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Curriculum Vitae

Personal Data

Date of birth: 8/28/44
Married, one child

Education

University of California, Santa Barbara B. A. 1966
University of California, Santa Barbara Ph.D. 1970

Area of Specialization

Zircon U-Pb systematics, U-Pb geochronology applied to problems in igneous and metamorphic petrology.

Professional Experience

Summer 1967	Field assistant, USGS, research drilling project, Yellowstone National Park: geologic mapping, geochemical sampling, and core logging.
Summer 1968	Associate in Geology, UCSB summer field camp: mapping techniques geologist, USGS, geologic mapping of igneous and metamorphic rocks, Inyo Mtns., California
1969-1970	Associate in Geology (1/2 time), UCSB: organization and supervision of physical geology lab program
1970-1973	Postdoctoral Fellow, Geophysical Laboratory, Carnegie Institution of Washington
1973-1976	Lecturer in Geology, UCSB
1976-1977	Assistant Research Geologist, UCSB: isotopic Pb systematics in Mare basalts.
1977-1980	Assistant Professor of Geology, UCSB

1980-1987 Associate Professor of Geology, UCSB

1987-present Professor of Geology, UCSB

1991-1994 Chairman, Department of Geological Sciences, UCSB

2003-2005 Chairman, Department of Geological Sciences. UCSB

2005-present Chairman, Department of Earth Science, UCSB (name change, same Dept.)

Professional Organizations

Geological Society of America (Fellow)
American Geophysical Union
Geochemical Society

A. CUMULATIVE LIST OF PUBLICATIONS (reviewed journal articles except as noted) - James M. Mattinson

1968

1 Fisher, R. V. and Mattinson, J. M., 1968, Wheeler Gorge turbidite-conglomerate series, California; inverse grading. Jour. Sedimentary Petrology, v. 38, p. 1013-1023.

1970

2 Mattinson, J. M. and Fisher, R. V., 1970, Impossibility of Bernoulli pressure forces on particles suspended in boundary layers: reply. Jour. Sedimentary Petrology, v. 40, p. 520-521.

1971

3 Mattinson, J. M., 1971, Preparation of Ultrapure HF, HC1, and HNO_3. Carnegie Institution of Washington Yearbook 70, p. 266-268.

4 Sinha, A. K., Mattinson, J. M. and Hart, S. R., 1971, Archean volcanics. Carnegie Institution of Washington Yearbook 70, p. 355-358.

5 Mattinson, J. M., Davis, T. E. and Hopson, C. A., 1971, U-Pb studies in the Salinian block of California. Carnegie Institution of Washington Yearbook 70, p. 248-251.

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6 Mattinson, J. M., 1972, Preparation of hydrofluoric, hydrochloric, and nitric acids at ultralow lead levels. Analytical Chemistry, v. 44, p. 1715-1716.

7 Mattinson, J. M., 1972, Ages of zircons from the Northern Cascade Mountains, Washington. Geol. Soc. Amer. Bull., v. 83, p. 3769-3784.

8 Mattinson, J. M., 1972, Jurassic metamorphism of basement gneisses near Mount Rainier, Washington. Carnegie Institution of Washington Yearbook 71, p. 576-578.

9 Mattinson, J. M. and Hopson, C. A., 1972, Paleozoic ophiolitic complexes in Washington and Northern California. Carnegie Institution of Washington Yearbook 71, p. 578-583.

10 Mattinson, J. M., Hopson, C. A. and Davis, T. E., 1972, U-Pb studies of plutonic rocks of the Salinian Block, California. Carnegie Institution of Washington Yearbook 71, p. 571-576.

11 Hofmann, A. and Mattinson, J. M., 1972, A simple, sub-boiling still for preparing ultrapure water. Carnegie Institution of Washington Yearbook 71, p. 611-612.

1973

12 Mattinson, J. M., 1973, Anomalous isotopic composition of lead in young zircons. Carnegie Institution of Washington Yearbook 72, p. 613-616.

