, Calgary, May 2001

Seismic Signal Processing and Inversion Techniques. Course prepared for geophysicists and geologists from the following companies: Chevron, YPF-Repsol, Tecpetrol, Total, and Veritas, [2 days, 8 hours/day], Buenos Aires, Argentina, August 2001.

Lectures on Seismic Signal Processing. Sponsored by The Pan Canadian Geophysics Centre of Excellence [3 days, 7 hours/day], May 1999.

Seismic Processing and Inverse theory. Prepared for FOMEC (an international program sponsored by the World Bank) [4 days, 7 hours/day], La Plata, Argentina, August 1998.

Lectures on Seismic Signal Processing. Course prepared for JAPEX (Japan National Exploration Co.) [5 days course, 7 hours/day], Tokyo, Japan, March 1998.

8 Other evidence of impact and contributions

8.1 Best papers awards and awards received by students

- Best oral presentation to graduate student Wenlei Gao, 2019 SEG 3rd International Workshop on Mathematical Geophysics: Traditional vs. Learning
- Best student poster, Geoconvention 2017 to undergraduate summer research student Scott Janzen
- Best student oral presentation, Geoconvention 2017 to MSc student Landon Safron
- Best CSEG Luncheon to PhD student Aaron Stanton
- Best Poster, Geoconvention 2014 to MSc student Robert Ferner
- Best Student Geophysical Talk, Geoconvention 2014 to Amsalu Anagaw. Amsalu was my PhD student and is a PDF in my group
- **J. Clarence Karcher Award 2013** to Sam Kaplan. Sam was my PhD student.
- Top 30 presentations for the 2012 SEG Annual Meeting to Aaron Stanton, Nadia Kreimer, David Bonar, Mostafa Naghizadeh, and Mauricio Sacchi, A comparison of 5D reconstruction methods.
- Best Poster Award to Aaron Stanton, Nadia Kreimer, David Bonar, Mostafa Naghizadeh, and Mauricio Sacchi, Department of Physics, University of Alberta, A comparison of 5D reconstruction methods.
- **J. Clarence Karcher Award 2011** to Mostafa Naghizadeh. Mostafa was my PhD student.
- Runner up, CSEG 2011 best student paper to Nadia Kreimer. Nadia was my PhD student.
- Best Student Geophysical Poster Presentation, GeoCanada 2010 conference to Sam Kaplan. Sam was my PhD student.
- We should prioritize education as well as training, an interview with M D Sacchi, Recorder, October 2009. The Recorder is the magazine of the Canadian Association of Exploration Geophysicists.
- Best student paper CSPG CSEG CWLS 2009 Convention: M Naghizadeh and M D Sacchi. Making FX interpolation more robust by spectrum- guided reconstruction. In 2009 CSPG CSEG CWLS Convention, 4 pages, May 2009. Canadian Society of Exploration Geophysicists.

- SEG best student poster award 2008: M Naghizadeh and M D Sacchi (2008). Adaptive F-X interpolation of curved seismic events via exponentially weighted recursive least squares (EWRLS), SEG Technical Program Expanded Abstracts, 27, 2627-2631.
- Best student paper CSPG CSEG CWLS 2007 Convention: Mostafa Naghizadeh and Mauricio Sacchi, Multi-step Auto-regressive reconstruction of nonuniformly sampled and aliased seismic records
- Best paper award CSEG Recorder, Sacchi M.D., Wang J., and Kuehl H., 2006, Regularized migration/inversion: new generation of imaging algorithms, CSEG Recorder, Volume 31, Special Issue, 54-59.
- Best student paper CSPG-CSEG-CWLS Joint Convention, 2006: Mostafa Naghizadeh and Mauricio Sacchi, FX and FK interpolation methods and further developments for irregularly spaced data
- Honourable mention for poster presentation, CSEG Annual Meeting, 2005: Uli Theune, Douglas Schmitt, and Mauricio Sacchi, Mapping fractures with GPR at Turtle Mountain
- **Clarence Karcher Award 2004** to Dr Henning Kuehl for his work on least-squares wave equation imaging. This is the highest award given by the Society of Exploration Geophysicists to scientists under 35. Henning was my first PhD student.
- Honourable mention, CSEG Annual Meeting, 2003: Henning Kuehl and Mauricio Sacchi for the presentations Least-squares wave-equation migration for AVP/AVA inversion.
- Best student paper, CSEG Annual Meeting, 2001: Carrie Youzwishen and Mauricio Sacchi, An edge preserving algorithm for 2D seismic wave field inversion
- Honourable mention, CSEG Annual Meeting, 2001: Henning Kuehl and Mauricio Sacchi, Least-squares DSR migration using common angle imaging condition.
- Honourable mention, CSEG Annual Meeting, 2001: Henning Kuehl and Mauricio Sacchi, Separable offset least-squares DSR migration of incomplete data
- Outstanding SEG conference expanded abstract, 1994: Mauricio Sacchi and Tad Ulrych, High Resolution Velocity Gathers, SEG 64th International Annual meeting of the Society of Exploration Geophysicists

