
CURRICULUM VITAE

DR. JOSÉ M. CARCIONE



Date of Birth:	14 July 1953
Job Description:	Director of Research
Specialization:	Seismic and electromagnetic modeling and rock physics
Date joined OGS:	July 1, 1989

Education

[1972-78] Licenciado en Ciencias Físicas (summa cum laude), Departamento de Física, Buenos Aires University, Argentina.

[1983-85] Dottore in Fisica, Dipartimento di Fisica, Milan University, Italy.

[1985-87] Ph.D Geophysics, Department of Geophysics and Planetary Science, Tel-Aviv University, Israel.

Research Experience

[1978-80] Nuclear Physicist at the Atomic Energy Commission, Buenos Aires, Argentina.

[1981-86] Research Geophysicist at Yacimientos Petrolíferos Fiscales (YPF), Buenos Aires, Argentina.

[1984-85] Consulting Geophysicist at the Ministry of Energy, Buenos Aires, Argentina.

[1988-89] Research Geophysicist at Hamburg University, West Germany.

[1989-92] Consulting Geophysicist at Osservatorio Geofisico Sperimentale, Trieste, Italy.

[1993-on] Dirigente di Ricerca – Director of Research at Osservatorio Geofisico Sperimentale, Trieste. Italy.

[1995-on] Assistant Editor of BOLL. GEOF. TEOR. APPL.

[1996-2000] Head of the Geophysics Department of the Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (former Osservatorio Geofisico Sperimentale), Trieste. Italy.

[1999-2001] Associate Editor for Seismic Modeling and Wave Propagation of GEOPHYSICS.

[2001-on] Assistant Editor of GEOPHYSICS.

[2002-on] Associate Editor of NEAR SURFACE GEOPHYSICS.

[2005-on] Editor of JOURNAL OF SEISMIC EXPLORATION

Visiting scientist La Plata Univ., Buenos Aires Univ., UFBA, Norsk Hydro, NTNU.

Publications: More than 170 (peer reviewed) journal articles on acoustic and electromagnetic numerical modeling, with applications to oil exploration and environmental geophysics. One book (two editions) about wave theory and numerical modeling.

Awards and Fellowships

1988-89: Alexander von Humboldt fellowship, Hamburg University, West Germany.

1997: Best Poster award. 59th Ann. Internat. Mtg. Europ. Assoc. Expl. Geophys.

1998: Cagniard award. 60th Ann. Internat. Mtg. Europ. Assoc. Expl. Geophys.

2003: Society of Exploration Geophysicists - SEG 2002. Best paper award. Honourable mention.

2007: Nigel Anstey award, EAGE (European Association of Geoscientists & Engineers).

2009: SEG 2009 Honorary Lecturer for South and Central America.

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Biography

José M. Carcione was born in Buenos Aires, Argentina in 1953. He received the degree “Licenciado in Ciencias Físicas” from Buenos Aires University in 1978, the degree “Dottore in Física” from Milan University in 1984, and the Ph.D in Geophysics from Tel-Aviv University in 1987. From 1978 to 1980 he worked at the “Comisión Nacional de Energía Atómica” at Buenos Aires. From 1981 to 1987 he was employed as a research geophysicist at “Yacimientos Petrolíferos Fiscales”, the national oil company of Argentina. Presently, he is a senior geophysicist at the “Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS)” (former “Osservatorio Geofisico Sperimentale”) in Trieste. He was awarded the Alexander von Humboldt scholarship for a post-doc at Hamburg University, where he stayed from 1987 to 1989. In 2007, he received the Anstey award at the EAGE in London. José Carcione published more than 160 journal articles on acoustic and electromagnetic numerical modelling, with applications to oil exploration and environmental geophysics. He is the author of the book *Wave fields in Real Media - Theory and numerical simulation of wave propagation in anisotropic, anelastic, porous and electromagnetic media* (Pergamon Press, 2001; Elsevier Science, 2007). He is editor of GEOPHYSICS since 1999.