13 Mattinson, J. M., Fink, L. K. and Hopson, C. A., 1973, Age and origin of ophiolitic rocks on La Desirade Island, Lesser Antilles Island Arc. Carnegie Institution of Washington Yearbook 72, p. 616-623.

1975

14 Gunner, J. and Mattinson, J. M., 1975, Rb-Sr and U-Pb isotopic ages of granites in the central Trans-antarctic Mountains. Geol. Mag., v. 112, p. 25-31.

15 Mattinson, J. M., 1975, Early Paleozoic ophiolite complexes of Newfoundland: isotopic ages of zircons. Geology, v. 3, p. 181-183.

16 Hopson, C. A., Frano, C. J., Pessagno, E., Jr. and Mattinson, J. M., 1975 Preliminary report and geologic guide to the Jurassic ophiolite near Point Sal, Southern California coast. Seventy-first Annual Meeting of the Cordilleran Section of the Geol. Soc. Amer., 36 pp.

17 Mattinson, J. M., 1975, Early Paleozoic ophiolite complexes of Newfoundland: isotopic ages of zircons: reply. Geology, v. 3, p. 479.

1976

18 Mattinson, J. M. and Hill, D. J., 1976, Age of plutonic basement rocks, Santa Cruz Island, California. In Aspects of the geologic history of the California continental

borderland, D. G. Howell, (ed.). Pacific Section, Amer. Assoc. Petroleum Geologists, Misc. Publ. 24, p. 53-58.

19 Mattinson, J. M., 1976, Ages of zircons from the Bay of Islands ophiolite complex, western Newfoundland. Geology, v. 4, p. 393-394.

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20 Mattinson, J. M., 1977, Emplacement history of a Tertiary calc-alkaline volcano-plutonic complex: ages of zircons from the Tatoosh pluton, Washington, and related rocks. Geol. Soc. Amer. Bull., v. 88, p. 1509-1514.

21 Mattinson, J. M., 1977, U-Pb ages of some crystalline rocks from the Burlington Peninsula, Newfoundland, and implications for the age of Fleur de Lys metamorphism. Canadian Journal of Earth Sciences, v. 14, p. 2316-2324.

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1978

23 Mattinson, J. M., 1978, U-Pb ages of some crystalline rocks from the Burlington Peninsula, Newfoundland, and implications for the age of Fleur de Lys metamorphism: Reply. Canadian Journal of Earth Sciences, v. 15, p. 1211-1212.

24 Mattinson, J. M., 1978, Age, origin and thermal histories of some plutonic rocks from the Salinian block of California. Contrib. to Mineral. and Petrol., v. 67, p. 233-245.

25 Chen, J., Tilton, G. R., Mattinson, J. M. and Vidal, Ph., 1978, Lead isotope systematics of Mare basalt 75075. Proc. Lunar Sci. Conf. 9th, p. 509-521.

1979

26 Mattinson, J. M., 1979, Lead isotope studies of basalts from IPOD Leg 49. In Initial Reports of the Deep Sea Drilling Project, B. P. Luyendyk and J. R. Cann (eds.), v. XLIX, Washington, U. S. Govt. Printing Office, p. 721-726.

1980

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28 Mattinson, J. M. and Echeverria, L. M., 1980, Ortigalita Peak Gabbro, Franciscan Complex: U-Pb ages of intrusion and high pressure-low temperature metamorphism. Geology, v. 8, p. 589-593.

1981

29 Hopson, C. A., Mattinson, J. M. and Pessagno, E. A., 1981, Coast Range ophiolite, western California. In Geotectonic Development of California, Rubey Volume 1, W. G. Ernst (ed.). Prentice-Hall, p. 418-510.

