

DESSC Nominations

Enclosed please find nominations and CV's for the following individuals:

Michael Tryon

Marsh Youngbluth



SCRIPPS INSTITUTION OF OCEANOGRAPHY
GEOSCIENCES RESEARCH DIVISION

9500 GILMAN DRIVE
LA JOLLA, CALIFORNIA, 92093-0244

March 8, 2006

Dear UNOLS Chair and DESSC Committee members,

This letter is to introduce myself and to express my interest in serving on the DESSC Committee. I have a longstanding and strong interest in deep submergence vehicles both from the standpoint of a scientist user and a designer/engineer. My research has centered on the development and application of deep sea instrumentation for marine hydrogeological research. This work has required extensive use of a variety of vehicles including Alvin, Johnson Sea Link, Delta, SeaCliff, Oceanic Explorer, Jason (I&II), Hyper Dolphin, Scorpio, Ventana, and ROPOS. During these projects I have enjoyed good working relationships with the vehicle crews while striving to create instrument designs that the vehicles can work with efficiently. The bulk of my work has been in the cold seep environment and the cruises have been collaborative and multidisciplinary. In particular, I have worked extensively with biologist Lisa Levin and chemist Joris Gieskes at sites off the US west coast and Alaska. As a result of these experiences I feel I have a good grasp of the needs of a diverse portion of the marine science community as well as the practicalities and limitations of deep sea vehicles.

I also have an interest in being a representative of DESSC to Scripps. The Scripps community has a number of people active in UNOLS and we receive regular reports on issues within the research vessel area but there seems to be a lack of timely reports on the status of the deep submergence group. If chosen for the open committee position I will make regular reports to the Scripps community on issues of interest as well as bring back to the committee any Scripps feedback.

I understand that a significant part of DESSC (and all other) committee work is management: timely information compilation, assimilation, and dissemination. I take the duties of committee membership seriously and I have the time to commit to this work. I hope that you will look favorably on my application for the open DESSC committee position.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Tryon".

Michael Tryon

Curriculum Vitae

Michael Donald Tryon

Assistant Project Scientist III
Scripps Institution of Oceanography
9500 Gilman Dr, 0244
La Jolla, CA 92093-0244
(858) 822-0591

Born: January 5, 1952

Citizenship: United States

Education

Post-graduate: Scripps Institution of Oceanography, UCSD, La Jolla, CA. 3/2002-12/2004.
Graduate: PhD, Earth Science, 2002, Scripps Inst. of Oceanography, UCSD, La Jolla CA 92093;
Dissertation: The development and application of a new benthic aqueous flux meter for very low to moderate discharge rates
Undergraduate: BS Earth Science, University of California, San Diego, La Jolla, CA 92093; 1995.

Employment

Research Assistant, Scripps Inst. of Oceanography, La Jolla, CA; 1992 to 1995.
Graduate Research Assistant, Scripps Inst. of Oceanography, La Jolla, CA; 1995-2002.
Graduate Teaching Assistant, Field Geology and Optical Mineralogy classes; 1996-2001.
Post-Doctoral Researcher, Scripps Inst. of Oceanography, La Jolla, CA, 3/2002-1/2005.
Project Scientist, Scripps Inst. of Oceanography, La Jolla, CA, 1/2005-present.

Research Interests

Hydrogeology of accretionary prisms
Physical and geochemical consequences of gas hydrate formation and destruction
Tectonic and geochemical processes which drive fluid production and geopressure

Honors

Dean's list, University of California, San Diego; 1991-1995.
Regents' Fellowship, Scripps Institution of Oceanography; 1995-1996.

Professional Memberships

American Geophysical Union
Geological Society of America

Publications

Primary published work

Tryon, M.D., K.M. Brown, M.E. Torres, A.M. Trehu, J. McManus, and R.W. Collier, Measurements of transience and downward fluid flow near episodic methane gas vents, Hydrate Ridge, Cascadia, *Geology*, 27 (12), 1075-1078, 1999.
Tryon, M.D., K.M. Brown, L. Dorman, and A. Sauter, A new benthic aqueous flux meter for very low to moderate discharge rates, *Deep-Sea Research, Part I*, 48 (9), 2121-2146, 2001.