8.2 Invited Seminars, Lectures and Colloquia

1. Accelerating the convergence of deblending algorithms by a "new formulation" of the sparsity promoting cost function, ExxonMobil, Houston, invited to Applied Geophysics seminar
2. Simplicity constraints and their application to seismic data processing and imaging, Earth Science, University of Toronto, March 2020
3. Robust tensor completion methods and applications to 5D seismic data reconstruction, invited talk, SIAM Geoscience Meeting, Houston, March 2019
4. Robust data representation: Application to simultaneous source processing, Colloquium, National University of La Plata, April 2019
5. Multidimensional seismic data reconstruction: Recent advances and the road ahead, 15th International Congress of the Brazilian Geophysical Society, June 2017
6. Full waveform inversion, AAGG, Argentina, Plenary talk, May 2017
7. Three invited lectures for Houston Geophysical Society, November 2016
8. CSEG Technical luncheon, October 2016
9. 5D reconstruction using tensor completion, Stanford Exploration Project, Department of Geophysics, Stanford University, January 2016

10. Sparsity, Predictability and Rank, Stanford Exploration Project, Department of Geophysics, Stanford University, January 2016
11. Fall 2015-Winter 2016 CSEG Distinguished lecture ¹. New and not-so-new applications of low-rank matrix and tensor completion to seismic data processing,
 - Earth Sciences, University of Toronto
 - Earth Sciences, Dalhousie University
 - Department of Earth Sciences, Memorial University of Newfoundland
 - Earth and Ocean Sciences, UBC
 - Department of Geological Sciences and Geological Engineering, Queen's University
 - Department of Earth Sciences, Western University
 - Earth and Environmental Sciences, University of Waterloo
 - Department of Geosciences, University of Calgary
 - Department of Geological Sciences, University of Saskatchewan
 - Department of Physics and Institute for Geophysical Research, University of Alberta
12. Tensor completion problem in exploration seismology, King Abdullah University of Science and Technology, Saudi Arabia, April 2015, Seminar.
13. Practical aspects of regularization and interpolation of (5D) seismic data, XXVII Reunión Científica de La Asociación Argentina de Geofísicos y Geodestas San Juan, Argentina, November 2014, Plenary speaker.
14. 2014 SEG Honorary Lecturer². Practical aspects of regularization and interpolation of (5D) seismic data, presented at the following venues:
 - Universidad Nacional de Rio Negro, General Roca, Argentina
 - Asociación Argentina de Geólogos y Geofísicos del Petróleo, Buenos Aires
 - Sociedad Geofísica, Universidad Nacional de la Plata, La Plata, Argentina
 - Universidade Federal de Rio de Janeiro, Rio de Janeiro, Brazil
 - Universidade Federal Fluminense, Niteroi, Brazil
 - Observatorio Nacional, Rio de Janeiro, Brazil
 - Universidade de Campinas, Campinas, Brazil
 - Unverisidade Federal da Bahia, Salvador, Brazil
 - Universidade Federal Rio Grande do Norte, Natal, Brazil
 - Universidade Federal do Pará, Belém, Brazil
 - Universidad Industrial de Santander, Bucaramanga, Colombia
 - Universidad Nacional de Colombia, Medellin, Colombia
 - Universidad Nacional de Colombia, Bogotá, Colombia
 - Asociación Colombiana de Geólogos y Geofísicos del Petróleo, Bogotá, Colombia
 - Geological Society of Trinidad and Tobago and University of West Indies Geophysical Society, Port of Spain, Trinidad and Tobago
 - Instituto Politécnico Nacional, Mexico DF, Mexico
 - Universidad Nacional Autónoma de Mexico, Mexico DF, Mexico
 - Asociación Mexicana de Geofísicos de Exploración, Villahermosa, Mexico
15. Tensor completion for seismic data reconstruction, China Academy of Science, Institute of Geophysics, Beijing, April 2014.

