CURRICULUM VITAE

PERSONAL DATA

Name: Present Position and Address:

Alexei I. Pinchuk

Research Professor College of Fisheries and Ocean Sciences Department of Fisheries University of Alaska 17101 Point Lena Loop Road, Juneau AK 99801, U.S.A. Phone: + (907) 796-5466; Fax: + (907) 796-5447 E-mail: aipinchuk@alaska.edu http://www.sfos.uaf.edu/people/research/pinchuk/

FIELD OF EXPERTISE

Biological oceanography, coastal ecosystems, aquatic ecology, marine biology, biodiversity, marine zooplankton and forage fish biology, copepod and krill taxonomy, physiology, ecology.

EDUCATION

- **2006**: Ph.D. in Oceanography, University of Alaska Fairbanks, U.S.A. Thesis: "Distribution, growth and egg production of euphausiids in the northern Gulf of Alaska", advisor: Dr. R.R. Hopcroft
- **1997**: M.S. in Biological Oceanography, University of Alaska Fairbanks, U.S.A. Thesis: "Early life history of *Metridia pacifica* Brodsky (Copepoda: Calanoida) from the southeastern Bering Sea and Gulf of Alaska", advisor: Dr. A.J. Paul
- **1987**: Diploma (B.S. in Biology/Zoology, M.S. in Hydrobiology), St. Petersburg State University, St. Petersburg, Russia, Thesis: "Zooplankton of the Chaun Bay, East-Siberian Sea", advisor: Prof. Dr. A.N. Golikov Qualification by diploma biologist; teacher/lecturer in biology and chemistry.

PROFESSIONAL APPOINTMENTS

- **07.2021-present**: Research Professor, College of Fisheries and Ocean Sciences, Department of Fisheries, University of Alaska Fairbanks.
- 07.2015-06.2021: Research Associate Professor, School of Fisheries and Ocean Sciences, Fisheries Division, Juneau Center, University of Alaska Fairbanks.
- 07.2011-06.2015: Research Assistant Professor, School of Fisheries and Ocean Sciences, Fisheries Division, Juneau Center, University of Alaska Fairbanks.
- 07.2006-06.2011: Research Professional 5, Seward Marine Center, University of Alaska Fairbanks.
- **07.2006-12.2009**: Marine Sensor Technical Coordinator, Alliance for Coastal Technologies (ACT)/University of Alaska Fairbanks.
- **10.2000-06.2006**: Research Associate, Institute of Marine Science, University of Alaska Fairbanks.
- **09.1997-09.2000**: Research Technician, Institute of Marine Science, University of Alaska Fairbanks.
- **09.1994-08.1997**: Research Assistant, Institute of Marine Science, University of Alaska Fairbanks.
- **09.1989-08.1994**: Research Scientist, Laboratory of Marine Research, Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia.
- **08.1987-08.1989**: Junior Scientist, Laboratory of Experimental Ecology, Institute of Pinchuk CV

Biological Problems of the North, Russian Academy of Sciences, Magadan, Russia.

RESEARCH GRANTS AND AWARDS

- 2019-2024: Cooperative Training and Research for Alaska Fisheries Science, *Lead PI (with 4 others), funded by NOAA, \$3,204,716 (subject to annual approval)*
- **2019-2021:** Utilization of the under-ice habitat by Arctic Cod in the western Arctic Ocean: a multidisciplinary collaborative study, *PI (with F. Mueter), funded by BOEM -Coastal Marine Institute,* \$254,043
- **2019-2024:** Fire and ice: navigating variability in boreal wildfire regimes and subarctic coastal ecosystems, *Collaborator (with 15 others), funded by NSF EPSCOR, \$20,000,000*
- 2019-2020: Diets of Breeding Auklets in the Northern Bering Sea: Consequences of Recent Oceanographic Changes in the Alaskan Subarctic, *Lead PI, funded by U.S. Fish & Wildlife Service, \$19,834*
- **2019-2020:** Biological productivity in Arctic lagoons: diversity, seasonal development and interannual dynamics of zooplankton populations, *Lead PI, funded by Wildlife Conservation Society*, *\$42,514*
- **2018-2020:** Trophic interactions in subarctic pelagic ecosystems: fish, medusae and zooplankton Phase II. *Lead PI, funded by NOAA-Alaska SeaGrant Omnibus, \$46,925*
- 2017-2019: Trophic interactions in subarctic pelagic ecosystems: fish, medusae and zooplankton. *Lead PI, funded by CIFAR-NOAA, \$89,724*
- **2016-2018:** Feeding habits of juvenile salmon, forage fish and scyphozoan jellyfish in the northern Bering Sea and Gulf of Alaska. *Lead PI, funded by CIFAR-NOAA, \$27,247*
- 2014-2018: Ecology of forage fish in the Beaufort and Chukchi Seas. *PI (with R. Heintz, B. Norcross and others), funded by BOEM, \$1,500,000*
- 2017: Fish diets in the Arctic coastal waters near Point Barrow (Alaska). *Lead PI, funded by NSB*, *\$12,500*
- **2016:** Interannual comparison of demersal fish stomach contents in the Beaufort and Chukchi Seas. *Lead PI, funded by NSB, \$86,036*
- **2014-2016**: Shelf habitat and ecology of fish and zooplankton (SHELFZ): biological and physical oceanography of the Chukchi Sea a supplemental request. *Lead PI, funded by NSB, \$24,666*
- **2013-2016:** Shelf habitat and ecology of fish and zooplankton (SHELFZ): biological and physical oceanography of the Chukchi Sea. *PI (with L. Souza and others), Chief Scientist on the boat, funded by CIAP, \$3,490,000*
- **2012-2015**: Development of biochemical measures of age in the Alaskan Red King Crab: validation, refinement and initial assessment. *Lead PI, funded by NPRB, \$117,235*
- 2012-2016: Biological communities in the Chukchi Sea. *PI (with F. Mueter and others), funded by BOEM, \$2,531,138*
- **2012-2015**: Arctic ecosystem integrated survey. *PI (with F. Mueter and others), funded by CIAP, \$3,000,000.*
- **2011-2013**: Collaborative research: linking sea-ice retreat to plankton community structure and function in the eastern Bering Sea: data synthesis, biophysical modelling and multi-decadal projection. *PI (with R. Campbell and others), funded by NSF, \$70,397.*
- **2011-2013**: BEST Synthesis: Integration and modelling of spatial-temporal variation in growth and vital rates for euphausiids in the eastern Bering Sea implications for demographic structure, *PI (with H. Bi and others), funded by NSF, \$73,489*
- 2011-2013: Collaborative research: impact of se-ice on bottom-up and top-down controls of crustacean zooplankton and the meditation of carbon and energy flow in the eastern Bering Sea. *PI (with K. Coyle and others). funded by NSF, \$326,546*

