

Tribute to Roy Toshio Tsuda (1939 - 2020)¹



Roy on the UOG Marine Lab balcony overlooking Pago Bay in 2003.

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Micronesia covers 7,4 million km² with some 2,100 islands and atolls. In the early 20th century, naturalists had collected algae and seagrasses from only a few islands and atolls across this vast region. In the 1960s, Roy Tsuda —graduate student—set out to change that. Over the following decades he published >60 papers on the marine macrophytes of Micronesia and another 30 covering parts of Polynesia and the central Pacific, southern Japan/Ryukyus, the Philippines and elsewhere. Some 185 genera and 653 species of benthic marine algae and seagrasses were recognized for Micronesia, including about 60 new species. By the end of his life he added another 30 publications detailing biogeographic distributions throughout Micronesia and parts of northern Polynesia.

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Beginnings

Roy was born in 1939 and raised in the Manoa Valley of Honolulu, where his father practiced dentistry and his mother was a homemaker busy raising the family. He was the oldest of four children and set the example for educational achievement, a priority in his family. Roy attended the nearby K-12 Iolani Preparatory School in Ala Wai, where he was active on the swim team and earned extra money one summer working at the Dole Pineapple Cannery in Honolulu. He graduated in 1957 and enrolled at the University of Hawaii Manoa—practically around the corner from his family home. He did “not want to spend his life looking into people’s mouths”, so dentistry held no interest for him. At UH he made good grades in botany and caught the attention of Max Doty, whose influence shaped Roy’s lifelong interest in marine algae and plants. During this time he worked briefly at Foster Botanical Garden but realized he was “not cut out to be a gardener.” He had met Sally during the summer before their freshman year and married by the time they both graduated in 1963. Roy continued at UH, where he completed his MS in Botany (1966) with the help of a National Defense Education Act Graduate Fellowship.

With an interest in pursuing a Ph.D, Roy sought out the “right” professors with the “best” background in phycology. He was accepted by the University of Wisconsin-Milwaukee, supported by an institutional research fellowship, and studied under the supervision of John L. Blum, a well-known educator and specialist on the Vaucheriaceae (Xanthophyta). He later regaled Bob Jones with stories of a Hawaiian boy’s first winter in the deep snows of Wisconsin. He was sure he would freeze to death walking between classes and not be found until the spring thaw. He once told me (JAM) about going out on Lake Michigan in a small boat and getting seasick, after assuring his mates that he was used to the Pacific Ocean and not subject to such annoyances in a mere lake. Roy spent only a couple of semesters in Milwaukee and was then off to work on the brown algae of Guam and the Northern Marianas, with his research supported by a scholarship from the Smithsonian. He had been hired as an instructor at the University of Guam (UOG) while still in his first year as a PhD student. Sally and their two sons accompanied Roy to Guam, where she worked first as a nurse at Guam Memorial Hospital but was soon hired on by the UOG nursing faculty. At UOG Roy became part of a team surveying and combating the crown-of-thorns starfish (*Acanthaster planci*) that was devastating corals throughout the tropical Pacific. Working with an international team, he gained experience in scientific mapping and distribution, dealing with complex governmental regulations, and engaging with the media over environmental issues—skills that would serve him well in the future.

Upon completing his PhD dissertation in 1970, Roy was promoted from Instructor to Assistant Professor. He was part of a team that included five other ambitious UOG assistant professors determined to build up the newly established Marine Laboratory—Bob Jones, Dan Cheney, Lu Eldredge, Dick Randall, and Jim Marsh—with the strong support of UOG president, Antonio Yamashita (1963-1970/1974-1977). These six constituted the original Marine Lab faculty when it opened on the shore of Pago Bay in December 1970. At the time, not all faculty “up the hill” were enthusiastic about the addition of a research unit because they saw teaching as the mission of the university; in their view there was little call for research. Nevertheless, within just a few years, the Marine Lab was recognized and respected for its teaching *and* for its research.

Roy played a central role in the Marine Lab’s success. In addition to engaging in his own research and teaching, he took over as Editor of *Micronesica* (1973-1976) and was promoted to full professor in 1974. He then became Marine Lab Director (1974-1976) and the primary contact person for environmental projects in Guam and the Trust Territory (TT). Island development was accelerating and management of coastal marine resources was urgent. Still, he managed to publish 5-10 papers/year and was the first person ever to be given tenure at UOG.

Marine Botanist

Roy's research focus was exclusively seaweed-seagrass centric. First and foremost he was a classical taxonomist and botanical bibliophile. His comprehensive, taxonomic knowledge across these ancient and diverse lineages contributed mightily to our knowledge of macrophytes over a huge swath of the tropical Pacific. And it was not easy.

