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Faculty of Geology and
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PROFILE SUMMARY

I am a tectonic petrologist with background in field geology, petrography and elemental and radiogenic isotope geochemistry.

APPOINTMENTS

Professor, University of Bucharest — 2021-present Bucharest,
Romania

Professor, University of Arizona — 2009-2026 Emeritus
Professor, Tucson, AZ

Associate Professor with tenure, University of Arizona — 2004-2009
Tucson, AZ

Assistant Professor, University of Arizona — 2001-2004
Tucson, AZ

Postdoctoral Scholar, Florida International University — 1999-2000
Miami, Florida.

Research Assistant, U. Bucharest — 1991-1992
Bucharest, Romania.

EDUCATION

California Institute of Technology- PhD Geology, 1998, Primary Advisors, Jason Saleeby
and Peter Wyllie.

California Institute of Technology, MS, Geology, 1995
Duke University, MS, Geology, 1993.

Web of Science Core Collection: total citations 13300, h-62, 4-highly cited papers

Google scholar total citations 18660, h -75, i10-194

Stanford list of top 2% most cited scientists (2020,2021, 2022, 2023, 2024 and opera omnia)
and top 0.1% most cited in Geochemistry-Geophysics, main sub-category)

Peer reviewed papers published with over 720 co-authors from 32 countries.



Force diagram showing collaborating institutions with whom I co-authored peer reviewed papers, figure above. Source: Scopus.

Geographic areas covered in my research (with number of papers published), figure below. Source: Web of Science.



PEER REVIEWED PUBLICATIONS

1. Park, S.K., Clayton, R.W., Ducea, M.N., Wernicke, B., Jones, C.H., Ruppert, S.D., 1995. Project combines seismic and magnetotelluric surveying to address the Sierran root question. *Eos, Transactions American Geophysical Union* 76, 297-298.
2. Wernicke, B., Clayton, R., Ducea, M., Jones, C.H., Park, S., Ruppert, S., Saleeby, J., Snow, J.K., Squires, L., Flidner, M., 1996. Origin of high mountains in the continents: The southern Sierra Nevada. *Science* 271, 190-193.
3. Ducea, M.N., Saleeby, J.B., 1996. Buoyancy sources for a large, unrooted mountain range, the Sierra Nevada, California: Evidence from xenolith thermobarometry. *Journal of Geophysical Research: Solid Earth* 101, 8229-8244.
4. Ducea, M.N., Saleeby, J.B., 1998. The age and origin of a thick mafic-ultramafic keel from beneath the Sierra Nevada batholith. *Contributions to Mineralogy and Petrology* 133, 169-185.
5. Ducea, M., Saleeby, J., 1998. A case for delamination of the deep batholithic crust beneath the Sierra Nevada, California. *International Geology Review* 40, 78-93.

6. Ducea, M., Saleeby, J., 1998. Crustal recycling beneath continental arcs: silica-rich glass inclusions in ultramafic xenoliths from the Sierra Nevada, California. *Earth and Planetary Science Letters* 156, 101-116.
7. Gao, S., Ducea, M.N., Zhenmin, J., Saleeby, J., 1998. Lower crustal delamination and evolution of continental crust. *Geological Journal of China Universities* 4, 241-249.
8. Ducea, M.N., McInnes, B.I.A., Wyllie, P.J., 1999. Experimental determination of compositional dependence of hydrous silicate melts on sulfate solubility. *European Journal of Mineralogy-Ohne Beihefte* 11, 33-44.
9. Ducea, M., 1999. 1.57-Ga magmatism in the South Carpathians: implications for the pre-Alpine basement and evolution of the mantle under the European continent: a discussion. *The Journal of Geology* 107, 733-736.
10. Ducea, M.N., Park, S.K., 2000. Enhanced mantle conductivity from sulfide minerals, southern Sierra Nevada, California. *Geophysical Research Letters* 27, 2405-2408.
11. Ducea, M., 2001. The California arc: Thick granitic batholiths, eclogitic residues, lithospheric-scale thrusting, and magmatic flare-ups. *GSA today* 11, 4-10.
12. Ducea, M., Sen, G., Eiler, J., Fimbres, J., 2002. Melt depletion and subsequent metasomatism in the shallow mantle beneath Koolau volcano, Oahu (Hawaii). *Geochemistry, Geophysics, Geosystems* 3, doi:10.1029/2001GC000184.
13. Ducea, M.N., 2002. Constraints on the bulk composition and root foundering rates of continental arcs: A California arc perspective. *Journal of Geophysical Research: Solid Earth* 107, doi:10.1029/2001JB000643.
14. Ducea, M., House, M.A., Kidder, S., 2003. Late Cenozoic denudation and uplift rates in the Santa Lucia Mountains, California. *Geology* 31, 139-142.