- **2010-2013**: BEST: Assessment of mesoplankton population and biomass in the eastern Bering Sea: supplemental request to address a BEST-BSIERP data gap. *PI (with K. Coyle), funded by NSF, \$144,040*
- **2009-2011**: Feeding patterns, prey selection, and potential dietary overlap of age 0 pelagic juveniles of walleye pollock (*Theragra chalcogramma*) and Pacific cod (*Gadus macrocephalus*) during a cold summer in the eastern Bering Sea. *Collaborator (with N. Hillgruber), funded by Pollock Conservation Cooperative Research Center (PCCRC), UAF, \$92,638*
- **2008-2011:** BEST: Assessment of mesoplankton population and biomass in the eastern Bering Sea for spring and summer 2008, 2009 and 2010. *PI (with K. Coyle), funded by NSF, \$220,365*
- **2008-2010**: BEST collaborative research: the trophic role of euphausiids in the eastern Bering Sea: ecosystem responses to changing sea-ice conditions. *Collaborator (with R. Harvey and others), funded by NSF, \$76,421*

RESEARCH EXPERIENCE

- 2012-2016: Arctic Ecosystem Integrated Survey CIAP-BOEM-NOAA Joint Program
- **2008-2013:** The Bering Sea Project NSF-NPRB Joint Program
- 2006-2009: Alliance for Coastal Technologies (ACT) Alaska Partner, NOAA
- 2005-2006: Arctic Ocean Diversity, Census of Marine Life (COML) Program
- **2004-2006:** Cross-shelf transport and post-bloom new production near the Pribilof Islands, NSF
- 2004: Russian-American Long-Term Census of the Arctic (RUSALKA), NOAA/Russian Academy of Science
- **2001-2005:** GLOBEC 2000: Copepod and euphausiid growth and reproduction on the Gulf of Alaska shelf. NSF, NOAA
- **1997-2006:** Physical-chemical structures, primary production and distribution of zooplankton and planktivorous fish on the Gulf of Alaska shelf: a GLOBEC-LTOP monitoring project. NSF, NOAA
- **1999-2001:** A collaborative study of the dynamics and ecosystem implications of the postbloom production at the inner front of the southeastern Bering Sea, NSF
- **1997-1999:** Collaborative Research: Prolonged production and trophic transfer to predators: Processes at the inner front of the southeastern Bering Sea, NSF
- **1994-1997:** Microcrustacean production potential during the onset of feeding by walleye pollock larvae in the Aleutian Basin and Bering Sea shelf (BSFOCI). NOAA
- **1993-1994:** Laptev Sea system TRANSDRIFT I, II (Russian-German Cooperation Program), Zoological Institute RAS
- **1992:** Using puffins to monitor pollock and marine food webs in the Gulf of Alaska. Alaska Fish & Wildlife Research Center
- **1991:** Foraging distribution and feeding ecology of seabirds on the Diomede Islands, Bering Strait. U.S. Dept. of the Interior, Minerals Management Service, F.W.S.
- **1990:** Ecology of seabirds on the Aleutian Islands. U.S. Fish & Wildlife Service
- **1988-1989:** Zooplankton in coastal ecosystems of the Northern Sea of Okhotsk. IBPN RAS Program,
- 1986-1987: Coastal ecosystems of the East-Siberian Sea. Zoological Institute RAS Program,

RESEARCH CRUISES

• 1986-present: Participant in numerous oceanographic cruises in the Arctic, North Pacific and

adjacent seas on small to medium charter boats, R/Vs *Sikuliaq*, *Tiglax*, *Alpha Helix*, *Wecoma*, *Knorr*, *Thomas G*. *Thompson*, USCGC *Healy*. Over 1000 days at sea on cruises of 4-65 days duration. Experienced in the operation of outboard powered crafts up to 25 feet in the coastal zone.

LANGUAGES: English (fluent), Russian (fluent), German (limited)

TEACHING/SUPERVISING EXPERIENCE

- **2019-present:** Undergraduate co-advisor and internship work supervisor: Mr. Alex Knobloch, *University of Alaska, B.S., expected to graduate in 2023*
- 2009-present: member of Graduate Advisory Committees: Ms. Johanna Vollenweider, University of Alaska, Ph.D., expected to graduate in 2023 Mr. Wesley Strasburger, University of Alaska, Ph.D., expected to graduate in 2021. Mr. Mark Burton, International University of Florida, Ph.D., graduated in 2018. Mr. Wesley Strasburger, University of Alaska, M.S. graduated in 2011.
- **2017-2018:** teaching entry-level class "Communicating Fisheries Research in Russian" (FISH197), 2 credit/semester (Fall, Spring) at University of Alaska.
- **2013:** Chief Scientist on a 25 day-long multidisciplinary oceanographic survey (F/V Alaska Knight) in the Chukchi Sea.
- **2011-present:** hiring/training/supervising numerous students and technicians assisting in different tasks in my projects
- **2008-present**: invited lecturer/instructor for graduate courses Methods in Field Ecology and Fisheries (FISH414), Biological Oceanography (BIOL349), Biology Seminar (BIOL492), Marine Ecosystems (MSL652), Fisheries Seminar (FISH692); University of Alaska
- 2006-2009: coordinator for Alliance for Costal Technologies (ACT) marine sensor trials
- 2006-2007: training Alaska SeaLife Center (ASLC) undergraduate interns and volunteers in zooplankton taxonomy, oceanographic field techniques and data processing, Seward Marine Center, University of Alaska Fairbanks
- **2001-2005**: training undergraduate and graduate students and volunteers in shipboard oceanographic sampling and live zooplankton experimentations during US GLOBEC program, Seward Marine Center, University of Alaska Fairbanks
- **1996-2000**: training/supervising undergraduate students and technicians in zooplankton sorting and sample processing, Institute of Marine Science, University of Alaska Fairbanks, USA
- **1987-1989**: supervising undergraduate students, Institute of Biological Problems of the North, Russian Academy of Sciences, Magadan, Russia
- **1987**: Teaching Assistant for undergraduate General Biology course, St. Petersburg State University, Russia