- Tryon, M.D., and K.M. Brown, Complex flow patterns through forearc gas hydrates and their impact on seep biota, *Geophysical Research Letters*, 28 (14), 2863-2866, 2001.
- Tryon, M.D., K.M. Brown, M.E. Torres, Fluid and chemical fluxes in and out of sediments hosting hydrate deposits on Hydrate Ridge, OR, II: Hydrological processes, *Earth and Planetary Science Letters*, 201 (3-4), 541-557, 2002.
- Torres, M.E., J. McManus, D. Hammond, M.A de Angelis, K. Heeschen, S.L. Colbert, M.D. Tryon, K.M. Brown, and E. Suess, Fluid and chemical fluxes in and out of sediments hosting hydrate deposits on Hydrate Ridge, OR, I: Hydrological provinces, *Earth and Planetary Science Letters*, 201 (3-4), 525-540, 2002.
- Tryon, M.D., *The Development and Application of a New Benthic Aqueous Flux Meter for Very Low to Moderate Discharge Rates*, Doctoral Dissertation, University of California, San Diego, 2002.
- Tryon, M.D. and K.M. Brown, Fluid and chemical cycling at Bush Hill: Implications for gas- and hydrate-rich environments, *Geology, Geophysics, and Geosystems (G-Cubed)*, 5 (12), 1-7, 2004.
- Brown, K.M., M.D. Tryon, H.R. DeShon, S. Schwartz, and L.M. Dorman, Correlated Transient Fluid Pulsing and Seismic Tremor in the Costa Rica Subduction Zone, *Earth and Planetary Science Letters*, 238, 189-203, 2005.

Other work

- Fryer, G.J., and M.D. Tryon, Great earthquakes, gigantic landslids, and the continuing enigma of the April Fool's tsunami of 1946, *Eos Trans. AGU*, 86 (52), T11A-0355, 2005.
- Tryon, M.D., and K.M. Brown, Observations of hydrotectonic stress/strain events at a basement high at the Nicoya outer rise, *Eos Trans. AGU*, 86 (52), T33A-0516, 2005.
- Fueri, E., D.R. Hilton, K.M. Brown, and M.D. Tryon, Helium and Carbon Isotope Systematics of Cold Seep Fluids at Monterey Bay (California, USA), *Eos Trans. AGU*, 86 (52), V13C-0563, 2005.
- Adamic, J.F., Kluesner, J.W., Rathburn, A.E., Perez, M.E., Basak, C., Levin, L., Gieskes, J.M., Martin, J., Ziebis, W., Tryon, M., Comparisons of vertical distribution patterns of living (stained) benthic foraminifera from the Aleutian margin, Geological Society of America Annual Meeting, Salt Lake City, Oct. 2005.
- Hilton, D.R., de Leew, G.A.M., Güleç, N., Mutlu, H., Furi, E., Kulongoski, J., Brown, K., Tryon, M., Recent helium isotope studies in seismically-active regions: results from the San Andreas Fault Zone, California and the North Anatolian Fault Zone, Turkey, International Congress on Gas Geochemistry, Sicily, Oct. 2005.
- Levin, L., Rathburn, A., Tryon, M.D., Lonsdale, P., Escobar, E., Gutierrez, D., Gallardo, V., Sellanes, J., Quiroga, E., Stress and strain on eastern Pacific Margin: the biology of newly explored oxygen minimum zone and methane seep ecosystems, submitted. June, 2005 TOS meeting in Paris - Open Ocean Exploration Session.
- Rathburn, A.E., Levin, L.A., Gieskes, J.M., Ziebis, W., Martin, J.B., Tryon, M.D., Fryer, G.J., McMurtry, G.M., Perez, M.E., Fodrie, J., Bahls, A., Abriani, M., Wrightsman, B., Adamic, J., McMillan, P.A., Neira, C.E., Mendoza, G.F., Leddick, J.E., Do, J., 2004. Of Tsunamis and Seafloor Dynamics: Initial Results of Research Off the Aleutian Islands, Alaska. Joint Meeting of the 15th Annual Argonne Symposium and CSUI, November 2004, Chicago, IL, 1-5.
- Dorman, L.M., DeShon, H.R., Tryon, M.D., Brown, K.M., Schwartz, S., and Tryon, M.D., 2004, Seismic Noise Correlation with Seismicity and Fluid Flow: *Eos Trans. AGU*, v. 85(47), Fall Meet. Suppl., Abstract S51B-0150
- Brown, K.M., Tryon, M.D., DeShon, H.R., Dorman, L.M., and Schwartz, S., 2004, Transient Fluid Pulsing and Seismic Tremor-like Seismic Noise: Episodic Creep and/or Fluid Expulsion at the Updip Edge of the Seismogenic Zone, Costa Rica: *Eos Trans. AGU*, v. 85(47), Fall Meet. Suppl., Abstract S41D-08