15. Ducea, M.N., Kidder, S., Zandt, G., 2003. Arc composition at mid-crustal depths: Insights from the Coast Ridge Belt, Santa Lucia Mountains, California. *Geophysical Research Letters* 30, doi:10.1029/2002GL016297.
16. Ducea, M.N., Ganguly, J., Rosenberg, E.J., Patchett, P.J., Cheng, W., Isachsen, C., 2003. Sm–Nd dating of spatially controlled domains of garnet single crystals: a new method of high-temperature thermochronology. *Earth and Planetary Science Letters* 213, 31-42.
17. Ducea, M.N., Lutkov, V., Minaev, V.T., Hacker, B., Ratschbacher, L., Luffi, P., Schwab, M., Gehrels, G.E., McWilliams, M., Vervoort, J., 2003. Building the Pamirs: The view from the underside. *Geology* 31, 849-852.
18. Kidder, S., Ducea, M., Gehrels, G., Patchett, P.J., Vervoort, J., 2003. Tectonic and magmatic development of the Salinian Coast Ridge belt, California. *Tectonics* 22, doi:10.1029/2002TC001409.
19. Medaris Jr, G., Ducea, M., Ghent, E., Iancu, V., 2003. Conditions and timing of high-pressure Variscan metamorphism in the South Carpathians, Romania. *Lithos* 70, 141-161.
20. Park, S.K., Ducea, M.N., 2003. Can in situ measurements of mantle electrical conductivity be used to infer properties of partial melts? *Journal of Geophysical Research: Solid Earth* 108, doi:10.1029/2002JB001899.
21. Saleeby, J., Ducea, M., Clemens-Knott, D., 2003. Production and loss of high-density batholithic root, southern Sierra Nevada, California. *Tectonics* 22, doi:10.1029/2002TC001374.
22. Sen, G., Yang, H.-J., Ducea, M., 2003. Anomalous isotopes and trace element zoning in plagioclase peridotite xenoliths of Oahu (Hawaii): implications for the Hawaiian plume. *Earth and Planetary Science Letters* 207, 23-38.
23. Ducea, M.N., Gehrels, G.E., Shoemaker, S., Ruiz, J., Valencia, V.A., 2004. Geologic evolution of the Xolapa Complex, southern Mexico: Evidence from U-Pb zircon geochronology. *Geological Society of America Bulletin* 116, 1016-1025.

24. Ducea, M.N., Valencia, V.A., Shoemaker, S., Reinders, P.W., DeCelles, P.G., Campa, M.F., Moran-Zenteno, D., Ruiz, J., 2004. Geodesy and Gravity/Tectonophysics-B09404-Rates of sediment recycling beneath the Acapulco trench: Constraints from (U-Th)/He thermochronology. *Journal of Geophysical Research-Part B-Solid Earth* 109, doi:10.1029/2004JB003112.
25. Zandt, G., Gilbert, H., Owens, T.J., Ducea, M., Saleeby, J., Jones, C.H., 2004. Active foundering of a continental arc root beneath the southern Sierra Nevada in California. *Nature* 431, 41-46.
26. Barbeau Jr, D.L., Ducea, M.N., Gehrels, G.E., Kidder, S., Wetmore, P.H., Saleeby, J.B., 2005. U-Pb detrital-zircon geochronology of northern Salinian basement and cover rocks. *Geological Society of America Bulletin* 117, 466-481.
27. Ducea, M.N., Saleeby, J., Morrison, J., Valencia, V.A., 2005. Subducted carbonates, metasomatism of mantle wedges, and possible connections to diamond formation: an example from California. *American Mineralogist* 90, 864-870.
28. Hacker, B., Luffi, P., Lutkov, V., Minaev, V., Ratschbacher, L., Plank, T., Ducea, M., Patiño-Douce, A., McWilliams, M., Metcalf, J.I.M., 2005. Near-ultrahigh pressure processing of continental crust: Miocene crustal xenoliths from the Pamir. *Journal of Petrology* 46, 1661-1687.
29. Root, D.B., Hacker, B.R., Gans, P.B., Ducea, M.N., Eide, E.A., Mosenfelder, J.L., 2005. Discrete ultrahigh-pressure domains in the Western Gneiss Region, Norway: implications for formation and exhumation. *Journal of Metamorphic Geology* 23, 45-61.
30. Valencia, V.A., Ruiz, J., Barra, F., Geherls, G., Ducea, M., Titley, S.R., Ochoa-Landín, L., 2005. U-Pb zircon and Re-Os molybdenite geochronology from La Caridad porphyry copper deposit: insights for the duration of magmatism and mineralization in the Nacozari District, Sonora, Mexico. *Mineralium Deposita* 40, 175-191.
31. Zeng, L., Saleeby, J.B., Ducea, M., 2005. Geochemical characteristics of crustal anatexis during the formation of migmatite at the Southern Sierra Nevada, California. *Contributions to Mineralogy and Petrology* 150, 386-402.