SERVICE

- **2021-present:** member of Editorial Board "Trudy VNIRO" (ISSN 2307-3497)
- 2016: member of NSF Polar Programs Proposal Review Panel
- 2015-2017: member of UAF Peer Research Faculty Promotion Committee
- **2007-2011**: member of the Working Group for the North Pacific Marine Science Organization (PICES) Comparative Ecology of Krill in Coastal and Oceanic Waters around the Pacific Rim

SELECTED OUTREACH ACTIVITIES

- **2008-current**: multiple interviews to the radio and press were featured in podcasts (e.g. KFSK, KNOM), in international science news magazines (Nature (428, 4 November 2010), Bioscience (62, February 2011)), and public websites (e.g. https://www.earthtimes.org).
- **2006-2010**: public "Brown Lunch Bag" seminar presentations on biological oceanography at Alaska SeaLife Center, Seward.

HONORS AND ACADEMIC AWARDS

- 2019: UNAC Travel Grant Award for 2019 IMBeR Open Science Conference
- 2017: Outstanding Contribution in Reviewing (Deep-Sea Research Part II) Certificate
- 2006: Joint Institute for Marine & Atmospheric Research (JIMAR), University of Hawaii Travel Award for the PICES/GLOBEC Symposium on Climate Variability and Ecosystem Impacts on the North Pacific: A Basin-Scale Synthesis
- 2006: University of Alaska Travel Award for the 2006 AGU Ocean Sciences Meeting
- 1996: University of Alaska Summer Research Tuition Scholarship
- 1994: University of Alaska Graduate Research Assistantship
- **1992:** Soros International Science Foundation Award for Biodiversity Research

REFEREE

- Journals: Polar Biology, Marine Biology, Marine Ecology Progress Series, Progress in Oceanography, Deep-Sea Research Parts I and II, ICES Journal of Marine Science, Limnology & Oceanography, Journal of Marine Systems, Aquatic Biology, Journal of Biogeography, Continental Shelf Research, Frontiers in Marine Science, Journal of Experimental Marine Biology and Ecology, Journal of Plankton Research, Journal of Marine Biological Association of UK.
- <u>Funding Agencies</u>: Alaska Sea Grant, National Science Foundation (NSF), North Pacific Research Board (NPRB), National Oceanic and Atmospheric Administration (NOAA) FATE Program, Pollock Conservation Cooperative Research Center (PCCRC)

PROFESSIONAL MEMBERSHIPS AND AFFILIATIONS

- American Geophysical Union (AGU)
- North Pacific Marine Science Organization (PICES)
- Alliance for Coastal Technology (ACT)

SCIENTIFIC PUBLICATIONS (Peer-Reviewed)

- 1. **Pinchuk A.I.**, Danielson S., Li C., Souza L., Vollenweider J.J. Biophysical processes in the Arctic nearshore: the importance of estuarine lagoons in pelagic biological production. *Continental Shelf Research, in preparation*
- 2. **Pinchuk A.I.**, Sousa L., Vollenweider J.J. Zooplankton communities near the Alaskan Arctic Coast and their role in shaping planktivorous fish dietary preferences. *Continental Shelf Research, in preparation*
- 3. **Pinchuk A.I.,** Batten S.D., Strasburger W.W. 2021. Doliolid (Tunicata, Thaliacea) blooms in the southeastern Gulf of Alaska as a result of the recent marine heat wave of 2014-2016. *Frontiers in Marine Science*, 8: 625486. *https://doi.org/10.3389/fmars.2021.625486*.
- 4. Tempestini A., Pinchuk A.I., Dufresne F. 2020. Spatial structuring in a cryptic amphipod

Themisto libellula from the coastal Gulf of Alaska, Bering and Chukchi seas. *Polar Biology* **43**(11): 1795-1804. *https://doi.org/10.1007/s00300-020-02745-9*.

- Copeman L., Spencer M., Heintz R., Vollenweider J., Sremba A., Helser T., Logerwell L., Sousa L., Danielson S., **Pinchuk A.I.**, Laurel B. 2020. Ontogenetic and spatial patterns in lipid and fatty acid biomarkers of juvenile polar cod (*Boreogadus saida*) and saffron cod (*Eleginus gracilis*) from the Alaskan Arctic. *Polar Biology* 43: 1121-1140. https://doi.org/10.1007/s00300-020-02648-9.
- Eisner L.B., Pinchuk A.I., Kimmel D.G., Mier K.L., Harpold C., Siddon E.C. 2018. Seasonal, interannual, and spatial patterns of community composition over the eastern Bering Sea shelf in cold years. Part I: zooplankton. *ICES Journal of Marine Science* 75(1): 72-86.
- 7. Tempestini A., Fortier L., **Pinchuk A.I.**, Dufresne F. 2017. Molecular phylogeny of the genus *Themisto* (Guerin, 1925) (Amphipoda: Hyperiidae) in the Northern Hemisphere. *Journal of Crustacean Biology* **37**(6): 732-742.
- 8. **Pinchuk A.I.,** Eisner L.B. 2017. Spatial heterogeneity in zooplankton summer distribution in the eastern Chukchi Sea in 2012–2013 as a result of large-scale interactions of water masses. *Deep Sea Research II* **135**: 27-39.
- Sigler M.F., Mueter F.J., Bluhm B.A., Busby M.S., Cokelet E.D., Danielson S.L., De Robertis A., Eisner L.B., Farley E.V., Iken K., Kuletz K.J., Lauth R.R., Logerwell E.A., Pinchuk A.I. 2017. Summer zoogeography of the northern Bering and Chukchi seas. *Deep Sea Research II* 135: 168-189.
- Hunt G.L.Jr., Ressler P.H., De Robertis A., Aydin K., Gibson G., Sigler M.F., Ortiz I., Lessard E.J., Williams B., Pinchuk A.I., Buckley T. 2016. Euphausiids in the eastern Bering Sea: a synthesis of recent studies of euphausiid production, consumption and population control. *Deep Sea Research II* 134: 204-222.
- 11. **Pinchuk A.I.**, Harvey H.R., Eckert G.L. 2016. Development of biochemical measures of age in the Alaskan red king crab (*Paralithodes camtschaticus*): validation, refinement and initial assessment. *Fisheries Research* **183**: 92-98.
- 12. Bi H., Yu H., **Pinchuk A.I.**, Harvey H.R. 2015. Interannual summer variability in euphausiid populations on the eastern Bering Sea shelf during the recent cooling event in summer 2008-2010. *Deep Sea Research I* **95**: 12-19.
- Strasburger W.W., Hillgruber N., Pinchuk A.I., Mueter F.J. 2014. Feeding ecology of age-0 walleye pollock (*Theragra chalcogramma*) and Pacific cod (*Gadus macrocephalus*) in the southeastern Bering Sea. *Deep-Sea Research II* 109: 172-180.
- Eisner L.B., Napp J.M., Mier K.L, Pinchuk A.I., Andrews A.G. 2014. Climate-mediated changes in zooplankton community structure for the eastern Bering Sea. *Deep-Sea Research II* 109: 157-171.
- 15. **Pinchuk A.I.**, Coyle K.O., Farley E.V., Renner H.R. 2013. Emergence of the Arctic *Themisto libellula* (Amphipoda: Hyperiidae) on the southeastern Bering Sea shelf as a result of the recent cooling, and its potential impact on the pelagic food web. *ICES Journal of*