- Tryon, M.D., LaBonte, A.L., Fueri, E., Hilton, D.R., and Brown, K.M., 2004, Toward long-term geochemical sampling of gases and deep fluids in subduction zone fore-arcs: New instrument developments: *Eos Trans. AGU*, v. 85(47), Fall Meet. Suppl., Abstract V13A-1440
- Tryon, M.D., Brown, K.M., Long-term fluid flow measurements from widely varied oceanic settings elucidate near-surface hydrologic environments, *Eos, (Transactions, American Geophysical Union)*, 84 (46), 846, 2003.
- Brown, K.M., DeShon, H., Tryon, M.D., Dorman, L., and Schwartz, S., Transient fluid pulsing and noise in the Costa Rican subduction zone: Nearly silent slip events?, *Eos, (Transactions, American Geophysical Union)*, 84 (46), 1420, 2003.
- Brown, K.M., M.D. Tryon, H. DeShon, L. Dorman, and S. Schwartz, Transient fluid flow processes in margin settings: Earthquakes and pulsing in the Costa Rican subduction zone, in *Ocean Margin Research Conference*, Paris, 2003b.
- Levin, L.A., W. Ziebis, G.F. Mendoza, V.A. Growney, M.D. Tryon, K.M. Brown, C. Mahn, J.M. Gieskes, and A.E. Rathburn, Spatial heterogeneity of macrofauna at northern California methane seeps: influence of sulfide concentration and fluid flow, *Marine Ecology Progress Series*, 265, 123-139, 2003.
- Tryon, M.D., Brown, K.M., Aqueous flux measurements at the Bush Hill hydrate mound, Gulf of Mexico, Oceans 2003 Conference, San Diego, CA., 2003.
- Iwase, R., Machiyama, H., Soh, W., Brown, K.M., Tryon, M.D., Detailed mapping of subbottom temperature gradient and flow rate observation at the seepage site on deep seafloor off Hatsushima Island in Sagami Bay, central Japan, IUGG Conference, 2003.
- Spinelli, G.A., A.T. Fisher, C.G. Wheat, M.D. Tryon, K.M. Brown, and A.R. Flegal, Groundwater seepage into San Francisco Bay estimated from seepage meters and porewater geochemistry: Implications for dissolved metals budgets, *Water Resources Research*, 38 (7), 19 pp., 2002.
- Torres, M.E., J. McManus, M. deAngeles, M.D. Tryon, A. Trehu, K.M. Brown, and D. Hammond, Benthic fluxes from sediments hosting methane hydrate deposits at Hydrate Ridge, Cascadia, in *Abstracts with Programs - Geological Society of America*, 34 (5), pp.42, Apr 2002.
- Tryon, M.D., C. Mahn, J. Gieskes, and K.M. Brown, Methods of fluid and geochemical flux measurements and new insights from seep studies at the Eel River Margin, *Eos, (Transactions, American Geophysical Union)*, 82 (48), 1302, 2001.
- Tryon, M.D., and K.M. Brown, Results from long-term aqueous flux measurements on the Costa Rican convergent margin, *Eos, (Transactions, American Geophysical Union)*, 81 (48), 1161, 2000.
- Tryon, M.D., Brown, K. M., The Chemical and Aqueous Transport meter; A benthic flux meter for long term monitoring of low to moderate flow rates: *RIDGE in situ Workshop*, Aptos, CA, 2000.
- Brown, K.M., and M.D. Tryon, Could temporal changes in fluid expulsion patterns from cold seep regions located on faults be used to monitor transient stress changes in the seismogenically coupled region of the subduction thrust?, *Special Paper – Oregon, Department of Geology and Mineral Industries*, 33, 33-34, 2000.
- Tryon, M.D., and K.M. Brown, Transient fluid flow patterns on Hydrate Ridge, Cascadia: A response to methane gas discharge?, *Eos, (Transactions, American Geophysical Union)*, 80 (46), 528, 1999.
- Tryon, M.D., and K.M. Brown, Aqueous flux measurements on Hydrate Ridge, Cascadia, in *Pacific Section Convention, Program with Abstracts*, pp. 45, American Association of Petroleum Geologists, Monterey, California, 1999.
- Brown, K.M., C. Goldfinger, G. Bohrmann, M. Torres, M. Tryon, C. Jung, E. Suess, H. Sahling, and A.M. Trehu, Geological and Hydrogeologic Interrelationships Around Seep and Gas Vent Regions on Hydrate Ridge: Seabed Observations, *Eos, Transactions, American Geophysical Union*, 80 (46), 1999.
- Linke, P., O. Pfannkuche, M.E. Torres, R.W. Collier, U. Witte, J. McManus, D.E. Hammond, K.M. Brown, M.D. Tryon, and K. Nakamura, Variability of benthic flux and discharge rates at vent sites determined by in situ instruments, *Eos, Transactions, American Geophysical Union*, 80 (46), 509, 1999.