¹<http://cseg.ca/education/view/new-and-not-so-new-applications-of-low-rank-matrix-and-tensor-completion-to>

²<https://seg.org/Education/Lectures/Honorary-Lectures/2014-HL-Sacchi>

16. Sparsity and Nuclear Norm Regularization for Multidimensional (5D) Seismic Data Processing, Seminar to honour Tadeusz Ulrych, Vancouver, September 2013.
17. Sparsity and Nuclear Norm Regularization for Multidimensional (5D) Seismic Data Processing, PIMS Seismic Imaging workshop, Calgary, July 2013.
18. Full Waveform Inversion of Blended Data: Analysis of Multi-frequency Inversion Strategies, Computational Methods in Geophysical Inverse Problems, SIAM Geoscience meeting, Padova, Italy, June 2013.
19. 5D reconstruction of seismic data, Encana, March 2013
20. Two talks on Seismic data reconstruction and inverse problems, Escuela Giambiagi, University of Buenos Aires, Argentina, July 2012.
21. Regularization of seismic data via tensor algebra, Colloquium Department of Earth Sciences, University of Calgary, February 2012.
22. 5D seismic data reconstruction, Institute of Geology Geophysics, Chinese Academy of Science, Beijing, May 2012.
23. 5D seismic data reconstruction, China University of Geoscience, Beijing, May 2012.
24. 5D seismic data reconstruction, China University of Petroleum, Beijing, May 2012.
25. ICIAM 2001, Contemporary issues in geophysics, Vancouver, July 2012.
26. Sparse data representation for the reconstruction of N-dimensional seismic wave-fields, SPIE Wavelets and Sparsity XIV , San Diego, August 2011
27. Application of sparse and rank reduction reconstruction to large-scale industrial seismic reconstruction problems, BIRS Sparse and Low Rank Approximation (5 days workshop), Banff, March 2011
28. From Wiggins' MED to Compressive Sensing: Sparsity in Seismic Data Processing, EAGE workshop, Sparseness and Compressive Sensing: a Confluence of Ideas, Vienna, Workshop. Invited introductory tutorial on sparse representations of geophysical data, May 2011
29. Recent Advances in Regularization and De-noising of Large Data Sets for Exploration Seismology, IRIS Workshop, Plenary Speaker, Snowbird Utah, June 2010
30. Shell Research Centre, Rijswijk, The Netherlands, Colloquium/Seminar, Feb 2011
31. BP America, Houston, TX, Colloquium/Seminar, Jun 2011
32. Representation of Seismic signals via sparse priors and compressive sensing: An overview, Artificial Intelligence Seminar, Department of Computing Science, University of Alberta, June 2010.
33. CSEG Lunchbox Monthly Seminars, Calgary, Colloquium/Seminar, Sep 2010
34. Randomized SVD for seismic noise attenuation, MITACS & Canadian Operational Research Society. Annual Meeting, Edmonton, May 2010
35. Randomized SVD for seismic noise attenuation, UBC-SLIM, Vancouver, May 2010
36. The Old and New in Noise Removal, Wavefield Representation and Data Regularization, Technical Luncheon, CSEG, Calgary, January 2010.
37. Wavefield representation and seismic data reconstruction, Spring Symposium of the GSH/SEG honouring Enders Robinson and Sven Treitel, Houston, March 2010.
38. Adaptive filtering of seismic records, Facultad de Ciencias Astronómicas y Geofísicas, UNLP, La Plata, Argentina, August 2009
39. Preconditioned high-resolution imaging, AGU, Toronto, May 2009 (Invited talk).