Marine Science 70: 1244-1254.

- Miksis-Olds J.L., Stabeno P.J., Napp J.M., Pinchuk A.I., Nystuen J.A., Warren J.D., Denes S.L. 2013. Ecosystem response to a temporary sea ice retreat in the Bering Sea: Winter 2009. *Progress in Oceanography* 111: 38-51.
- Stabeno P.J., Farley E., Kachel N., Moore S., Mordy C., Napp J.M., Overland J.E, Pinchuk A.I., Sigler M. 2012. A comparison of the physics, chemistry, and biology of the northeastern and southeastern Bering Sea shelf. *Deep-Sea Research II* 65-70: 14-30.
- Coyle K.O., Eisner L.B, Mueter F.J., Pinchuk A.I., Janout M.A., Farley E.V., Cieciel K., Andrews A.G. 2011. Climate change in the southeastern Bering Sea: impacts on pollock stocks and implications for the oscillating control hypothesis. *Fisheries Oceanography* 20(2): 139-156.
- Tamburri M.N., Johengen T.H., Atkinson M.J., Schar D.W.H., Robertson C.Y., Purcell H., Smith G.J., Pinchuk A.I., Buckley E.N. 2011. Alliance for Coastal Technologies: advancing moored pCO₂ instruments in coastal waters. *Marine Technology Society Journal* 45(1): 43-51.
- 20. Hopcroft R.R., Kosobokova K.N., **Pinchuk A.I.** 2010. Zooplankton community patterns in the Chukchi Sea during summer 2004. *Deep-Sea Research II* **57**:27-39.
- Pinchuk A.I., Coyle K.O. 2008. Distribution, egg production and growth of euphausiids in the vicinity of the Pribilof Islands, southeastern Bering Sea, August 2004. *Deep-Sea Research II* 55: 1792-1800.
- 22. Coyle K.O., **Pinchuk A.I.**, Eisner L.B., Napp J.M. 2008. Zooplankton species composition, abundance and biomass on the southeastern Bering Sea shelf during summer: the potential role of water column stability in structuring the zooplankton community. *Deep Sea Research II* **55**: 1775-1791.
- 23. **Pinchuk A.I.**, Coyle K.O., Hopcroft R.R. 2008. Climate-related changes in abundance and reproduction of dominant euphausiids in the northern Gulf of Alaska in 1998-2003. *Progress in Oceanography* **77**: 203-216.
- 24. Hoover-Miller A., **Pinchuk A.I.** 2008. An exploratory study of marine ecology and oceanography in Aialik Bay. *Alaska Park Science* **7**(2): 6-11.
- 25. Adams C.F., **Pinchuk A.I.**, Coyle K.O. 2007. Seasonal changes in the diet composition and prey selection of walleye pollock (*Theragra chalcogramma*) in the northern Gulf of Alaska. *Fisheries Research* **84**: 378-389.
- 26. **Pinchuk A.I.**, Hopcroft R.R. 2007. Seasonal variations in the growth rates of euphausiids (*Thysanoessa inermis*, *T. spinifera*, and *Euphausia pacifica*) from the northern Gulf of Alaska. *Marine Biology* **151**: 257-269.
- 27. Baduini C.L., Hunt G.L.Jr., **Pinchuk A.I.**, Coyle K.O. 2006. Patterns in diet reveal foraging site fidelity of short-tailed shearwaters in the southeastern Bering Sea. *Marine Ecology Progress Series* **320**: 279-292.

- 28. **Pinchuk A.I.**, Hopcroft R.R. 2006. Egg production and early development of *Thysanoessa inermis* and *Euphausia pacifica* (Crustacea: Euphausiacea) in the northern Gulf of Alaska. *Journal of Experimental Marine Biology and Ecology* **332**: 206-215.
- 29. Coyle K.O., **Pinchuk A.I.** 2005. Seasonal cross-shelf distribution of major zooplankton taxa on the northern Gulf of Alaska shelf relative to water mass properties, species depth preferences and vertical migration behavior. *Deep-Sea Research II* **52**: 217-245.
- 30. Hopcroft R.R., Clarke C., Byrd A.G., **Pinchuk A.I.** 2005. The paradox of *Metridia* spp. egg production rates: a new technique and measurements from the coastal Gulf of Alaska. *Marine Ecology Progress Series* **286**: 193-201.
- Lindley J.A., Batten S.D., Coyle K.O., Pinchuk A.I. 2004. Regular occurrence of *Thysanoessa inspinata* (Crustacea: Euphausiacea) in the Gulf of Alaska. *Journal of Marine Biological Association of the United Kingdom* 84: 1033-1037.
- 32. Coyle K.O., Pinchuk A.I. 2003. Annual cycle of zooplankton abundance, biomass and production on the northern Gulf of Alaska shelf, October 1997 through October 2000. *Fisheries Oceanography* 12(4/5): 327-338.
- 33. Coyle K.O., Pinchuk A.I. 2002. The abundance and distribution of euphausiids and zero-age pollock on the inner shelf of the southeast Bering Sea near the Inner Front in 1997-1999. *Deep-Sea Research II* 49: 6009-6030.
- Coyle K.O., Pinchuk A.I. 2002. Climate-related differences in zooplankton density and growth on the inner shelf of the southeastern Bering Sea. *Progress in Oceanography* 55: 177-194.
- 35. Stockwell D.A., Whitledge T.E., Zeeman S.I., Coyle K.O., Napp J.M., Brodeur R.D., **Pinchuk A.I.** 2001. Anomalous conditions in the southeastern Bering Sea, 1997: nutrients, phytoplankton and zooplankton. *Fisheries Oceanography* **10**(1): 99-116.
- Baduini C.L., Hyrenbach K.D., Coyle K.O., Pinchuk A.I., Mendenhall V., Hunt G.L.Jr. 2001. Mass mortality of short-tailed shearwaters in the southeastern Bering Sea during summer 1997. *Fisheries Oceanography* 10(1): 117-130.
- 37. **Pinchuk A.I.**, Paul A.J. 1998. Growth of *Metridia pacifica* (Copepoda: Calanoida) nauplii in the laboratory. *Plankton Biology and Ecology* **45**(2): 195-201.
- 38. **Pinchuk A.I.** 1997. Naupliar development of *Metridia pacifica* Brodsky (Copepoda: Calanoida) reared in the laboratory. *Journal of Crustacean Biology* **17**(2): 343-351.