- Torres, M.E., K. Brown, S. Colbert, R.W. Collier, M. deAngelis, D. Hammond, K. Heeschen, D. Hubbard, J. McManus, C.L. Moyer, G. Rehder, A. Trehu, M.D. Tryon, and P.J. Whaling, Active gas discharge resulting from decomposition of gas hydrates on Hydrate Ridge, Cascadia Margin, *Eos (Transactions, American Geophysical Union)*, 79 (45), 461, 1998.
- Tryon, M.D., K.M. Brown, and D. Elliott, Instrument development and results from sea floor flux meter deployments off California and Oregon, *Eos (Transactions, American Geophysical Union)*, 78 (46), 690, 1997.
- Tryon, M.D., K.M. Brown, L.M. Dorman, and A.W. Sauter, Instrument Development and Results From Sea Floor Flux Meter Deployments Off N. California and the EPR, *Eos (Transactions, American Geophysical Union)*, 77 (46), 236, 1996.
- Brown, K.M., T.G. Fitts, M.D. Tryon, and B. Ransom, An experimental study of the physical and chemical property changes occurring during the smectite to illite reaction, *AAPG Meeting Abstracts*, 5, 19, 1996.
- Fitts, T.G., K.M. Brown, M.D. Tryon, and B. Ransom, Measurement of porosity and smectite hydration state under deviatoric stress conditions; implications for water partitioning between pores and minerals in sedimentary basins, *AAPG Meeting Abstracts*, 5, 46, 1996.
- Fitts, T.G., K.M. Brown, M.D. Tryon, Gradual vs instantaneous dewatering of smectites; experimental data and implications for physical properties of smectite-rich sediments in nature, *AAPG Meeting Abstracts*, 5, 89, 1996.
- Fitts, T.G., K.M. Brown, M.D. Tryon, Smectite diagenesis; preliminary experimental results and implications for the development of overpressuring during the burial of smectite-rich sediments, *Eos, Transactions, American Geophysical Union*, 76 (46), 189, 1995.