32. Brady, R.J., Ducea, M.N., Kidder, S.B., Saleeby, J.B., 2006. The distribution of radiogenic heat production as a function of depth in the Sierra Nevada Batholith, California. *Lithos* 86, 229-244.
33. Cecil, M.R., Ducea, M.N., Reiners, P.W., Chase, C.G., 2006. Cenozoic exhumation of the northern Sierra Nevada, California, from (U-Th)/He thermochronology. *Geological Society of America Bulletin* 118, 1481-1488.
34. Ducea, M.N., Gehrels, G.E., Shoemaker, S., Ruiz, J., Valencia, V.A., 2006. Geologic evolution of the Xolapa Complex, southern Mexico: Evidence from U-Pb zircon geochronology: Reply. *Geological Society of America Bulletin* 118, 766-767.
35. Kidder, S., Ducea, M.N., 2006. High temperatures and inverted metamorphism in the schist of Sierra de Salinas, California. *Earth and Planetary Science Letters* 241, 422-437.
36. Wagner, L.S., Beck, S., Zandt, G., Ducea, M.N., 2006. Depleted lithosphere, cold, trapped asthenosphere, and frozen melt puddles above the flat slab in central Chile and Argentina. *Earth and Planetary Science Letters* 245, 289-301.
37. Ducea, M.N., Barton, M.D., 2007. Igniting flare-up events in Cordilleran arcs. *Geology* 35, 1047-1050.
38. Horodyskyj, U.N., Lee, C.-T.A., Ducea, M.N., 2007. Similarities between Archean high MgO eclogites and Phanerozoic arc-eclogite cumulates and the role of arcs in Archean continent formation. *Earth and Planetary Science Letters* 256, 510-520.
39. Johnston, S., Hacker, B.R., Ducea, M.N., 2007. Exhumation of ultrahigh-pressure rocks beneath the Hornelen segment of the Nordfjord-Sogn Detachment Zone, western Norway. *Geological Society of America Bulletin* 119, 1232-1248.
40. Blondes, M.S., Reiners, P.W., Ducea, M.N., Singer, B.S., Chesley, J., 2008. Temporal-compositional trends over short and long time-scales in basalts of the Big Pine Volcanic Field, California. *Earth and Planetary Science Letters* 269, 140-154.

41. McQuarrie, N., Robinson, D., Long, S., Tobgay, T., Grujic, D., Gehrels, G., Ducea, M., 2008. Preliminary stratigraphic and structural architecture of Bhutan: Implications for the along strike architecture of the Himalayan system. *Earth and Planetary Science Letters* 272, 105-117.
42. Ali, G.A.H., Reiners, P.W., Ducea, M.N., 2009. Unroofing history of Alabama and Poverty Hills basement blocks, Owens Valley, California, from apatite (U–Th)/He thermochronology. *International Geology Review* 51, 1034-1050.
43. Balintoni, I., Balica, C., Ducea, M.N., Chen, F., Hann, H.P., Şabliovschi, V., 2009. Late Cambrian–Early Ordovician Gondwanan terranes in the Romanian Carpathians: a zircon U–Pb provenance study. *Gondwana Research* 16, 119-133.
44. DeCelles, P.G., Ducea, M.N., Kapp, P., Zandt, G., 2009. Cyclicity in Cordilleran orogenic systems. *Nature Geoscience* 2, 251-257.
45. Drew, S.T., Ducea, M.N., Schoenbohm, L.M., 2009. Mafic volcanism on the Puna Plateau, NW Argentina: Implications for lithospheric composition and evolution with an emphasis on lithospheric foundering. *Lithosphere* 1, 305-318.
46. Ducea, M.N., Kidder, S., Chesley, J.T., Saleeby, J.B., 2009. Tectonic underplating of trench sediments beneath magmatic arcs: The central California example. *International Geology Review* 51, 1-26.
47. Gehrels, G., Rusmore, M., Woodsworth, G., Crawford, M., Andronicos, C., Hollister, L., Patchett, J., Ducea, M., Butler, R., Klepeis, K., 2009. U–Th–Pb geochronology of the Coast Mountains batholith in north-coastal British Columbia: Constraints on age and tectonic evolution. *Geological Society of America Bulletin* 121, 1341-1361.
48. Luffi, P., Saleeby, J.B., Lee, C.T.A., Ducea, M.N., 2009. Lithospheric mantle duplex beneath the central Mojave Desert revealed by xenoliths from Dish Hill, California. *Journal of Geophysical Research: Solid Earth* 114, doi:10.1029/2008JB005906.
49. Otamendi, J.E., Ducea, M.N., Tibaldi, A.M., Bergantz, G.W., de la Rosa, J.D., Vujovich, G.I., 2009. Generation of tonalitic and dioritic magmas by coupled partial melting of

gabbroic and metasedimentary rocks within the deep crust of the Famatinian magmatic arc, Argentina. *Journal of Petrology* 50, 841-873.

50. Valencia, V.A., Ducea, M., Talavera-Mendoza, O., Gehrels, G., Ruiz, J., Shoemaker, S., 2009. Geocronología U-Pb de granitoides del límite noroeste del terreno Xolapa. *Revista Mexicana de ciencias geológicas* 26, 189-200.

51. Balintoni, I., Balica, C., Ducea, M.N., Hann, H.P., Şabliovschi, V., 2010. The anatomy of a Gondwanan terrane: the Neoproterozoic–Ordovician basement of the pre-Alpine Sebeş–Lotru composite terrane (South Carpathians, Romania). *Gondwana Research* 17, 561-572.

52. Balintoni, I., Balica, C., Ducea, M.N., Zaharia, L., Chen, F., Cliveţi, M., Hann, H.P., Li, L.-Q., Ghergari, L., 2010. Late Cambrian–Ordovician northeastern Gondwanan terranes in the basement of the Apuseni Mountains, Romania. *Journal of the Geological Society* 167, 1131-1145.

53. Balintoni, I., Balica, C., Seghedi, A., Ducea, M.N., 2010. Avalonian and Cadomian terranes in north Dobrogea, Romania. *Precambrian Research* 182, 217-229.

54. Cecil M.R., Ducea, M.N., Reiners, P., Gehrels, G., Mulch, A., Allen, C., Campbell, I., 2010. Provenance of Eocene river sediments from the central northern Sierra Nevada and implications for paleotopography. *Tectonics* 29, doi:10.1029/2010TC002717.