SCIENTIFIC PUBLICATIONS (Books and Chapters):

- 1. **Pinchuk A.I.**, A.J. Paul. 2000. Zooplankton of the Okhotsk Sea: a review of Russian studies. University of Alaska Sea Grant College Program, Fairbanks, 62 pp.
- 2. Coyle K.O., Chavtur V.V., **Pinchuk A.I.** 1996. Zooplankton of the Bering Sea: a review of Russian-language literature. *In*: O.A. Mathisen and K.O. Coyle (editors). *Ecology of the Bering Sea: a review of Russian literature*. Alaska Sea Grant College Program, Fairbanks,

pp. 97-133.

- 3. Petryashov V.V., Markhaseva E.L., **Pinchuk A.I.**, Stepanjants S.D. 1995. Zooplankton of the Laptev Sea coastal waters. *Berichte zur Polar- und Meeresforschung (Reports on Polar and Marine Research)* **176**: 187-191.
- 4. Kosobokova K., Hanssen H., Markhaseva E., Petryashov V.V., **Pinchuk A.I.** 1995. Composition and distribution of summer zooplankton in the Laptev Sea. *Berichte zur Polarund Meeresforschung (Reports on Polar and Marine Research)* **176**: 192-199.
- 5. **Pinchuk A.I.** 1994. On the zooplankton of the Chaun Bay (East-Siberian Sea). *In*: Ecosystems and the flora and fauna of the Chaun Bay of the East-Siberian Sea. Part I, *Explorations of the Fauna of the Seas* **47**(55): 121-127[*in Russian*]
- 6. **Pinchuk A.I.** 1993. The distrubution of zooplankton in the Bering Strait in relation to hydrological characteristics. *In*: Marine Zooplankton. Taxonomy, ecology, distribution. II. *Explorations of the Fauna of the Seas* **45**(53): 138-155[*in Russian*]
- Pinchuk A.I. 1992. On the small-scale differences in species composition of the inshore zooplankton. *In*: Coastal ecosystems in the northern Sea of Okhotsk. Talan Island, Inst. of Biol. Problems of the North, Magadan, Far-Eastern Branch, Russian Acad. of Sci.: 14-23[*in Russian*]

SELECTED TECHNICAL REPORTS:

- Pinchuk A.I., Robards M. 2020. Biological Productivity in Southern Chukchi Sea Lagoons: Pilot Study to Assess Diversity, Seasonal Development, and Interannual Dynamics of Zooplankton Populations. Final Report to Wildlife Conservation Society, National Park Service Coop Agreement # P15AC01061, National Fish and Wildlife Foundation Project: 8006.18.059259.
- Vollenweider J.J., Heintz R.A., Boswell K.M., Norcross B.L., Li C., Barton M.B., Sousa L., Pinchuk A.I., Danielson S., George C. 2018. Ecology of Forage Fishes in the Arctic Nearshore. North Slope Borough, Shell Baseline Studies Program, Final Report, July 2018.
- Strasburger, W. W., J. H. Moss, K. A. Siwicke, E. M. Yasumiishi, A. I. Pinchuk, K H. Fenske. 2018. Eastern Gulf of Alaska Ecosystem Assessment, July through August 2017. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-367, 105 p.
- 4. **Pinchuk A.I.**, H. R. Harvey, G. L. Eckert. 2015. Development of Biochemical Measures of Age in the Alaskan Red King Crab: Validation, Refinement and Initial Assessment. NPRB Project 1221 Final Report, May 2015.
- Schar D., M. Atkinson, T. Johengen, A. Pinchuk, H. Purcell, C. Robertson, G.J. Smith, M. Tamburri. 2010. Alliance for Coastal Technologies performance demonstration statement: Sunburst Sensors SAMI-CO₂. UMCES Technical Report Series, Ref. No. [UMCES] CBL 10-094.
- Schar D., M. Atkinson, T. Johengen, A. Pinchuk, H. Purcell, C. Robertson, G.J. Smith, M. Tamburri. 2010. Alliance for Coastal Technologies performance demonstration statement: Pro-Oceanus Systems Inc. PSI CO₂-Pro[™]. UMCES Technical Report Series, Ref. No. Pinchuk CV

[UMCES] CBL 10-093.