40. A tour of high resolution transforms, CSEG, Calgary, Session invited talk, May 2009
41. A tour of methods for seismic wave field reconstruction with emphasis on parsimonious signal representation. Department of Earth and Ocean Sciences, UBC, March 2009.
42. The importance of regularization strategies in processing, imaging and inversion of seismic data. Department of Geosciences , University of Houston, March 2008.
43. The importance of regularization strategies in processing, imaging and inversion of seismic data. Department of Geological Sciences, University of Texas at Austin, December 2007.
44. Numerical Strategies for Seismic Data Reconstruction, Bureau of Economical Geology, University of Texas at Austin, December 2007.
45. Local wave field operators, Radon transforms and sparsity, workshop on "Curvelets, contourlets, seislets, ... in seismic data processing: Where are we and Where are we going?", the 69th annual EAGE conference and exhibition EAGE, London, June 2007.
46. Wave Field Reconstruction with De-migration Operators, Canadian Applied and Industrial Mathematics Society, Annual Meeting, Banff, May 2007 (Invited speaker to the imaging workshop).
47. Migration/inversion: experience with pre-stack LS migration for AVP imaging and the road ahead, keynote speaker, Schlumberger Borehole Seismic Workshop, Vancouver, April 2007
48. Tópicos de *Imaging* de alta resolución, Asociación Argentina de Geólogos y Geofísicos Petroleros, Buenos Aires, July, 2006
49. Reconstrucción de Datos Sísmicos, Asociación Argentina de Geólogos y Geofísicos Petroleros, Buenos Aires, July, 2006
50. Inversion of Angle Gathers, Colloquium, Universidad Nacional de La Plata, July, 2006.
51. High Resolution Imaging: New trends in seismic imaging, Instituto Mexicano del Petróleo (IMP), Ciudad de Mexico, May 2006
52. High Resolution Imaging: New trends in seismic imaging, CSEG, Lunch box Seminars, Calgary, April 2006
53. Large Scale Geophysical Inverse Problems and High Resolution Methods for Imaging the Earth's Interior, Department of Earth and Planetary Sciences, Colloquium, McGill University, Montreal, March 2006.
54. Transform methods for coherent noise removal, ConocoPhillips, Seminar, Houston, January 2006.
55. Regularization of Large-scale Geophysical Inverse Problems, Math and Statistics Colloquium, Department of Mathematics and Statistics, University of Alberta, October, 2005
56. Local Radon Transforms, Time-Frequency Analysis Workshop, BIRS, Banff, October 2005
57. Local Radon Transforms, Shell Canada, Seminar, Calgary, May 2005
58. Regularized AVA imaging, BP Research Group, Seminar, Houston, September 2004
59. Exxon-Mobil Research Group, 3 Seminars, Houston, September 2004
60. Inverse Problems in Exploration Seismology, MITACS, 2 hours Lecture, Calgary, May 2005
61. Reconstruction of Seismic Wave Fields, Workshop on Computational Geosciences, NSF and Colorado School of Mines, 1h Lecture, Golden, Colorado, May 2005
62. Wave equation AVA imaging, University of Houston, Allied Geophysical Laboratory, Houston, September 2004
63. Two (2) Seismic Processing Lectures, Norsk Hydro Research Center, Bergen, Norway, July, 2004
64. A new look at transforms for SNR enhancement, Delphi Consortium Annual Meeting, The Hague, June 2004

65. High Resolution Imaging, Delphi Consortium Annual Meeting, The Hague, June 2004
66. Regularized AVP imaging, Shell Research Center, Rijswijk, June 2004
67. Regularization of Seismic Data, Earth Science Department, Delft University of Technology, October, 2004
68. Regularization of Seismic Data, Agip-Eni, Milan, Italy, December 2003
69. Regularized Migration, PIMS Geophysical Inversion Workshop, University of Calgary, July 2003
70. Three (3) seminars on signal processing, The Stanford Exploration Project, Department of Geophysics, Stanford University, June 2003
71. Imaging and Inversion in exploration seismology, Department of Mathematics, Emory University, Atlanta, GA, November 2002
72. High resolution Radon transforms for seismic signal processing, Workshop on Imaging, Mathematical Geophysics Summer School, Stanford University, July-Ago, 2002
73. Numerical implementation of Radon Transforms, CREWES Seminar, Department of Geology and Geophysics, University of Calgary, October 2001
74. Inversion of common angle gathers, Departamento de Geofisica Aplicada, Universidad Nacional de La Plata, Argentina, August 2001
75. Wave equation LS migration, Workshop on Inverse Problems and Imaging, Pacific Institute for Mathematical Research, UBC, Vancouver, June 2001
76. AR, MA and ARMA models in seismic data processing, Department of Geophysics, Heiland Lecture, Colorado School of Mines, Golden Colorado, March 2001
77. Wave equation imaging and inversion of seismic data in complex media, Department of Earth and Ocean Sciences, UBC, Vancouver, October 2000
78. Non-Gaussian models in seismic deconvolution. Department of Geology and Geophysics, University of Calgary, Alberta, February 1999