55. Calkins, J.A., Zandt, G., Girardi, J., Dueker, K., Gehrels, G.E., Ducea, M.N., 2010. Characterization of the crust of the Coast Mountains Batholith, British Columbia, from P to S converted seismic waves and petrologic modeling. *Earth and Planetary Science Letters* 289, 145-155.

56. Chapman, A.D., Kidder, S., Saleeby, J.B., Ducea, M.N., 2010. Role of extrusion of the Rand and Sierra de Salinas schists in Late Cretaceous extension and rotation of the southern Sierra Nevada and vicinity. *Tectonics* 29, doi:10.1029/2009TC002597.

57. Ducea, M.N., Otamendi, J.E., Bergantz, G., Stair, K.M., Valencia, V.A., Gehrels, G.E., 2010. Timing constraints on building an intermediate plutonic arc crustal section: U-Pb

zircon geochronology of the Sierra Valle Fértil–La Huerta, Famatinian arc, Argentina. *Tectonics* 29, doi:10.1029/2009TC002615.

58. Manthei, C.D., Ducea, M.N., Girardi, J.D., Patchett, P.J., Gehrels, G.E., 2010. Isotopic and geochemical evidence for a recent transition in mantle chemistry beneath the western Canadian Cordillera. *Journal of Geophysical Research: Solid Earth* 115, doi:10.1029/2009JB00656.

59. Tobgay, T., Long, S., McQuarrie, N., Ducea, M.N., Gehrels, G., 2010. Using isotopic and chronologic data to fingerprint strata: Challenges and benefits of variable sources to tectonic interpretations, the Paro Formation, Bhutan Himalaya. *Tectonics* 29, doi:10.1029/2009TC002637.

60. Balintoni, I., Balica, C., Ducea, M.N., Stremțan, C., 2011. Peri-Amazonian, Avalonian-type and Ganderian-type terranes in the South Carpathians, Romania: the Danubian domain basement. *Gondwana Research* 19, 945-957.

61. Cardona, A., Valencia, V.A., Bayona, G., Duque, J., Ducea, M., Gehrels, G., Jaramillo, C., Montes, C., Ojeda, G., Ruiz, J., 2011. Early-subduction-related orogeny in the northern Andes: Turonian to Eocene magmatic and provenance record in the Santa Marta Massif and Rancheria Basin, northern Colombia. *Terra Nova* 23, 26-34.

62. Cecil, M.R., Ducea, M.N., 2011. K–Ca ages of authigenic sediments: examples from Paleozoic glauconite and applications to low-temperature thermochronometry. *International Journal of Earth Sciences* 100, 1783-1790.

63. Cecil, M.R., Gehrels, G., Ducea, M.N., Patchett, P.J., 2011. U–Pb–Hf characterization of the central Coast Mountains batholith: Implications for petrogenesis and crustal architecture. *Lithosphere* 3, 247-260.

64. Ducea, M.N., 2011. Fingerprinting orogenic delamination. *Geology* 39, 191-192.

65. González-León, C.M., Solari, L., Solé, J., Ducea, M.N., Lawton, T.F., Bernal, J.P., Becuar, E.G., Gray, F., Martínez, M.L., Santacruz, R.L., 2011. Stratigraphy, geochronology, and geochemistry of the Laramide magmatic arc in north-central Sonora, Mexico. *Geosphere* 7, 1392-1418.

66. Martin, A.J., Ducea, M.N., 2011. Pre-Cenozoic peak metamorphism and deformation of Lesser Himalayan rocks in Nepal. *Journal of Himalayan Earth Sciences* 44, 1-30.

67. Wetmore, P.H., Ducea, M.N., 2011. Geochemical evidence of a near-surface history for source rocks of the central Coast Mountains Batholith, British Columbia. *International Geology Review* 53, 230-260.

68. Cecil, M.R., Rotberg, G.L., Ducea, M.N., Saleeby, J.B., Gehrels, G.E., 2012. Magmatic growth and batholithic root development in the northern Sierra Nevada, California. *Geosphere* 8, 592-606.

69. Chapman, A.D., Saleeby, J.B., Wood, D.J., Piasecki, A., Kidder, S., Ducea, M.N., Farley, K.A., 2012. Late Cretaceous gravitational collapse of the southern Sierra Nevada batholith, California. *Geosphere* 8, 314-341.

70. Cristofolini, E.A., Otamendi, J.E., Ducea, M.N., Pearson, D.M., Tibaldi, A.M., Baliani, I., 2012. Detrital zircon U–Pb ages of metasedimentary rocks from Sierra de Valle Fértil: Entrapment of Middle and Late Cambrian marine successions in the deep roots of the Early Ordovician Famatinian arc. *Journal of South American Earth Sciences* 37, 77-94.

71. Economos, R.C., Paterson, S.R., Said, L.O., Ducea, M.N., Anderson, J.L., Padilla, A.J., 2012. Gobi-Tianshan connections: field observations and isotopes from an early Permian arc complex in southern Mongolia. *Geological Society of America Bulletin* 124, 1688-1701.

72. Girardi, J.D., Patchett, P.J., Ducea, M.N., Gehrels, G.E., Cecil, M.R., Rusmore, M.E., Woodsworth, G.J., Pearson, D.M., Manthei, C., Wetmore, P., 2012. Elemental and isotopic evidence for granitoid genesis from deep-seated sources in the Coast Mountains Batholith, British Columbia. *Journal of Petrology* 53, 1505-1536.