Even today, >50 years later, working in remote areas presents many challenges to the kinds of questions one can address *in situ*, let alone the sustained funding required to support the travel and field work. Roy's technology kit consisted of a dissecting scope and a compound microscope. That was it. Access to scientific literature was almost exclusively through individual journal subscriptions and reprints. Roy's collection eventually required 15 five-drawer filing cabinets and a wall of books. Data management was manual. Thousands of 3 x 5 inch index cards and an IBM Selectric typewriter were the closest thing he had to a personal computer.

Discovery and identification relied on comparative morphology. It was the only data available and coping with phenotypic plasticity was a constant struggle. Fortunately, Roy was not a taxonomic "splitter"—ready to describe a new species on the slightest evidence. He paid attention to the influence of water motion and light availability on morphology. The revolution in molecular systematics based on DNA sequencing and barcoding was not widely available until the mid-1990s and even then, still in its infancy and difficult to apply to most algae.

Although Roy's journal publications were taxonomic, his technical report publications placed the macrophytes within the larger reef community and ecosystem contexts. This was made possible through the opportunities presented in the numerous marine biota surveys in which he participated along with his zoological colleagues and graduate students at the Marine Lab. Many of these surveys included quantitative transects of percent cover, diversity and functional groups, as well as meta-data on water quality and habitat that would prove invaluable 30 years hence.

On the more theoretical level, Roy was very interested in seaweed biogeography. For example, what caused the west-to-east attenuation of species richness across the tropical Pacific, given that the North Pacific Equatorial Current flows from east-to-west? Why were some species everywhere and others so isolated? Why did high islands harbor more species than low islands? Why did some species always seem to co-occur? He was also interested in the effects of algal heteromorphic life histories (i.e., free-living haploid and diploid phases of a single species that looked entirely different from each other) on succession, seasonality, zonation and functional groups (e.g., turfs, filaments, fleshy morphs with or without calcification). However, he published only a few papers on these various topics (Tsuda & Kami 1973, Tsuda 1977, 1982, Tsuda & Kamura 1990) and did not delve deeply into the mechanisms being put forward in the broader biogeographic community (i.e., plate tectonics, sea level changes, and ancient oceanic currents); nor in manipulative, experimental community ecology (e.g., competition, herbivory, defense). Discussion and speculation were reserved for his teaching lectures and seminar groups.

In my view (JLO), Roy's lasting scientific contributions to the field were in: 1) Networking with phycologists, seagrass ecologists and zoologists throughout the tropical Pacific in order to expand the biogeographic sampling of as many islands and atolls as possible, and to recognize the importance of macrophytes in the ecosystem—and not just the corals, fish and other invertebrates—a tendency that still persists to some degree today; 2) Consolidating all of the relevant taxonomic literature, *s.l.* for Micronesia (and beyond); and 3) Generating quantitative data that integrated multi-species richness, evenness and extent, thereby creating a rich data resource for modeling studies in community assembly (e.g., McKenzie et al. 2021a,b).

Teacher, Supervisor and Mentor

Roy taught three core courses in addition to seminars on current topics. “Marine Botany” covered the major red, green and brown lineages, including the blue-greens (cyanobacteria), some on diatoms and dinoflagellates, as well as the seagrasses. The focus was on life histories, morphology and ecology—with a large field component. He felt that every marine biologist should know the local species and where to find them, but also the larger distribution of sister-species. Collecting with him was a delight, although his limitless stamina could leave the most fit student exhausted by the end of the day. The excursions were conducted by snorkeling and scuba. In shallow water, Roy would pull himself along with his pick hammer; it was important not to stir up the bottom—“float and pick”. He knew “where to look” and “how to look” —often upside down under an overhang. He knew the names of the majority of species on sight and/or by habitat. That said, many tropical seaweeds are tiny (<1 cm) and reveal their intricate morphologies only under the dissecting scope.

“Introduction to Scientific Writing” was an eye-opener; how naïve we (JLO) newbies were. It included preparing a CV, learning the basic structure of a scientific paper, a technical report and the absolute necessity of grant writing. We had regular written and oral presentations (overhead sheets or 35mm slides in those days) and a hard critique on our first efforts to formulate a thesis topic. We also reviewed and discussed failed proposals. It was quite a challenging class.