1983

30 Mattinson, J. M., 1983, U-Pb age and isotopic variations within the Salinian block: implications for origin and emplacement of the Salinian terrane. Proceedings of the Circum-pacific Terrane Conference, Howell, D. A., Jones, D. L., Cox, A., and Nur, A. (eds.), Stanford University Publications in Geological Sciences, v. 18, p. 146-148.

1985

31 Mattinson, J. M. and James, E. W., 1985, Salinian block age and isotopic variations: implications for origin and emplacement of the Salinian terrane. In Tectonostratigraphic Terranes of the Circum-Pacific Region, D. Howell (ed.), Circum-Pacific Council for Energy and Mineral Resources, Earth Science Series, no. 1, p. 215-226.

1986

32 Mattinson, J. M., 1986, Geochronology of high pressure-low temperature Franciscan metabasites: a new approach using the U-Pb system. In Blueschists and Eclogites, Evans, B. W. and Brown, E. H., (eds.), Geological Society of America Memoir 164, p. 95-105.

33 Mattinson, J. M., Kimbrough, D. L., and Bradshaw, J. Y., 1986, Western Fiordland orthogneiss: Early Cretaceous arc magmatism and granulite facies metamorphism, New Zealand. Contributions to Mineralogy and Petrology, v. 92, p. 383-392.

34 Frizzell, V. A., Jr., Mattinson, J. M., and Matti, J. C., 1986, Distinctive Triassic megaporphyritic monzogranite: evidence for only 160 km offset along the San Andreas Fault, Southern California. Journal of Geophysical Research, v. 91, p. 14080-14088.

35 Mattinson, J. M., 1986, Geochronology of ophiolites of the Newfoundland Appalachians: Discussion. Canadian Journal of Earth Sciences, v. 23, p. 1860-1862.

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1987

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1988

40 Wallin, E. T., Mattinson, J. M., and Potter, A. W., 1988, Early Paleozoic magmatic events in the eastern Klamath Mountains, northern California. Geology, v. 16, p. 144-148.

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1989

44 Renne, P. R., Mattinson, J. M., Hatten, C. W., Somin, M., Onstott, T. C., Millan, G., and Linares, E., 1989, 40Ar/39Ar and U-Pb evidence for Late Proterozoic (Grenville-age) continental crust in north-central Cuba and regional tectonic implications: Precambrian Research, v. 42, p. 325-341.

45 Roeske, S. M., Mattinson, J. M., and Armstrong, R. L., 1989, Isotopic ages of glaucophane schists on the Kodiak Islands, southern Alaska, and their implications for the Mesozoic tectonic history of the Border Ranges fault system: Geol. Soc. Amer. Bulletin, v. 101, p. 1021-1037.

1990

46 Mattinson, J. M., 1990, Petrogenesis and evolution of the Salinian magmatic arc: in J. L. Anderson, ed., The Nature and Origin of Cordilleran Magmatism: Geological Society of America Memoir 174, p. 237-250.

47 Lahren, M. M., Schweikert, R. A., Mattinson, J. M., and Walker, J. D., 1990, Evidence of uppermost Proterozoic to lower Cambrian migeoclinal rocks and the Mojave - Snow Lake fault: Snow Lake pendant, central Sierra Nevada, California: Tectonics, v. 9, p. 1585-1608.

48 Hatten, C. W., Somin, M., Millan, G., Renne, P. R., Kistler, R. W., and Mattinson, J. M., 1990, Tectonostratigraphic units of central Cuba: Eleventh Caribbean Geological Conf. Symposium Volume, Barbados, BWI, Paper 35, p. 1-13.

49 Busby-Spera, C. J., Mattinson, J. M., Riggs, N. R., and Shermer, E. R., 1990, The Triassic-Jurassic magmatic arc in the Mojave-Sonoran Deserts and the Sierran-Klamath region; similarities and differences in paleogeographic evolution: in D. Harwood and M. M. Miller, eds., Paleogeographic relations between the Late Paleozoic and Early Mesozoic Klamath-Sierran region: Geol. Soc. America Special Paper 255, p. 325-337.