73. Otamendi, J.E., Ducea, M.N., Bergantz, G.W., 2012. Geological, petrological and geochemical evidence for progressive construction of an arc crustal section, Sierra de Valle Fértil, Famatinian Arc, Argentina. *Journal of Petrology* 53, 761-800.

74. Robinson, A.C., Ducea, M., Lapen, T.J., 2012. Detrital zircon and isotopic constraints on the crustal architecture and tectonic evolution of the northeastern Pamir. *Tectonics* 31, doi:10.1029/2011TC003013.
75. Pearson, D.M., Kapp, P., Reiners, P.W., Gehrels, G.E., Ducea, M.N., Pullen, A., Otamendi, J.E., Alonso, R.N., 2012. Major Miocene exhumation by fault-propagation folding within a metamorphosed, early Paleozoic thrust belt: Northwestern Argentina. *Tectonics* 31, doi:10.1029/2011TC003043.
76. Conroy, J.L., Overpeck, J.T., Cole, J.E., Liu, K.-B., Wang, L., Ducea, M.N., 2013. Dust and temperature influences on glaciofluvial sediment deposition in southwestern Tibet during the last millennium. *Global and Planetary Change* 107, 132-144.
77. Ducea, M.N., Seclaman, A.C., Murray, K.E., Jianu, D., Schoenbohm, L.M., 2013. Mantle-drip magmatism beneath the Altiplano-Puna plateau, central Andes. *Geology* 41, 915-918.
78. Kidder, S.B., Herman, F., Saleeby, J., Avouac, J.-P., Ducea, M.N., Chapman, A., 2013. Shear heating not a cause of inverted metamorphism. *Geology* 41, 899-902.
79. McQuarrie, N., Long, S.P., Tobgay, T., Nesbit, J.N., Gehrels, G., Ducea, M.N., 2013. Documenting basin scale, geometry and provenance through detrital geochemical data: Lessons from the Neoproterozoic to Ordovician Lesser, Greater, and Tethyan Himalayan strata of Bhutan. *Gondwana Research* 23, 1491-1510.
80. Pearson, D.M., Kapp, P., DeCelles, P.G., Reiners, P.W., Gehrels, G.E., Ducea, M.N., Pullen, A., 2013. Influence of pre-Andean crustal structure on Cenozoic thrust belt kinematics and shortening magnitude: Northwestern Argentina. *Geosphere* 9, 1766-1782.
81. Rossel, P., Oliveros, V., Ducea, M.N., Charrier, R., Scaillet, S., Retamal, L., Figueroa, O., 2013. The Early Andean subduction system as an analog to island arcs: Evidence from across-arc geochemical variations in northern Chile. *Lithos* 179, 211-230.

82. Toljić, M., Matenco, L., Ducea, M.N., Stojadinović, U., Milivojević, J., Đerić, N., 2013. The evolution of a key segment in the Europe–Adria collision: The Fruška Gora of northern Serbia. *Global and Planetary Change* 103, 39-62.
83. Balintoni, I., Balica, C., Ducea, M.N., Hann, H.-P., 2014. Peri-Gondwanan terranes in the Romanian Carpathians: A review of their spatial distribution, origin, provenance, and evolution. *Geoscience Frontiers* 5, 395-411.
84. Chapman, A. D., Ducea, M. N., Kidder, S., and Petrescu, L., 2014, Geochemical constraints on the petrogenesis of the Salinian arc, central California: Implications for the origin of intermediate magmas: *Lithos*, v. 200, p. 126-141.
85. Molofsky, L.J., Killick, D., Ducea, M.N., Macovei, M., Chesley, J.T., Ruiz, J., Thibodeau, A., Popescu, G.C., 2014. A novel approach to lead isotope provenance studies of tin and bronze: applications to South African, Botswanan and Romanian artifacts. *Journal of Archaeological Science* 50, 440-450.
86. Putirka, K.D., Canchola, J., Rash, J., Smith, O., Torrez, G., Paterson, S.R., Ducea, M.N., 2014. Pluton assembly and the genesis of granitic magmas: Insights from the GIC pluton in cross section, Sierra Nevada Batholith, California. *American Mineralogist* 99, 1284-1303.
87. Rossel, P., Oliveros, V., Mescua, J., Tapia, F., Ducea, M.N., Calderón, S., Charrier, R., Hoffman, D., 2014. The Upper Jurassic volcanism of the Río Damas-Tordillo Formation (33-35.5 S): Insights on petrogenesis, chronology, provenance and tectonic implications. *Andean Geology* 41, 529-557.
88. Zhang, L.-Y., Ducea, M.N., Ding, L., Pullen, A., Kapp, P., Hoffman, D., 2014. Southern Tibetan Oligocene–Miocene adakites: A record of Indian slab tearing. *Lithos* 210, 209-223.
89. Zhang, L.-Y., Ding, L., Pullen, A., Xu, Q., Liu, D.-L., Cai, F.-L., Yue, Y.-H., Lai, Q.-Z., Shi, R.-D., Ducea, M.N., 2014. Age and geochemistry of western Hoh-Xil–Songpan-Ganzi granitoids, northern Tibet: Implications for the Mesozoic closure of the Paleo-Tethys Ocean. *Lithos* 190, 328-348.