Roy also team-taught in “Coral Reef Ecology”, as all of the other faculty at the Marine Lab were zoologically oriented. It was clear that coral reefs could just as well be called algal reefs with coralline algae serving as the foundations and the glue (not forgetting to mention the zooxanthellae symbionts of the corals) for reefs. Soft sediments were often algal generated (e.g., *Halimeda* sands) or stabilized by rhizomatous forms (e.g., *Caulerpa* species and seagrasses). The turf communities supplied the grazers and larger canopy forms (especially seagrasses and the large brown seaweeds such as *Sargassum*, *Turbinaria* *Padina* supplied habitat for larger animals. And then there were seaweeds that were absolutely not grazed because of their chemical defense (e.g., *Chlorodesmis*, *Asparagopsis*).

Roy took teaching very seriously and the small classes (8-10 of us at most) allowed for constant personal guidance. He was a clear lecturer but also a bit of a schoolmarm. He expected students (and staff alike) to produce, and made it clear that he would not continue to be an advisor to any student who he could never find or who was never around. His no-nonsense manner paid off handsomely when we students were invited to participate in off-island surveys in truly remote and often pristine locations. Quite a few of us went on to professional careers in marine biology and conservation. Looking back more than 45 years later, his approach to teaching served me (JLO) well in my own teaching, organization of fieldwork and student advising.

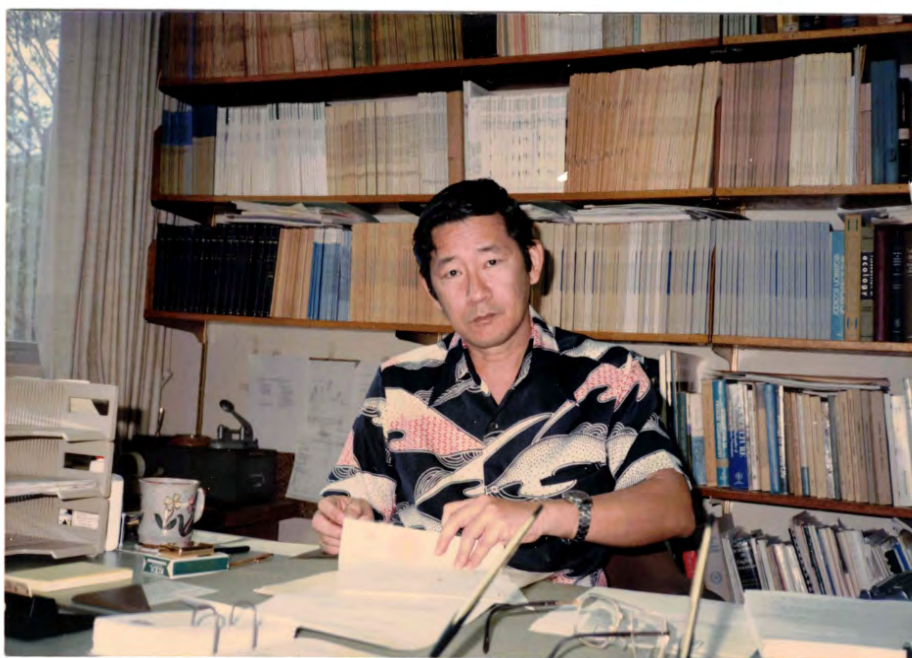
Administrator

Many readers will be aware of Roy’s scientific career but he will be more remembered in the wider University of Guam community for his impressive achievements as an administrator—first as Director of the Marine Lab and then, concurrently and progressively, as Dean of Graduate School and Research; Vice President for Academic Affairs; and Interim President on two occasions, before and after formal retirement.

As Director of the Marine Lab (1974-1976), Roy had already established a reputation on the upper campus as an effective teacher even as he achieved growing recognition as a researcher. A major objective for the Marine Lab was to build credibility. He made sure that fellow university administrators, Government of Guam officials, and legislators kept the Marine Lab on their radar at a time when those bodies (and the press) did not necessarily appreciate how research fit into the overall mission and public role of the university. His directorship provided invaluable experience for increasingly responsible positions later on as he learned to function with limited budgetary resources and to balance priorities. He became skillful in gaining stable funding through externally won grants

and contracts, a relatively new approach for UOG at the time. Above all, Roy recognized the need for team play as he worked to build bridges with other administrative units and among individuals. Once, when I (JAM) referred to the faculty as a “collection” of biologists, Roy was quick to remind me that we were a “team” of biologists. That mindset was integral to his effectiveness then and in subsequent administrative positions.

In 1978 Roy was selected as the first Dean of Graduate School and Research (GSR), a position he held until 1984. The goal this time was to strengthen the academic rigor of all UOG graduate programs and to encourage faculty and students to think outside their own individual disciplines. The approach was to build research capabilities and apply these to local knowledge and development of island cultures in Guam and greater Micronesia. In leading by example, Roy moved his professional library to his new administrative office and made room for a microscope on his desk. The GSR office served as the umbrella for research activities of the Marine Lab, the Water and Energy Research Institute (WERI), and the Micronesian Area Research Center (MARC). These three units became centers of excellence within the University.