List of publications (last years)

- Picotti, S., Carcione, J.M., Santos, J.E., Gei, D.
Q-anisotropy in finely-layered media
 (2010) *Geophysical Research Letters*, 37 (6), art. no. L06302, .
- Picotti, S., Carcione, J.M., Rubino, J.G., Santos, J.E., Cavallini, F.
A viscoelastic representation of wave attenuation in porous media
 (2010) *Computers and Geosciences*, 36 (1), pp. 44-53.
- Carcione, J.M., Gei, D.
Theory and numerical simulation of fluid-pressure diffusion in anisotropic porous media
 (2009) *Geophysics*, 74 (5), pp. N31-N39.
- Helbig, K., Carcione, J.M.
Anomalous polarization in anisotropic media
 (2009) *European Journal of Mechanics, A/Solids*, 28 (4), pp. 704-711.
- Carcione, J.M.
Theory and modeling of constant-Q P- and S-waves using fractional time derivatives
 (2009) *Geophysics*, 74 (1), pp. T1-T11.
- Carcione, J.M., Kozák, J.T.
The Messina-Reggio earthquake of December 28, 1908
 (2008) *Studia Geophysica et Geodaetica*, 52 (4), pp. 661-672.
- Baradello, L., Carcione, J.M.
Optimal seismic-data acquisition in very shallow waters: Surveys in the Venice lagoon(2008)
Geophysics, 73 (6), pp. Q59-Q63.
- Carcione, J.M., Helbig, K.
Elastic medium equivalent to Fresnel's double-refraction crystal
 (2008) *Journal of the Acoustical Society of America*, 124 (4), pp. 2053-2060.
- Sidler, R., Carcione, J.M., Holliger, K.
On the evaluation of plane-wave reflection coefficients in anelastic media
 (2008) *Geophysical Journal International*, 175 (1), pp. 94-102.
- Carcione, J.M., Poletto, F.
Synthetic logs of multipole sources in boreholes based on the Kelvin-Voigt stress-strain relation
 (2008) *Geophysical Journal International*, 174 (3), pp. 808-814.
- Westbrook, G.K., Chand, S., Rossi, G., Long, C., Bünz, S., Camerlenghi, A., Carcione, J.M., Dean, S., Foucher, J.-P., Flueh, E., Gei, D., Haacke, R.R., Madrussani, G., Mienert, J., Minshull, T.A., Nouzé, H., Peacock, S., Reston, T.J., Vanneste, M., Zillmer, M.
Estimation of gas hydrate concentration from multi-component seismic data at sites on the continental margins of NW Svalbard and the Storegga region of Norway
 (2008) *Marine and Petroleum Geology*, 25 (8), pp. 744-758.
- Carcione, J.M., Poletto, F., Farina, B.
Simulation of axis-symmetric seismic waves in fluid-filled boreholes in the presence of a drill string
 (2008) *Computational Geosciences*, 12 (4), pp. 593-604.
- Sonkoly, P., Noé, I., Carcione, J.M., Nagy, Z., Szolgay, P.
CNN-UM based transversely isotropic elastic wave propagation simulation
 (2008) *European Conference on Circuit Theory and Design 2007, ECCTD 2007*, art. no. 4529592, pp. 284-287.
- Rossi, G., Gei, D., Picotti, S., Carcione, J.M.
CO₂ storage at the Azt bach-Schwanenstadt gas field: A seismic monitoring feasibility study
 (2008) *First Break*, 26 (1), pp. 45-51.
- Carcione, J.M., Landrø, M., Gangi, A.F., Cavallini, F.
Determining the dilation factor in 4D monitoring of compacting reservoirs by rock-physics models
 (2007) *Geophysical Prospecting*, 55 (6), pp. 793-804.
- Rossi, G., Gei, D., Böhm, G., Madrussani, G., Carcione, J.M.

Attenuation tomography: An application to gas-hydrate and free-gas detection

(2007) *Geophysical Prospecting*, 55 (5), pp. 655-669.

Carcione, J.M., Ursin, B., Nordskog, J.I.

Cross-property relations between electrical conductivity and the seismic velocity of rocks

(2007) *Geophysics*, 72 (5), pp. E193-E204.

Sidler, R., Carcione, J.M.