- Schar D., M. Atkinson, T. Johengen, A. Pinchuk, H. Purcell, C. Robertson, G.J. Smith, M. Tamburri. 2010. Alliance for Coastal Technologies performance demonstration statement: PMEL MAPCO2/Battelle Seaology pCO₂ Monitoring System. UMCES Technical Report Series, Ref. No. [UMCES] CBL 10-092.
- Schar D., M. Atkinson, T. Johengen, A. Pinchuk, H. Purcell, C. Robertson, G.J. Smith, M. Tamburri. 2010. Alliance for Coastal Technologies performance demonstration statement: Contros HydroCTM/CO₂. UMCES Technical Report Series, Ref. No. [UMCES] CBL 10-091.
- Gilbert S., K. Gundersen, T. Johengen, T. McKissack, M. McIntyre, A. Pinchuk, H. Purcell, C. Robertson, D. Schar, G.J. Smith, M. Tamburri, D. Wells. 2009. Alliance for Coastal Technologies performance demonstration statement for the YSI 6-series sonde with model 6560 salinity sensor. UMCES Technical Report Series, Ref. No. [UMCES] CBL 09-035.
- Gilbert S., K. Gundersen, T. Johengen, T. McKissack, M. McIntyre, A. Pinchuk, H. Purcell, C. Robertson, D. Schar, G.J. Smith, M. Tamburri, D. Wells. 2009. Alliance for Coastal Technologies performance demonstration statement for the RBR XR-420 and XR-620 CTD Salinity Sensors. UMCES Technical Report Series, Ref. No. [UMCES] CBL 09-034.
- 11. Gilbert S., K. Gundersen, T. Johengen, T. McKissack, M. McIntyre, A. Pinchuk, H. Purcell, C. Robertson, D. Schar, G.J. Smith, M. Tamburri, D. Wells. 2009. Alliance for Coastal Technologies performance demonstration statement for the JFE ALEC CTW and CTW-FS Salinity Sensors. UMCES Technical Report Series, Ref. No. [UMCES] CBL 09-033.
- Gilbert S., K. Gundersen, T. Johengen, T. McKissack, M. McIntyre, A. Pinchuk, H. Purcell, C. Robertson, D. Schar, G.J. Smith, M. Tamburri, D. Wells. 2009. Alliance for Coastal Technologies performance demonstration statement for the In-Situ Inc. Aqua TROLL 200 Sonde. UMCES Technical Report Series, Ref. No. [UMCES] CBL 09-032.
- Gilbert S., K. Gundersen, T. Johengen, T. McKissack, M. McIntyre, A. Pinchuk, H. Purcell, C. Robertson, D. Schar, G.J. Smith, M. Tamburri, D. Wells. 2009. Alliance for Coastal Technologies performance demonstration statement for the Greenspan EC3000 Conductivity Sensor. UMCES Technical Report Series, Ref. No. [UMCES] CBL 09-031.
- 14. Gilbert S., K. Gundersen, T. Johengen, T. McKissack, M. McIntyre, A. Pinchuk, H. Purcell, C. Robertson, D. Schar, G.J. Smith, M. Tamburri, D. Wells. 2009. Alliance for Coastal Technologies performance demonstration statement for the FSI NXIC-CTD-BIO-AUTO Salinity Sensor. UMCES Technical Report Series, Ref. No. [UMCES] CBL 09-030.
- 15. Gilbert S., K. Gundersen, T. Johengen, T. McKissack, M. McIntyre, A. Pinchuk, H. Purcell, C. Robertson, D. Schar, G.J. Smith, M. Tamburri, D. Wells. 2009. Alliance for Coastal Technologies performance demonstration statement for Campbell Scientific CS547A and OBS-3A Salinity Probes. UMCES Technical Report Series, Ref. No. [UMCES] CBL 09-029.
- 16. Gilbert S., K. Gundersen, T. Johengen, T. McKissack, M. McIntyre, A. Pinchuk, H. Purcell, C. Robertson, D. Schar, G.J. Smith, M. Tamburri, D. Wells. 2009. Alliance for Coastal Technologies performance demonstration statement for the Aanderaa Data Instruments' 4319 B Conductivity Sensor. UMCES Technical Report Series, Ref. No. [UMCES] CBL 09-028.

- Carroll M., D. Chigounis, J. Cook, S. Gilbert, T. Johengen, T. Koles, T. McKissack, D. Wells, M. McIntyre, A. Pinchuk, H. Purcell, C. Robertson, D. Schar, G.J. Smith, M. Tamburri. 2008. Alliance for Coastal Technologies performance demonstration statement: American Ecotech NUT 1000, UMCES Technical Report Series, Ref. No. [UMCES] CBL 08-040.
- Carroll M., D. Chigounis, J. Cook, S. Gilbert, T. Johengen, T. Koles, T. McKissack, D. Wells, M. McIntyre, A. Pinchuk, H. Purcell, C. Robertson, D. Schar, G.J. Smith, M. Tamburri. 2008. Alliance for Coastal Technologies performance demonstration statement: Satlantic ISUS V3 Sensor, UMCES Technical Report Series, Ref. No. [UMCES] CBL 08-041.
- Carroll M., D. Chigounis, J. Cook, S. Gilbert, T. Johengen, T. Koles, T. McKissack, D. Wells, M. McIntyre, A. Pinchuk, H. Purcell, C. Robertson, D. Schar, G.J. Smith, M. Tamburri. 2008. Alliance for Coastal Technologies performance demonstration statement: WET Labs Cycle-P Nutrient Analyzer, UMCES Technical Report Series, Ref. No. [UMCES] CBL 08-042.
- Carroll M., D. Chigounis, J. Cook, S. Gilbert, T. Johengen, T. Koles, T. McKissack, D. Wells, M. McIntyre, A. Pinchuk, H. Purcell, C. Robertson, D. Schar, G.J. Smith, M. Tamburri. 2008. Alliance for Coastal Technologies performance demonstration statement: YSI 9600 Nitrate Monitor, UMCES Technical Report Series, Ref. No. [UMCES] CBL 08-043.
- Piatt J.F., A.I. Pinchuk, A.S. Kitaisky, A.M. Springer & S.A. Hatch. 1992. Foraging distribution and feeding ecology of seabirds at the Diomede Islands, Bering Strait. U.S. Fish and Wildl. Serv. Final Report for Minerals Management Service (OCS Study MMS 92-0041), Anchorage, Alaska.

SELECTED CONFERENCE AND WORKING GROUP PRESENTATIONS

- 1. **Pinchuk A.I.**, Will A.P., Takahashi A., Thiebot J.B., Kuletz K.J., Kitaysky A.S. 2020. Diets of Plankton-eating Auklets Reveal Consequences of Recent Oceanographic Changes in the Alaskan Subarctic. Alaska Marine Science Symposium, Anchorage, USA, January 20-25, 2020.
- 2. **Pinchuk A.I.**, Batten S.D., Strasburger W.W. 2019. Doliolid blooms in the southeastern Gulf of Alaska as a result of the recent heat wave of 2014-2016. The Future Oceans₂ IMBeR Open Science Conference, Brest, France, June 17-21, 2019.
- Pinchuk A.I., Strasburger W.W. 2019. Summer doliolid blooms in the southeast Gulf of Alaska – potential importance for the offshore ecosystem. Alaska Marine Science Symposium, Anchorage, USA, January 28-31, 2019.
- 4. **Pinchuk, A.I.**, Robards M., Smith B. 2019. Zooplankton production in Arctic coastal lagoons: preliminary results of biological monitoring in Cape Krusenstern National Monument. Alaska Marine Science Symposium, Anchorage, USA, January 28-31, 2019.
- 5. **Pinchuk A.I.**, Sousa L., Vollenweider J.J. 2018. Zooplankton Diversity and Productivity in Arctic lagoons and their significance for coastal food webs under changing climate. POLAR