Subject: DeSSC Nomination
Date: Thu, 23 Mar 2006 08:10:23 -0500
From: "Shirley Pomponi" <Pomponi@Hboi.edu>
To: <office@unols.org>,
"Marsh Youngbluth" <youngbluth@hboi.edu>

To the UNOLS council:

I'd like to nominate Dr. Marsh Youngbluth to fill the vacancy on the Deep Submergence Science Committee of UNOLS.

Dr. Youngbluth has long and active history in deep-water biology, especially biological research conducted in situ with a variety of manned and robotic submersibles. He has conceived, developed and adapted sampling and sensor technologies to both kinds of submersibles, and has both national and international collaborators. For the future, Marsh envisions a stronger emphasis on sensors for ocean optics projects (HDTV and red light for studies of behavior; multi-spectral light instruments for profiling upwelling, downwelling, and microbial ecology) and on sensors for chemical pursuits (nutrient and oxygen profiling to examine the importance of thin layers in water column dynamics).

I've served on the Deep Submergence Science Committee, and from my experiences on DeSSC, I believe that Marsh would make a significant contribution. Please give his candidacy strong consideration. A copy of his CV is attached.

Thank you.

Shirley A. Pomponi, Ph.D.
President and CEO
Harbor Branch Oceanographic Institution, Inc.
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Fort Pierce, FL 34946 USA

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MARSH J. YOUNGBLUTH

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Tel – 772-465-2400, ext. 319

Fax – 772-461-9424

email: youngbluth@hboi.edu

EDUCATION:

Ph.D. (Biology, 1972)	Stanford University
M.S. (Zoology, 1966)	University of Hawaii
B.S. (Biology, 1963)	Portland State University

PROFESSIONAL EXPERIENCE:***Research***

Senior Scientist (1979-1992, 1993-2006), Associate Scientist (1975-1978): Principal Investigator for Water Column Ecology Department, HBOI, Fort Pierce, Florida

Visiting Scientist: University of Umeå (2004, 2005); University of Bergen (1998-2004); Japanese Society for Promotion of Science (1997); National Center for Scientific Research (CNRS), Station Zoologique, France (1988, 1990-1992, 2000, 2002-2003)

Chief Scientist (1969-2005): HBOI, NOAA, UNOLS, and Norwegian vessels in Atlantic, Pacific, Caribbean and Mediterranean Seas

Administration

Executive Officer (2000-2006) Protect Wild Dolphin Program, HBOI

Program Director (1995-1997), Biological Oceanography, NSF, IPA Appointment, Arlington, VA; (1992-1993), National Undersea Research Program, NOAA, Silver Spring, MD

Division Director (1982-1985) Division of Marine Sciences, HBOI

RESEARCH EXPERIENCE:

Ecology and Behavior of Midwater Zooplankton, especially Gelatinous Species
Particle Transport and Transformation in Mesopelagic Regimes

SELECTED PUBLICATIONS (13 of 75)

Gorsky, G., M.J. Youngbluth and D. Deibel (eds) 2005. Response Of Marine Ecosystems To Global Change: Ecological Impact Of Appendicularians. Contemporary Publishing International, Paris. 435 p.

Båmstedt, U., S. Kaartvedt, and M. Youngbluth 2003. An evaluation of acoustic and video methods to estimate the abundance and vertical distribution of jellyfish. *J Plankton Res.* 25: 1307-1318.

Youngbluth, M.J. and U. Båmstedt 2001. Distribution, abundance, behavior and metabolism of *Periphylla periphylla*, a mesopelagic coronate medusa in a Norwegian fjord. *Hydrobiologia* 451: 321-333.

Purcell, J.E., D.L. Breitburg, M.B. Decker, W.M. Graham, M.J. Youngbluth, K.A. Raskoff. 2001. Pelagic cnidarians and ctenophore in low dissolved oxygen environments: A Review. pp. 77-100, In: N.N. Rabalais and R.E. Turner (eds.) Coastal Hypoxia, Coastal and Estuarine Studies 58, American Geophysical Institution, Washington, D.C.