90. Chapman, J.B., Ducea, M.N., DeCelles, P.G., Profeta, L., 2015. Tracking changes in crustal thickness during orogenic evolution with Sr/Y: An example from the North American Cordillera. *Geology* 43, 919-922.
91. Chapman, A.D., Ducea, M.N., McQuarrie, N., Coble, M., Petrescu, L., Hoffman, D., 2015. Constraints on plateau architecture and assembly from deep crustal xenoliths, northern Altiplano (SE Peru). *Geological Society of America Bulletin* 127, 1777-1797.
92. Ducea, M.N., Paterson, S.R., DeCelles, P.G., 2015. High-volume magmatic events in subduction systems. *Elements* 11, 99-104.
93. Ducea, M.N., Saleeby, J.B., Bergantz, G., 2015. The architecture, chemistry, and evolution of continental magmatic arcs. *Annual Review of Earth and Planetary Sciences* 43, 299-331.
94. Gelder, I.E., Matenco, L., Willingshofer, E., Tomljenović, B., Andriessen, P.A.M., Ducea, M.N., Beniest, A., Gruić, A., 2015. The tectonic evolution of a critical segment of the Dinarides-Alps connection: Kinematic and geochronological inferences from the Medvednica Mountains, NE Croatia. *Tectonics* 34, 1952-1978.
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Human Learning Approach: A Case Study of the Link between Climate and Volcanism.
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202. Hu, Fangyang and Jiang, Hehe and Wan, Bo and Ducea, Mihai N and Gao, Lei and Wu, Fu-Yuan. 2024. "Latitude-dependent oxygen fugacity in arc magmas." *Nature Communications* 15 (1): 6050.
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204. Styllas, Michael and Pennos, Christos and Persoiu, Aurel and Godelitsas, Athanasios and Papadopoulou, Lambrini and Aidona, Elina and Kantiranis, Nikolaos and Ducea, Mihai N and Ghilardi, Matthieu and Demory, Francois. 2024 . "Aeolian dust

accretion outpaces erosion in the formation of Mediterranean alpine soils. New evidence from the periglacial zone of Mount Olympus, Greece." *Earth Surface Processes and Landforms* 48 (14): 3003--3021.

205. Sundell, Kurt E and Laskowski, Andrew K and Howlett, Caden and Kapp, Paul and Ducea, Mihai and Chapman, James B and Ding, Lin. 2024 . "Episodic Late Cretaceous to Neogene crustal thickness variation in southern Tibet." *Terra Nova* 36 (1): 45--52.

CHAPTERS IN BOOKS/BOOKS/MONOGRAPHS

1. Ducea, M.N., and Saleeby, J.B., 1998, A case of delamination of the deep batholithic crust beneath the Sierra Nevada, California, in Ernst, W.G. and Nelson, C.A. (editors), *Integrated Earth and Environmental Evolution of the Southwestern United States*, p. 273-288.

2. Dickinson, W.R., Ducea, M.N., Rosenberg, L., Greene H.G., Graham, S., Clark, J., Weber, G.E., Kidder, S., Ernst, W.G., 2005, Tectonic relations and net dextral slip, late Neogene San Gregorio-Hosgri fault zone, coastal California, *GSA Special Paper*, v. 391, 43 pages.

3. Saleeby, J.B., Ducea, M.N., Busby, C.J., Nadin, E.S., and Wetmore, P.H., 2008 *Chronology of pluton emplacement and regional deformation in the southern Sierra Nevada Batholith, California: Geological Society of America, Special Paper*, v. 438 doi: 10.1130/2008.2438 (14), 397-427.

4. Ducea, M.N., Kayzar, T., and Wetmore, P., 2010, High Precision $^{87}\text{Sr}/^{86}\text{Sr}$ Analyses Using Multi Collector ICP-MS, in *Mineralogy and Geodiversity*, Anastasiu, N. (editor), *Romanian Academy of Sciences Special Volume*, p. 151-160.

5. Wetmore, P.H., Hughes, S., Stremtam, C., Ducea, M.N., 2014, The tectonic implications of post-contractonal magmatism of the Alisitos arc segment of the Peninsular Ranges, Baja California, Mexico, *Geological Society of America Special Paper*, v. 211, p. 669-690.

6. Becker, T., Summa, L., and Ducea, M.N., 2015, Temporal growth of the Puna plateau and its bearing on the formation of the Metan foreland basin, northwest Argentina, in DeCelles, P.G., Ducea, M.N., Carrapa B., and Kapp, P., (editors), "Geodynamics of a Cordilleran Orogenic System: The Central Andes of Argentina and Northern Chile", *Geological Society of America Memoir*, v. 212, p. 407-434.

7. Ducea, M.N., Otamendi, J., Bergantz G.W., Jianu. D., Petrescu, L., 2015, Constraints on the origin of the Ordovician Famatinian-Puna Arc, in DeCelles, P.G., Ducea, M.N., Carrapa B., and Kapp, P., (editors), "Geodynamics of a Cordilleran Orogenic System: The Central Andes of Argentina and Northern Chile", Geological Society of America Memoir, vol. 212, p. 125-139.

8. Murray, K.E., Ducea, M.N., Schoenbohm, L., 2015, Mafic lavas on the Puna plateau sample the diverse lithospheric architecture of the long-lived central Andean orogeny, in DeCelles, P.G., Ducea, M.N., Carrapa B., and Kapp, P., (editors), "Geodynamics of a Cordilleran Orogenic System: The Central Andes of Argentina and Northern Chile", Geological Society of America Memoir, v. 212, p. 139-166.