Wave reflection at an anelastic transversely isotropic ocean bottom

(2007) *Geophysics*, 72 (5), pp. SM139-SM146.

Picotti, S., Carcione, J.M., Rubino, J.G., Santos, J.E.

P-wave seismic attenuation by slow-wave diffusion: Numerical experiments in partially saturated rocks

(2007) *Geophysics*, 72 (4), pp. N11-N21.

Rubino, J.G., Santos, J.E., Picotti, S., Carcione, J.M.

Simulation of upscaling effects due to wave-induced fluid flow in Biot media using the finite-element method

(2007) *Journal of Applied Geophysics*, 62 (3), pp. 193-203.

Carcione, J.M., Campanella, O.H., Santos, J.E.

A poroelastic model for wave propagation in partially frozen orange juice

(2007) *Journal of Food Engineering*, 80 (1), pp. 11-17.

Quintal, B., Schmalholz, S.M., Podladchikov, Y.Y., Carcione, J.M.

Seismic low-frequency anomalies in multiple reflections from thinly layered poroelastic reservoirs

(2007) *SEG Technical Program Expanded Abstracts*, 26 (1), pp. 1690-1695.

Farina, B., Poletto, F., Carcione, J.

Simulation of propagation modes in boreholes with drill strings

(2007) *SEG Technical Program Expanded Abstracts*, 26 (1), pp. 348-352.

Carcione, J.M., Gei, D., Botelho, M.A.B., Osella, A., de la Vega, M.

Fresnel reflection coefficients for GPR-AVA analysis and detection of seawater and NAPL contaminants

(2006) *Near Surface Geophysics*, 4 (4), pp. 253-263.

Picotti, S., Carcione, J.M.

Estimating seismic attenuation (Q) in the presence of random noise

(2006) *Journal of Seismic Exploration*, 15 (2), pp. 165-181.

Carcione, J.M.

Vector attenuation: Elliptical polarization, raypaths and the Rayleigh-window effect

(2006) *Geophysical Prospecting*, 54 (4), pp. 399-407.

Carcione, J.M., Picotti, S.

P-wave seismic attenuation by slow-wave diffusion: Effects of inhomogeneous rock properties

(2006) *Geophysics*, 71 (3), pp. O1-O8.

Carcione, J.M., Helle, H.B., Gangi, A.F.

Theory of borehole stability when drilling through salt formations

(2006) *Geophysics*, 71 (3), pp. F31-F47.

Ohanian, V., Snyder, T.M., Carcione, J.M.

Weak elastic anisotropy by perturbation theory

(2006) *Geophysics*, 71 (3), pp. D45-D58.

Carcione, J.M.

A spectral numerical method for electromagnetic diffusion

(2006) *Geophysics*, 71 (1), pp. I1-I9.

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Physics and seismic modeling for monitoring CO2 storage

(2006) *Pure and Applied Geophysics*, 163 (1), pp. 175-207.

Malusa, M., Carcione, J.M., Poletto, F.

Coupled axial waves in drill strings

(2005) *67th European Association of Geoscientists and Engineers, EAGE Conference and Exhibition, incorporating SPE*

EUROPE2005 - Extended Abstracts, pp. 3041-3044.

Carcione, J.M., Gei, D., Rossi, G., Madrussani, G.

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(2005) *Geophysical Prospecting*, 53 (6), pp. 803-810.

Santos, J.E., Ravazzoli, C.L., Gauzellino, P.M., Carcione, J.M.

Numerical simulation of ultrasonic waves in reservoir rocks with patchy saturation and fractal petrophysical properties

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Carcione, J.M., Helle, H.B., Seriani, G., Plasencia Linares, M.P.

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(2005) *Geofisica Internacional*, 44 (2), pp. 123-142.

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A constitutive equation and generalized Gassmann modulus for multimineral porous media

(2005) *Geophysics*, 70 (2), pp. N17-N26.

Santos, J.E., Ravazzoli, C.L., Gauzellino, P.M., Carcione, J.M.

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(2005) *Computational Geosciences*, 9 (1), pp. 1-27.