8.3 External Examiner

Not including University of Alberta roles as arm's length examiner.

External PhD thesis examiner, Heather Hardeman, University of Calgary, 2019

External PhD thesis examiner, Ritesh Sharma, University of Calgary, 2019

External PhD thesis examiner, Soledad Lagos, National University of La Plata, 2019

External PhD thesis examiner, Justin Granek, University of British Columbia, 2016.

External PhD thesis examiner, Haitham Hamid, University of Calgary, 2016.

External PhD thesis examiner, Mai Quyen PHAM, IFP Energies Nouvelles and Universite Paris-Est.

External PhD thesis examiner, Roohollah Askari, University of Calgary, 2013.

External PhD thesis examiner, Peng Chen, University of Calgary, 2013.

External PhD thesis examiner, A. K. Dei, Delft University of Technology, 2010.

External PhD thesis examiner, Gilles Hennenfent, University of British Columbia, 2008.

External PhD thesis examiner, Richard Bale, University of Calgary, 2006.

External PhD thesis examiner, Ye Zheng, University of Calgary, 2006.

External PhD advisor and examiner, Paul Zwartjes, Delft University of Technology, Delft, The Netherlands, 2005.

External PhD thesis examiner, Jon Downton, University of Calgary, 2005.

External MSc thesis examiner, Shauna Oppert, University of Calgary, 2002.

External PhD thesis examiner, Yampeng Mi, University of Calgary, 2001.

External PhD thesis examiner, R. Ferguson, University of Calgary, 1999.

8.4 Service to my research and technology community

Associate Editor, IEEE transactions of Geoscience and Remote Sensing, 2019-

Co-organized of SEG 3rd International Workshop on Mathematical Geophysics: Traditional vs. Learning, 2019

Member of the Board of Management, Arthur B. McDonald Canadian Astroparticle Physics Research Institute, 2017-

Chair of Publications committee, Society of Exploration Geophysicists (SEG), 2017-

Editor-in-chief, GEOPHYSICS, 2015-2017.

SEG Board of Directors, 2015-2017

Editorial Board, Journal of Seismic Exploration, 2015-

CSEG Foundation, Board Member, 2013-2015.

Organizer of a PIMS workshop on Seismic Imaging at the University of Alberta, May 2015.

Guest Editor to IEEE Signal Processing Magazine, thematic issue on Geophysical Signal Processing, issue published in February 2012 (Co-editors: Fred Aminzadeh and Sven Treitel)

Member of the technical committee of the SEG 2011. I was in charge of the review process of papers in the area of seismic data regularization. I was also in charge of forming the data regularization session.

Invited Editor for special issue of the journal GEOPHYSICS on seismic data regularization (published on December 2010)

Organizer of Workshop for the EAGE, Regularization of Seismic data, Amsterdam, 2009

Session Convener, AGU 2009, Toronto.

Assistant editor for the journal GEOPHYSICS, 2009-2015

Member of the technical committee for the CSEG annual meeting, Calgary, May 2007.

Chairman of The Distinguished Lecture Program Committee, CSEG, 2005-2007.

PIMS Seismic Imaging Workshop and Summer School, Organizer and Instructor, University of Calgary, August 2006.

Alberta Ingenuity Fellowship Review Committee, 2006.

Convener and organizer, workshop on seismic deconvolution, CSEG annual meeting, 2005.

Member of the technical committee for the CSEG annual meeting, Calgary, May 2002.

I served as reviewer for the NSERC RGPIN and NSERC CDR programs and NSF proposals. About 3 proposals per year.