2018 SCAR-ISAC Open Science Conference, Davos, Switzerland, June 19-23, 2018.

- 6. **Pinchuk A.I.**, Sousa L., Vollenweider J.J. 2017. Zooplankton communities near the Alaskan Arctic Coast and their role in shaping planktivorous fish dietary preferences. 24rd Biennial CERF Conference, Providence, USA, November 5-9, 2017.
- 7. **Pinchuk A.I.** 2017. Heterogeneity in zooplankton communities near the Alaskan Arctic Coast and the resulting effects on planktivorous fish feeding habits, ESSAS Open Science Meeting, Tromso, Norway, June 11-15, 2017.
- 8. **Pinchuk A.I.,** Coyle K.O. 2016. Spatial and temporal heterogeneity in distribution of euphausiid *Thysanoessa longipes* from the northern Gulf of Alaska, PICES Annual Meeting, San Diego, USA, November 2-13, 2016.
- 9. **Pinchuk A.I.,** Eisner L.B. 2016. Spatial heterogeneity in zooplankton distribution in the eastern Chukchi Sea as a result of large-scale interactions of water masses. Ocean Sciences Meeting, New Orleans, Louisiana, USA, February 21-26, 2016.
- Eisner L.B., Pinchuk A.I., Harpold C., Siddon E.C., Mier K. 2016. Seasonal Phenology of Zooplankton Composition in the Southeastern Bering Sea, 2008-2010. Ocean Sciences Meeting, New Orleans, Louisiana, USA, February 21-26, 2016.
- Pinchuk A.I., Sousa L., Vollenweider J.J. 2015. Zooplankton assemblages in an Arctic estuarine lagoon: composition and distribution in relation to local hydrography. 23rd Biennial CERF Conference, Portland, USA, November 8-12, 2015.
- Sousa L., Pinchuk A., Logerwell E., Danielson S., Parker-Setter S., Horne J., Vollenweider J., Heintz R. 2015. SHELFZ connections between nearshore and offshore fish habitats on the Chukchi Sea shelf. 23rd Biennial CERF Conference, Portland, USA, November 8-12, 2015.
- 13. **Pinchuk A.I.,** Eckert G.L., Harvey H.R. 2015. Development of Biochemical Measures of Age in the Alaskan Red King Crab: Validation, Refinement and Initial Assessment. Alaska Marine Science Symposium, Anchorage, USA, January 20-25, 2015.
- 14. **Pinchuk A.I.,** Sousa L. 2015. Arctic shelf zooplankton populations in the vicinity of Barrow underwater canyon: SHELFZ project preliminary results. Alaska Marine Science Symposium, Anchorage, USA, January 20-25, 2015.
- Pinchuk A.I., Coyle K.O., Eisner L.B., Napp J.M. 2014. Climate-induced variability in *Calanus* spp. development and spawning in the eastern Bering Sea. Ocean Sciences Meeting, Honolulu, Hawaii, USA, February 24-28, 2014.
- 16. **Pinchuk A.I.,** Eckert G.L., Harvey H.R. 2014. Development of Biochemical Measures of Age in the Alaskan Red King Crab: Towards Quantifying Thermal Effect on Aging. Alaska Marine Science Symposium, Anchorage, USA, January 21-25, 2014.
- 17. **Pinchuk A.I.**, Eckert G.L., Harvey H.R. 2013. Development of Biochemical Measures of Age in the Alaskan Red King Crab: Initial Results and Assessment. Alaska Marine Science Symposium, Anchorage, USA, January 21-25, 2013.

- Pinchuk A.I., Coyle K.O. 2012. Variability in *Calanus* spp. populations on the eastern Bering Sea shelf during the recent cold phase. Abstract 12228, Ocean Sciences Meeting, Salt Lake City, Utah, USA, February 20-24, 2012.
- 19. **Pinchuk A.I.**, Coyle K.O. 2010. Emergence of the Arctic hyperiid *Themisto libellula* on the southeastern Bering Sea shelf as a result of the recent cooling and their potential impact on pelagic food web. PICES Annual Meeting, Portland, Oregon, USA, October 22-31, 2010.
- Pinchuk A.I., Coyle K.O. 2010. Zooplankton communities on the eastern Bering Sea shelf during the cold 2008-2009. EOS Trans. AGU 91(26), Ocean Sciences Meeting Suppl., Abstract IT54A-03; Portland, Oregon, USA, February 21-26, 2010.
- 21. **Pinchuk A.I.**, Coyle K.O. 2008. Distribution, egg production and growth of euphausiids in the vicinity of the Pribilof Islands, southeastern Bering Sea in August 2004. AGU Ocean Sciences Meeting, Orlando, Florida, USA, March 2-7, 2008.
- 22. Coyle K.O., **Pinchuk A.I.**, Eisner L.B., Napp, J.M. 2008. Zooplankton species composition and abundance in the eastern Bering Sea in summer: the role of water column stability on zooplankton community structure. AGU Ocean Sciences Meeting, Orlando, Florida, USA, March 2-7, 2008.
- 23. **Pinchuk A.I.**, Coyle K.O. 2007. Distribution, egg production and growth of euphausiids in the vicinity of the Pribilof Islands, southeastern Bering Sea in August 2004. Alaska Marine Science Symposium, January 21-24, 2007, Anchorage, Alaska, USA.
- 24. **Pinchuk A.I.**, Coyle K.O., Hopcroft R.R. 2006. Climate-related changes in abundance and reproduction of dominant euphausiids in the northern Gulf of Alaska in 1998-2004. Climate Variability and Ecosystem Impacts on the North Pacific: A Basin-Scale Synthesis. PICES/GLOBEC Symposium, April 12-21, 2006, Honolulu, USA.
- 25. Shaw T.C., Feinberg L.R., Peterson W.T., Pinchuk A.I., Sydeman W., Sugisaki H., Bragina I., Ju S.-J., Gomez-Gutierrez J. 2006. A pan-Pacific comparison of the biology of *Euphausia pacifica*. Climate Variability and Ecosystem Impacts on the North Pacific: A Basin-Scale Synthesis. PICES/GLOBEC Symposium, April 12-21, 2006, Honolulu, USA.
- 26. Coyle K.O., **Pinchuk A.I.**, Hopcroft R.R 2006. The optimal stability window hypothesis and copepod concentrations on the Gulf of Alaska shelf during spring and summer, 1998 2005. AGU Ocean Sciences Meeting, Honolulu, Hawaii, USA, February 20-24, 2006, OS32I-01.
- Pinchuk A.I., Hopcroft R.R., Coyle K.O. 2006. Seasonal variability in the growth rates of dominant euphausiids from the northern Gulf of Alaska. AGU Ocean Sciences Meeting, Honolulu, Hawaii, USA, February 20-24, 2006, OS36B-04.
- Adams C.F., Pinchuk A.I., Coyle K.O., 2005. Seasonal changes in the diet of walleye pollock in the northern Gulf of Alaska. Creating a Fisheries Mosaic: Connections Across Jurisdictions, Disciplines and Cultures. Annual Meeting of the American Fisheries Society, Anchorage AK, September 12 15, 2005.
- 29. Pinchuk A.I., Hopcroft, R.R. 2004. Egg production and early development of Thysanoessa