Gorsky, G., P.R. Flood, M.J. Youngbluth, M. Picheral and J-M. Grisoni. 2000. Zooplankton distribution in four western Norwegian fjords. *Estuar. Coastal Shelf Sci.* 50: 129-135

Bailey, T.G., J.J. Torres, M.J. Youngbluth and G.P. Owen. 1994. Effect of decompression on mesopelagic gelatinous zooplankton: A comparison of *in situ* and shipboard measurements of metabolism. *Mar. Ecol. Prog. Ser.* 113: 13-27.

Greene, C.H., E.A. Widder, M.J. Youngbluth, A. Tamso and G.E. Johnson. 1992. The

- migration behavior, fine structure, and bioluminescent activity of krill sound-scattering layers. *Limnol. Oceanogr.* 37: 650-658.
- Fenaux, R. and M.J. Youngbluth. 1991. Two new mesopelagic appendicularians, *Inopinata inflata* and *Mesopelagica caudaornata* gen. nov., sp. nov. *J. Mar. Biol. Assoc. U.K.* 71: 613-621.
- Youngbluth, M.J., T.G. Bailey and C.A. Jacoby. 1990. Biological explorations in the mid-ocean realm: foods webs, particle flux and technological advancements, pp. 191-208. In: Y.C. Lin and K.K. Shida (eds.) *Man in the Sea*, Volume II. San Pedro, CA:Best Publishing.
- Youngbluth, M.J., T.G. Bailey, P.J. Davoll, C.A. Jacoby, P.I. Blades-Eckelbarger, C.A. Griswold. 1989. Fecal pellet production and diel migratory behavior by the euphausiid *Meganyctiphanes norvegica* effect benthic-pelagic coupling. *Deep-Sea Res.* 36:1491-1501.
- Youngbluth, M.J., P. Kremer, T.G. Bailey and C.A. Jacoby. 1988. Chemical composition, metabolic rates and feeding behavior of the midwater ctenophore *Bathocyroe fosteri*. *Mar. Biol.* 98: 87-94.
- Pugh, P.R. and M.J. Youngbluth. 1988. Two new species of prayine siphonophore (Calycephorae, Prayidae) collected by the submersibles 'Johnson-Sea-Link' I and II. *J. Plankton Res.* 10: 637-657.
- Youngbluth, M.J. 1982. Utilization of a fecal mass as food by the pelagic mysis larva of the penaeid shrimp *Solenocera atlantidis*. *Mar. Biol.* 66: 47-51.

COLLABORATORS IN LAST 48 MONTHS:

Ann Bucklin, Ulf Båmstedt, Don Deibel, Per Flood, Gaby Gorsky, Russ Hopcroft, Charles Jacoby, Larry Madin, Francesc Pages, Jennifer Purcell, Kevin Raskof, Franz Uiblein

GRADUATE AND POST-GRADUATE ADVISORS AND ADVISEES:

Peter Davoll, Malvern Gilmartin, Charles Jacoby, Ronald Larson, Brian Ortman, Ernest Reese, David Smith, Barbara Sullivan, Chad Walters

RECENT ADVISORY ACTIVITIES:

MAR-ECO Workshops, Census of Marine Life (Bremerhaven, Germany (Jan-2002), Bergen, Norway (Jan-2003), Lisbon, Portugal (Jun-2005), Nice, France (Mar-2006)
 International Workshop, Exploration of the Seas, Paris, France (May, 2002)
 NOAA Workshop, Global Exploration in Arctic Ocean, Washington DC (Jul-2001)

GRANTS (Current and Recent):

- 2001-2005 –Predation by the physonect siphonophore *Nanomia cara*. – NSF OCE-0002493
 2002-2003, 2005-2006 –The Hidden Ocean: Explorations under the ice of the Western Arctic – the pelagic fauna. NOAA Ocean Exploration
 2001-2003 –Development of *in situ* techniques for quantifying rates for feeding, house production and house flux of appendicularians. NSF OCE-0086229.
 1999-2002 –The predatory role of the coronate medusa *Periphylla periphylla* in a Norwegian fjord NSF INT-9903467.