I served as reviewer for the following journals: Geophysics, Geophysical Journal International, IEEE Trans. on Signal Processing, IEEE Trans. on Geosciences and Remote Sensing, IEEE Trans. on Image Processing, Computers and Geosciences, Geophysical Prospecting. I review about 10-15 papers per year.

Session chairman at the SEG and CSEG annual meetings (> 10 times since 1997)

External reviewer for tenure and promotion cases at the following universities: Carleton University, Colorado School of Mines, Memorial University of Newfoundland (2), Stanford, UBC (2), University of Calgary (2), University of Toronto, Tufts.

8.5 Service to the University of Alberta

Faculty Evaluation Committee 2010-2015 and 2016- . I interviewed and prepared merit recommendations for Physics academic staff. I also reviewed about 300 annual reports per year for the whole Faculty of Science.

Chairs Council Executive, 2018-2020 (Elected to represent Chairs, CCE liaisons with the U of A Provost office.)

Chair, Department of Physics, 2016- (second term)

Chairs Council Executive, 2013-2015 (Elected to represent Chairs, CCE liaisons with the U of A Provost office.)

Chair, Department of Physics, 2010-2015 (first term)

As Chair of Physics (2010-now), I have formed hiring committees, interviewed candidates and made offers to candidates for faculty positions. I also was in charge of discussing start-up packages with the Faculty of Science and candidates. Liaison with the Faculty of Science to prepare CFI applications for new faculty members and assisted in securing provincial and university matching portion for pre-tenure faculty. People I hired:

- 2 positions in Condensed Matter Physics (J Macjeko, L LeBlanc)
- 2 positions in Astrophysics (E Rosolowsky, R Fernandez)
- 3 positions in Astroparticle Physics (C Kopper, MC Piro and JP Yanez)
- 1 position in Biophysics (M Woodside).

As Chair of Physics (2010-now), I have written recommendation cases for tenure and promotion that were submitted to our Faculty Evaluation Committee. I was in charge of composing list of external reviewers, collecting departmental feedback, and assessing feedback from tenure committee and making overall the final recommendation. The full responsibility of the faculty assessment and recommendation for tenure and promotion is on the chair who presents (and defends) recommendations to the Faculty Evaluation Committee. I have presented the following cases:

- Promotion to full professor, Dr. A. Penin, Theoretical Particle Physics, 2010
- Promotion to full professor, Dr. R. Moore, Experimental Particle Physics, 2012
- Promotion to full professor, Dr. M. van der Baan, Applied Geophysics, 2012
- Promotion to associate professor and tenure, Dr. G. Heinke, Observational Astrophysics, 2012
- Promotion to associate professor and tenure, Dr. Claire Currie, Geodynamics, 2012
- Promotion to associate professor and tenure, Dr. C. Krauss, Experimental Neutrino Physics, 2013
- Promotion to associate professor and tenure, Dr. M. Dumberry, Geodynamics, 2013
- Promotion to full professor, Dr. V. Kravchinsky, Paleomagnetism and Paleoclimatology, 2013
- Promotion to associate professor and tenure, Dr. D. Grant, Experimental Neutrino Physics, 2014
- Promotion to associate professor and tenure, Dr. N. Ivanova, Theoretical Astrophysics, 2014
- Promotion to associate professor and tenure, Dr. G. Sivakoff, Observational Astrophysics, 2016
- Promotion to full professor, Dr. M. Woodside, Biophysics, 2016
- Promotion to associate professor and tenure, Dr. E. Rossolowsky, Observational Astrophysics, 2016
- Promotion to full professor, Dr. Y. Gu, Seismology, 2017
- Promotion to full professor, Dr. G. Heinke, Observational Astrophysics, 2017
- Promotion to full professor, Dr. N. Ivanova, Theoretical Astrophysics, 2018

Promotion to full professor, Dr. Claire Currie, Geodynamics, 2018

Promotion to associate professor and tenure, Dr. Leblanc, 2019

Promotion to associate professor and tenure, Dr. Maciejko, 2019

As chair and as faculty member of the Department of Physics, I was a member of the following hiring committees:

Killam Memorial Chair, Mathematical and Statistical Sciences (Dr. Yingfei Yi, 2014)