1992

50 Kimbrough, D. L., Mattinson, J. M., Coombs, D. S., Landis, C. A., and Johnston, M. R., 1992, Uranium-Lead ages from the Dun Mountain ophiolite belt and Brook Street terrane, South Island, New Zealand: Geological Society of America Bulletin, v. 104, p. 429-443.

1993

51 James. E. W., Kimbrough, D. L., and Mattinson, J. M., 1993, Evaluation of pre-Tertiary piercing points along the northern San Andreas fault using U/Pb dating, initial Sr, and common Pb isotopic ratios: *in* Powell, R. E., Weldon, R., and Matti, J., eds., The San Andreas Fault System: Displacement, Palinspastic reconstruction, and Geologic Evolution: Boulder, Colorado Geological Society of America Memoir 178, p. 257-271.

52 Miller, R. B., Mattinson, J. M., Goetsch-Funk, S. A., Hopson, C. A., and Treat, C. L., 1993, Tectonic evolution of Mesozoic rocks in the southern and central Washington Cascades: *in* Dunne, G. C., and McDougall, K. A., eds, Mesozoic Paleogeography of the western United States--II: Pacific Section SEPM, vol. 71, p. 81-98.

53 Frost, T. P., and Mattinson, J. M., 1993, Age and tectonic implications of mid-Mesozoic calc-alkalic hornblende-rich mafic plutons of the eastern Sierra Nevada, California: Isochron West, no. 59 p. 11-16.

54 Mattinson, J. M., 1993, "Letter" (a critical analysis of a previous paper, comment, and reply): Geology, v. 21, p. 766-767.

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1994

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57 Fleck, R. J., Mattinson, J. M., Busby, C. J., Carr, M. D., Davis, G. A., and Burchfiel, B. C., 1994, Isotopic complexities and the age of the Delfonte volcanic rocks, eastern Mescal Range, southeastern California: stratigraphic and tectonic implications: Geological Society of America Bulletin, v. 106, p. 1242-1253.

1995

58 Hopson, C. A., and Mattinson, J. M., 1994, Chelan migmatite complex, Washington: field evidence for mafic magmatism, crustal anatexis, mixing, and protodiapiric emplacement: in D. A. Swanson and R. A. Haugerud, eds., Guides to Field Trips, 1994 Geological Society of America Annual Meeting, Seattle, Washington, Ch. 2K, p. 1-23.

59 Kimbrough, D. L., Tulloch, A. J., Coombs, D. S., Landis, C. A., Johnson, M. R., and Mattinson, J. M., 1994, Uranium-lead zircon ages from the Median Tectonic Zone, South Island, New Zealand: New Zealand Journal of Geology and Geophysics, v. 37, p. 393-419.

1996

60 Hopson, C. A., Pessagno, E, A, Jr, Mattinson, J. M., Luyendyk, B. P., Beebe, W., Hull, D. M., Munoz, I. M., and Blome, C. D., 1996, Coast Range Ophiolite as paleoequatorial mid-ocean lithosphere: GSA Today, v. 6, no. 2, p. 4-6.

61 Mattinson, J. M., Graubard, C. M., Parkinson, D. L., and McClelland, W. C., 1996, U-Pb reverse discordance in zircons: the role of fine-scale oscillatory zoning and sub-micron transport of Pb: *in* A. R. Basu and S. R. Hart, eds., Earth Processes: Reading the Isotopic Code, Geophysical Monograph Series Volume 95, American Geophysical Union, p. 355-370.

62 McClelland, W. C., and Mattinson, J. M., 1996, Resolving high precision U-Pb ages from Tertiary plutons with complex zircon systematics: Geochimica et Cosmochemica Acta, v. 60, p. 3955-3965.