9. De Celles, P.G., Zandt, G., Beck, S.L., Currie, C., Ducea, M.N., Carrapa, B., Reiners, P.W., Quade, J., Kapp, P., and Gehrels, G.E., 2015, Cyclical Orogenic Processes in the Central Andes, in DeCelles, P.G., Ducea, M.N., Carrapa B., and Kapp, P. (editors), "Geodynamics of a Cordilleran Orogenic System: The Central Andes of Argentina and Northern Chile", Geological Society of America Memoir, v. 212, p. 459-490.

10. Currie, C., Ducea, M.N., and DeCelles, P.G., 2015, Geodynamic models of Cordilleran orogens: Gravitational instability of magmatic arc roots, in DeCelles, P.G., Ducea, M.N., Carrapa B., and Kapp, P. (editors), "Geodynamics of a Cordilleran Orogenic System: The Central Andes of Argentina and Northern Chile", Geological Society of America Memoir, 212, p. 1-22.

FUNDING (FEDERAL AND PRIVATE COMPETITIVE)

Carbonate Subduction in the Mantle, NSF Petrology, 08/24-07/2027

Collaborative Research: TransANdean Great Orogeny (TANGO), NSF multiple sources, 08/20-07/2024

Rare earth elements tracing crustal evolution through time: a detrital zircon study - NSF-Tectonics; 07/01/17-6/30/21.

Constraints on Plateau Architecture and Assembly from Deep Crustal Xenoliths, Northern Altiplano (Southern Peru), Program: NSF Petrology-Geochemistry, 07/01/15-6/30/17.

Food forensics, a Sr and Pb isotopic study of cocoa, Mars Corporation Funding (2015-2018)

Crustal Overturn in Continental Margin Arcs During Magmatic Surges NSF Tectonics, 06/01/2011-5/31/2014

Collaborative Research: The suturing process: Insight from the India-Asia collision zone NSF Continental Dynamics, University of Arizona, 04/01/11 – 03/30/15

Isotopic techniques constrain the evolution of oil genesis in carbonate reservoirs, Chevron Energy Technology (2010-2015)

Evolution of the Andes, EXXON-MOBIL, Center for Orogenic System Analyses (COSA) grant Phase 2, 8/2010-7/2013

In Pursuit of missing Andean Lithosphere: constraining Late Cenozoic crust-mantle process in the Puna Plateau, central Andes NSF Tectonics, 9/1/09 – 8/31/12

Collaborative Research: CAUGHT: Central Andean Uplift and the Geodynamics of High Topography NSF Continental Dynamics, 6/1/09 – 5/31/13

Evolution of the Andes, EXXON-MOBIL Center for Orogenic System Analyses (COSA) grant, Phase 1 9/2007–8/2010

Collaborative Research: Lithospheric removal: The Sierra Nevada as the prototype of a fundamental process in mountain building NSF Continental Dynamics, 6/1/06 – 5/31/10

Facility Support: Completing the Western North American Volcanic and Intrusive Rock Database (NAVDAT) NSF Instrumentation-Facilities, Facilities support, 9/1/06- 8/31/08

K-Ca Geochronology; New Analytical Developments Using Multicollector ICP-MS And Geologic Applications, American Chemical Society, Petroleum Research Fund, 9/2006- 8/2009

Collaborative Research: BATHOLITHS: Generation and evolution of crust in continental magmatic arcs National Science Foundation (Continental Dynamics Program), 1/04-1/09

Igniting Continental Arcs; A Petrologic Study Of Peridotites And Mafic Rocks From The Coast Ridge Belt, Santa Lucia Mountains (California), National Science Foundation (Petrology- Geochemistry Program), 01/2003-12/2005

Acquisition of micromill and the development of a micro-sampling facility National Science Foundation (Instrumentation and Facilities Program), 01/2002-12/ 2002

In-Situ U-Pb Age Determinations Using Multiple-Collector ICP Mass Spectrometry: Further Technique Developments And A Tectonic Application, American Chemical Society, Petroleum Research Fund, 9/2002-8/2004

Testing the degree of correspondence between surface tectonic features and upper mantle structure and composition by study of volcanic-hosted xenoliths in the southwestern Cordillera National Science Foundation (Tectonics Program), 01/ 2001-12/2002

Sm-Nd thermochronology of garnets in metamorphic rocks: A new method and tectonic applications, National Science Foundation (Petrology Program), 01/2001-12/2002

Collaborative Research: Laboratory and field studies linking electrical anisotropy and deformation in the mantle National Science Foundation (Geophysics Program), 9/2000-8/2001

A thermobarometric study of deep-crustal rocks from southwest Mexico University of Arizona, 12/ 2000-12/ 2001

A list of grants obtained in Romania is available upon request

FELLOWSHIPS AND AWARDS

Koons Graduate Fellowship, Caltech, 1997-1998

Dida Fellow, China University of Geosciences, Wuhan 2016-2019

Fulbright Scholar, 2017-2018

Geological Society of America Fellow, 2016

Member of the Romanian Academy of Sciences, 2021-

AGU Fellow 2024

Member Academia Europea. (MAE) 2025

INVITED PRESENTATIONS (RECENT YEARS)