inermis and *Euphausia pacifica* (Crustacea: Euphausiacea) in the northern Gulf of Alaska. North Pacific Marine Science Organization (PICES) 13th Annual Meeting Program Abstracts, Honolulu. Hawaii, USA, October 14-24, 2004, p. 219.

- Pinchuk A.I., Coyle K.O. 2004. Interannual changes in abundance of dominant euphausiids in the northern Gulf of Alaska. North Pacific Marine Science Organization (PICES) 13th Annual Meeting Program Abstracts, Honolulu, Hawaii, USA, October 14-24, 2004, p.122.
- 31. **Pinchuk A.I.**, Hopcroft R.R., Coyle K.O. 2003. Growth rates of euphausiids in the northern Gulf of Alaska in 2001-2003. *Eos Trans. AGU*, 84(52), Ocean Sci. Meet. Suppl., OS21B-10.
- 32. Coyle K.O., **Pinchuk A.I.** 2003. Zooplankton distribution on the northern Gulf of Alaska (GOA) shelf. *Eos Trans. AGU*, 84(52), Ocean Sci. Meet. Suppl., OS22K-04.
- 33. **Pinchuk A.I.**, Hopcroft R.R., Coyle K.O. 2002. Preliminary data on euphausiid distribution and growth in the northern Gulf of Alaska. *Eos Trans. AGU*, 83(4), Ocean Sciences Meet. Suppl., OS31D-78.
- 34. Coyle K.O., Okkonen S.R., **Pinchuk A.I.** 2002. Distribution of zooplankton communities relative to hydrographic features in the northern Gulf of Alaska. *Eos Trans. AGU*, 83(4), Ocean Sciences Meet. Suppl., OS31D-75.
- 35. Hopcroft R.R., **Pinchuk A.I.**, Clarke C. 2002. Growth rates of *Neocalanus* species in the northern Gulf of Alaska. *Eos Trans. AGU*, 83(4), Ocean Sciences Meet. Suppl., OS22L-07.
- 36. **Pinchuk A.I.**, Coyle K.O. 1999. Zooplankton community structure at the inner front of the southeastern Bering Sea. *Eos Trans. AGU*, 80(49), Ocean Sciences Meet. Suppl., OS229.
- 37. Coyle K.O., Paul A.J., Weingartner T.J., Royer T.C., Pinchuk A.I., Stockwell D.A., Whitledge T.E., Haldorson L.J., Boldt J., Day R.H. 1999. The distribution of zooplankton, nutrients, chlorophyll, fish, and seabirds relative to major water masses and current regimes on the shelf of the northern Gulf of Alaska during 1998 and 1999. *Eos Trans. AGU*, 80(49), Ocean Sciences Meet. Suppl., OS261.
- 38. Napp J.M., Coyle K.O., Brodeur R.D., Baier C.T., **Pinchuk A.I.** 1999. Weather-induced change of zooplankton biomass and community structure in the eastern Bering Sea: mechanisms for enhanced growth and mortality. *Eos Trans. AGU*, 80(49), Ocean Sciences Meet. Suppl., OS131.
- Coyle K.O., Pinchuk A.I. 1999. Zooplankton community structure at the inner front of the southeastern Bering Sea during a two-year period of climatic extremes. ASLO Aquatic Science Meeting, Santa Fe, New Mexico, February 1-5, 1999.
- 40. **Pinchuk A.I.**, Coyle K.O. 1999. Interannual differences in the distribution and abundance of euphausiids and copepods at the structural front of the southeastern Bering Sea during a twoyear period of climatic extreme. ASLO Aquatic Science Meeting, Santa Fe, New Mexico, February 1-5, 1999.
- 41. Stockwell D.A., Whitledge T.E., Zeeman S., Coyle K.O., **Pinchuk A.I.** 1998. Processes at the inner front of the southeastern Bering Sea: 1987 the year of anomalies. *Eos Trans. AGU*, 79(1), Ocean Sciences Meet Suppl., OS127.

- 42. Baduini C., Hunt G.L., Coyle K.O., **Pinchuk A.I.**, Hyrenbach K.D. 1998. Ecosystem anomalies in the southeastern Bering Sea: starvation of short-tailed shearwaters from an apparent lack of available euphausiids. *Eos Trans. AGU*, 79(1), Ocean Sciences Meet. Suppl., OS127.
- 43. Petryashov V.V., Markhaseva E.L., **Pinchuk A.I.**, Stepanjants S.D. 1994. Zooplankton of the Laptev Sea coastal waters. Russian-German Cooperation: Laptev Sea System, 2nd Workshop Program and Abstracts, The State Research Center, Arctic and Antarctic Research Institute, St.Petersburg, 21-24 November, 1994.
- 44. Kosobokova K.N., Hansen H., Markhaseva E.L., Petryashov V.V., Pinchuk A.I. 1994. Zooplankton studies in the Laptev Sea during the Arctic '93 Expedition. Russian-German Cooperation: Laptev Sea System, 2nd Workshop Program and Abstracts, The State Research Center, Arctic and Antarctic Research Institute, St.Petersburg 21-24 November, 1994.