1997

63 Fackler Adams, B. J., Busby, C. J., and Mattinson, J. M., 1997, Jurassic magmatism and sedimentation in the Palen Mountains, southeastern California: implications for regional tectonic controls on the Mesozoic continental arc: Geological Society of America Bull., v. 109, p. 1464-1484

2000

64 McClelland, W. C., and Mattinson, J. M., 2000, Cretaceous-Tertiary evolution of the western Coast Mountains, central southeastern Alaska, in Stowell, H. H., and McClelland, W. C., eds., Tectonics of the Coast Mountains, Southeastern Alaska and British Columbia: Boulder, Colorado, Geological Society of America Special Paper 343, p. 159-182.

2002

65 Busby, C. J., Shermer, E. R., and Mattinson, J. M., 2002, Extensional arc setting and ages of Middle Jurassic eolianites, Cowhole Mountains (eastern Mojave Desert block, California, in Glazner, A. F., Walker, J. D., and Bartley, J. M., eds., Geologic Evolution of the Mojave Desert and Southwestern Basin and Range: Boulder, Colorado, Geological Society of America Memoir 195, p. 79-91.

66 Shermer, E. R., Busby, C. J., and Mattinson, J. M., 2002, Paleogeographic and tectonic implications of Jurassic sedimentary and volcanic sequences in the central Mojave block: in Glazner, A. F., Walker, J. D., and Bartley, J. M., eds., Geologic Evolution of the Mojave Desert and Southwestern Basin and Range: Boulder, Colorado, Geological Society of America Memoir 195, p. 93-115.

2003

67 Hacker, B. R., Andersen, T. B., Root, D. B., Mehl, L., Mattinson, J. M., and Wooden, J. L., 2003, Exhumation of high-pressure rocks beneath the Solund Basin, Western Gneiss region of Norway: Journal of Metamorphic Geology 21, p. 613-629.

2004

68 Root, D. B., Hacker, B. R., Mattinson, J. M., and Wooden, J. L., 2004, Zircon Geochronology and ca. 400 Ma exhumation of Norwegian ultrahigh-pressure rocks: an ion microprobe and chemical abrasion study: Earth and Planetary Science Letters 228, p. 325-341.

2005

69 Mattinson, J. M., 2005, Zircon U-Pb Chemical Abrasion ("CA-TIMS") method: combined annealing and multi-step dissolution analysis for improved precision and accuracy of zircon ages: Chemical Geology 220, p. 47-66.

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2006

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B. PUBLISHED ABSTRACTS - James M. Mattinson

1970

A1 Mattinson, J. M., 1970, Uranium-lead geochronology of the Northern Cascade Mountains, Washington. Geol. Soc. Amer. Abstracts with Programs, v. 2, no. 2, p. 116.

1971

A2 Hopson, C. A. and Mattinson, J. M., 1971, Metamorphism and plutonism, Lake Chelan region, Northern Cascades, Washington. Geol. Assoc. of Canada, Metamorphism in the Canadian Cordillera, Programme and Abstracts, p. 13.

A3 Sinha, A. K., Hart, S. R., Mattinson, J. M. and Davis, G. L., 1971, Pb, U, and Th studies of Archean metavolcanic rocks, Canada. Transactions Amer. Geophysical Union, v. 52, no. 4, p. 368.

1972

A4 Mattinson, J. M. and Hopson, C. A.,1972, Paleozoic ages of rocks from ophiolitic complexes in Washington and Northern California. Transactions Amer. Geophysical Union, v. 53, no. 4, p. 543.

1973

A5 Hopson, C. A., Frano, C. J., Pessagno, E. and Mattinson, J. M., 1973, Late Jurassic ophiolite at Point Sal, Santa Barbara County, California. Geol. Soc. Amer. Abstracts with Programs, v. 5, no. 1, p. 58.

A6 Hopson, C. A. and Mattinson, J. M., 1973, Ordovician and Late Jurassic ophiolite assemblages in the Pacific Northwest. Geol. Soc. Amer. Abstracts with Programs, v. 5, no. 1, p. 57.