Dean of Science (Dr. J. Schaeffer, 2012)

Integrated Petroleum Geoscience Program (Dr. M. Van der Baan, 2008)

Canada Research Chair in Gravitational Physics (Dr. F. Pretorius, 2005)

Seismology (Dr. J. Gu, 2002)

Geophysics EM (Dr. M Unsworth, 2000)

Experimental CMP (Dr. A. Meldrum, 1999)

Associate Chair Research, Department of Physics, 2009-2010

Member the UofA Mexico Council, 2009-2011

2006-2008: Coordinator of the Geophysics Focus Area

2006-2008: Faculty of Science Advisory Selection Committee

2006: University of Alberta International, member of the Energy Mission to Mexico, including talks about energy related research at UNAM (Universidad Nacional Autónoma de Mexico) and IMP (Instituto Mexicano del Petróleo).

2005: Advisory selection committee for the director of the Institute for Geophysical Research

2005-2006: Physics colloquia organizer (I organized the visit of 20 international speakers)

2002-2008: Mentoring Program (Faculty of Science). I was Dr. Y. Gu mentor from 2002 until tenure.

2001-2003: Graduate admission committee (Physics)

1999-2003: Computing committee (Physics)

1999-2000: Curriculum Renewal Committee (Physics)

1998-: MACI founding member (UofA). Alberta large computational facility replaced by WestGrid and now by ComputeCanada.

1998-2000: Organizer of the Geophysics Seminars in the Department of Physics.

1998-2000: Development of recruiting strategy for the Geophysics program. I was in charge of preparation of a poster and deployment of a geophysics booth at CSEG annual convention.

1998-2002: Co-Organizer of the Annual Symposium of the Institute for Geophysical Research, Faculty of Science, University of Alberta.

9 Funding

Excluding grants where I am not PI. Only contributions in recent years to the SAIG consortium are reported.

Principal Investigator	Grant	Amount (\$ Can)	Period
Sacchi	NSERC Discovery Grant	69,000/year	2016-2021
Sacchi	NSERC Discovery Grant	50,000/year	2011-2015
Sacchi	NSERC Discovery Grant	39,800/year	2006-2010
Sacchi	NSERC Discovery Grant	39,000/year	2002-2005
Sacchi	NSERC Discovery Grant	33,000/year	1998-2001
Sacchi	Faculty of Sc. Grant to Chair of Physics	40,000/year	2016-2021
Sacchi	Faculty of Sc. Grant to Chair of Physics	40,000/year	2010-2015
Sacchi	CFREF Futures Energy Technologies	100,000/year	2019-2021
Sacchi/SAIG	BP America	175,000	2017-2022
Sacchi/SAIG	ConocoPhillips USA	175,000	2016-2020
Sacchi/SAIG	ENI	105,000	2016-2018
Sacchi/SAIG	CGG	175,000	2015-2019
Sacchi/SAIG	ION GX Technology	105,000	2013-2018
Sacchi/SAIG	ARCIS/TGS	240,000	2012-2021
Sacchi/SAIG	Key Seismic Solutions	240,000	2012-2021
Sacchi/SAIG	ExxonMobil	315,000	2010-2020
Sacchi/SAIG	PGS	343,000	2010-2019
Sacchi/SAIG	Chevron	343,000	2010-2019
Sacchi/SAIG	Shell	328,000	2009-2018

10 Signal Analysis and Imaging Group (SAIG)

The Signal Analysis and Imaging Group is a consortium for research in the area of seismic data processing and imaging. SAIG has enabled me to secure funding for many of my students and PhDs. SAIG also offers an opportunity for HQPs to interact with companies and access to professional development by having close contact with industrial sponsors.

Access to annual reports for the sponsors of SAIG is provided in the following site:

<http://saig.physics.ualberta.ca/>

11 Open source software developed by my lab.

In collaboration with HQPs, my lab has developed seismic data processing software that can be downloaded by my research community.

SeismicLab is a Matlab package I developed in 1998 and I continue to maintain. It provides capability to read/write and process seismic reflection data

<http://seismic-lab.physics.ualberta.ca/>

SeismicJulia is our current effort in developing a modern seismic data processing platform in Julia

<https://github.com/SeismicJulia>