Ecole Normale Superior Lyon, Oregon State University, Istanbul Technical University, Stanford University, China University of Geosciences Wuhan, China University of Geosciences Beijing, University of Oslo, Babes Bolyai University of Cluj Napoca, University of Bucharest, University of Liege, University of Brussels, University of Leicester, Keynote talk GSA Phoenix 2019, Keynote Speaker GSA Indianapolis 2018

TEACHING

Graduate courses at U Arizona

Geochronology and Thermochronology

Tectonic Petrology

Regional Tectonics

Subduction zone magmatism

Chemical Evolution of the Earth

Hot Spots and mantle plumes

Alpine and Carpathian geology

Undergraduate courses at U Arizona

Field Camp

Undergraduate Petrology

Structural Geology

Physical Geology

Courses elsewhere

Tectonic Petrology, Geochemistry, Field camp (Bucharest)

Regional Tectonics (Wuhan)
Petrochronology (Wuhan)
Geochronology (Bucharest)
Topics in Geochronology (OMV Petrom Corporation, Chevron)
Subduction magmatism (Concepcion, Chile)

ADVISING

POSTDOCTORAL SCHOLARS

Alan Chapman
Antoine Triantafyllou
Paul Wetmore
Costi Balica
Yunchuzn Zeng
Lying Zhang
Jingliang Guo
Alex Robinson
Gelu Costin

GRADUATE STUDENTS (SOME CO-ADVISED)

Emilie Bowman
Anca Barla
Robinson Cecil
Jay Chapman
Kendra Murray
David Pearson
Fangyang Hu
Lucia Profeta
Christian Manthei

Steve Kidder
Peter Luffi
Mihai Vlasceanu
Sarah Shoemaker
Kelley Stair
Gabriel Rotberg
James Girardi
Fuhao Xiong
Mihai Ignatescu
Andrei Stoian
Filip Florea
Maria Parlea
Sofia Peltzer Conti

UNDERGRADUATE STUDENTS

Theresa Kayzar
Erin Rosenberg
Jordan Krcmacic
Guled Ali
Derek Hofman
Pamela Doig
Dariana Chivulescu
Denisa Bunea
Vladimir Donetcki

PROFESSIONAL SERVICE AT U ARIZONA

I served or am serving, as well as chaired several committees at U Arizona (2021-present). An incomplete list of committees I served on:

Graduate Policy, Promotion and Tenure, Field Camp, Graduate Admission, Performance Evaluation, College of Science Promotion and Tenure

Hiring Committees: Lowell Economic Geology (2002, 2022) Tectonics (2021) Thermochronology (2006) Geophysics (2005) Gem Science (2019) Petrochronology (2020).

SERVICE AND OUTREACH OUTSIDE U ARIZONA

Worked with National Association of Geosciences Teachers (field trips, mini courses) (2008-2012)

Co- development of NSF Earthscope's GEOFRAME initiative (2012- 2014)

Organized and chaired several GSA, AGU and Goldschmidt topical sessions to highlight new avenues in Petrology and Tectonics research (2020-2021)

Publication committee at GSA (2018-2021)

Co-Edited a GSA Memoir volume: DeCelles, P.G., Ducea, M.N., Carrapa B., and Kapp, P. (editors), "Geodynamics of a Cordilleran Orogenic System: The Central Andes of Argentina and Northern Chile", Geological Society of America Memoir, 2015.

Co-Edited volume on "Tethysides in Central and Eastern Europe", with Celal Sengor, Hans Thybo and Oguz Goguz, 2021, Tectonics.

Director (Pro-bono) of the Earth Science Division of the Research Institute of the University of Bucharest; iCUB, 2020-present

National Science Foundation Panelist (GEOPRISMS, Petrology, Tectonics) 2008-2018 (at different times)

Finalist of NSF Idea Machine competition for developing new programs at NSF (With collaborators Barbara Carrapa and Mihai Surdeanu, U Arizona), with an Artificial Intelligence in Geoscience project, 2019.

Major community service efforts are currently focused on giving talk on the nature and significance of Earth Sciences to high-schools in Arizona and Romania (2018-present)

International Division Committee Member at Geological Society of America, 2022-present.

In Romania

- National Geologic Council member, Romanian Academy (2021-)
- CNATDCU Earth Science Committee member (2011-2015; 2012-2024)
- Member of doctoral School committee University of Bucharest
- Member of the Scientific Council of the Romanian Academy of Sciences (2021-)
- Member of the Committee of Doctoral School of the Geo Doctoral School at UBB Cluj (2018-)
- Member Consiliul Profesorat UB Facultatea de Geologie si Geofizica (2023-)
- Natural Resources Council (Romanian academy and ANRMPSG) 2025-
- Romanian Academy member of the Awards for School Students Committee

2022-

- Chairing panels of Life Earth and Environmental Sciences (ICUB, 2023-)

EDITORIAL SERVICE

Chief Editor GSA Bulletin, 2022-2025,

second term 2026-2030

Chief Editor GSA Today 2018-2021

Associate Editor, Tectonics, 2000-2003, 2018-2021

Associate Editor International Geology Review, 2016- present

PEER REVIEW

I am providing countless reviews for journals and funding agencies throughout the world (USA, China, Hong Kong, Poland, Ukraine, Chile, Argentina, Romania, Austria, Switzerland, UK, Canada).

620 manuscripts reviewed over the time period 2020-2024. About 155

proposals reviewed over the time period 2020-2023.

Reviewed by Mihai Ducea, on 9/10/25