A7 Mattinson, J. M., 1974, Age and evolution of the Tatoosh volcano-plutonic complex. Transactions Amer. Geophysical Union, v. 54, no. 4, p. 494.

1975

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1978

A9 Chen, J. H., Mattinson, J. M., Tilton, G. R. and Vidal, Ph.,, 1978, Lead isotope systematics of More basalt 75075. In Lunar Science IX, p. 160-161.

1979

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A12 Saleeby, J. B., Mattinson, J. M. and Wright, J. E., 1979, Regional ophiolite terranes of California--vestiges of two complex ocean floor assemblages. Geol. Soc. Amer. Abstracts with Programs, v. 11, no. 7, p. 509.

A13 Mattinson, J. M., Fink, L. K. and Hopson, C. A., 1979, La Disirade Island ophiolite: age, isotopic, and tectonic relationships. Trans. Amer. Geophys. Union, v. 60, p. 969.

1980

A14 Mattinson, J. M. and Echeverria, L. M., 1980, Ortigalita gabbroic intrusion in the Franciscan: age relationships. Geol. Soc. Amer. Abstracts with Programs, v. 12, no. 3, p. 118.

A15 Mattinson, J. M., 1980, Jurassic ophiolite belt of western North America: age relationships and their tectonic implications. Geol. Soc. Amer. Abstracts with Programs, v. 12, no. 7, p. 478.

A16 Walker, N. W. and Mattinson, J. M., 1980, The Canyon Mountain Complex, Oregon: U-Pb ages of zircons and possible tectonic correlations. Geol. Soc. Amer. Abstracts with Programs, v. 12, no. 7, p. 544.

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A18 Barnes, D. and Mattinson, J. M., 1981, Late Triassic-Early Cretaceous Age of Eugeoclinal Terranes, Western Vizcaino Peninsula, Baja California Sur, Mexico. Geol. Soc. Amer. Abstracts, v. 13, no. 2, p. 43.

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1982

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A21 Mattinson, J. M., 1982, U-Pb "blocking temperatures" and Pb loss characteristics in young zircon, sphene, and apatite. Geol. Soc. Amer. Abstracts with Programs, v. 14, no. 7, p. 558.

1983

A22 Mattinson, J. M., 1983, Basement rocks of the southeastern Salinian block, California: U-Pb isotopic relationships. Geol. Soc. Amer. Abstracts with Programs, v. 15, no. 5, p. 414.

A23 Mattinson, J. M., 1983, Isotopic evidence for the incorporation of old crustal materials in the Cretaceous granitic rocks of the Salinian block, California (extended abstract, UCSB Geological Sciences Research Review).

A24 Mattinson, J. M., 1983, U-Pb age and isotopic variations within the Salinian block: implications for origin and emplacement of the Salinian terrane. Circum Pacific Terrane Conference 1983 Stanford University, Abstracts, v. 2. (extended abstract)

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A25 Mattinson, J. M., 1984, Labile Pb in young, high-uranium zircons. Geological Society of America Abstracts with Programs, v. 16, no. 6, p. 559.

A26 Kimbrough, D. L. and Mattinson, J. M., 1984, Zircon U-Pb age constraints on Middle and Upper Triassic biostratigraphic zones in the Murihiku Supergroup, Southland, New Zealand. Geological Society of America Abstracts with Programs, v. 16, no. 6, p. 586.

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A28 Mattinson, J. M., Kimbrough, D. K. and Bradshaw, J. Y., 1984, Zircon and apatite U-Pb age constraints and initial Pb and Sr isotopic compositions of Cretaceous granulites and gabbronorites from Fiordland, southwest New Zealand. Geological Society of New Zealand, Misc. Publication 31A.

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A30 James, E. W. and Mattinson, J. M., 1985, Evidence for 165 km post-mid Cretaceous slip on the San Gregorio fault, Coastal California. Transactions Amer. Geophys. Union, v. 66, no. 46, p. 1093.

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