1986. Roy in his upper campus office. The microscope was to his left.

Roy was named Academic Vice President in 1984 at a time when the University was facing severe accreditation issues and the ongoing challenge of unstable funding. It was a period of chaos and stress for all, and Roy’s leadership and administrative skills were critical in fostering a sense of teamwork across the entire University community. His ability to see the University as a whole and to work with the President and Board of Regents were key elements. His leadership was a major factor in restoring the University to an even keel and eventually full accreditation. During this period Roy concurrently served his first term as Interim President for a period of five months. Recognizing his performance and ongoing promise as an administrator, the University sponsored his attendance at the Harvard Institute for Educational Management in the summer of 1987.

Science Ambassador for Regional and International Activities

Roy became strongly identified with the UOG and the Marine Lab when it came to regional and international contacts and requests for representational input. Only a few highlights are included here. He was a member of the Coral Reef Committee of the International Association of Biological Oceanography for 1997-85 and its Chairman for 1979-81. In the latter position he delivered an opening address at the Fourth International Coral Reef Symposium in Manila in 1981. He served as Chairman of the Pacific Science Association's Scientific Committee on Coral Reefs 1975-81 and continued as a member 1981-85. During this time he led the UOG delegation to the 14th Pacific Science Congress in Khabarovsk U.S.S.R in 1979. Shorter term international assignments included scientific activities and collaborations in the Philippines, Indonesia, China, Chile, and New Caledonia. He was also active in a number of scientific and coordination activities in the American Pacific, including Sea Grant and Land Grant planning and coordination activities.

Honors and Recognitions

Roy was recognized as one of 75 distinguished alumni named on the University of Hawaii's 75th anniversary (1982). He received the Government of Guam Meritorious Service Award (1971), and Guam Legislature commendation (2001). University of Guam recognitions included commendations from the Board of Regents, Faculty Senate, and Alumni Association (2001, 2004)). He was honored by his scientific colleagues in having six newly described species named after him (See Eponomy).

Formal Retirement from the University of Guam

In 1989, at the age of 50, Roy took early retirement and was named Professor Emeritus. Roy's wife, Sally, also retired as Professor Emerita. She too was a powerhouse—as Professor of Nursing from 1968-1988, Director of Nursing at UOG from 1978-1981, and in fulfilling numerous consultancies for the College of Nursing and Health Sciences at UOG, as well as serving on the Board of Trustees for Guam Memorial Hospital. Even after retirement, she too continued in various higher level capacities, including the creation of an influential position paper on primary health care concepts for basic nursing for the World Health Organization (WHO), and in 2008 helped to establish the American Pacific Nursing Leaders Council. See <https://www.guampedia.com/sally-tsuda/>. Early retirements, however, did not mean the end of Roy's and Sally's services to UOG. With their sincere interest in the welfare of Guam and its people, they would leave an indelible legacy for the island. In 1990 Roy spent several months at Sesoko Marine Science Center at the University of the Ryukyus, Okinawa, where he worked on the floristics of algae and seagrasses, and produced three publications. It was good to have the time to relax, reflect and botanize, but he soon missed the faster pace at home. Upon his return to Guam, Roy signed on with Duenas & Associates as Chief of Environmental Services (1990-2000) and liaised with UOG as a licensed consultant. It was a decade of on-island and off-island consultancies throughout the Pacific and again involved networking at all levels, as science ambassador for regional and international activities (see earlier above).

In December 2000, Roy was brought out of retirement by the Board of Regents to serve as Interim President for 11 months when the University was under a new threat of losing accreditation during a time of great chaos. His leadership was again critical in establishing stability and in setting the path for return to full accreditation under his successor. Still, that was not his final act as administrator, as he once again came out formal retirement to serve as Vice President for Academic Affairs for five months in 2008.

In 2004, Roy and Sally returned permanently to Honolulu. There Roy became a Research Associate with the Botany-Herbarium Pacificum at the Bernice Pauahi Bishop Museum (BPBM) and

the University of Hawaii's Department of Marine Botany—his old *alma mater*—and he continued to thrive in his professional life. He reconnected with Isabella Abbott (a lifelong mentor/colleague/friend) until her death, as well as making new friends with young faculty. He loved his work but took the pace down somewhat. He worked half-days at the BPBM and finally found the time to engage in his favorite hobby—watching old John Wayne movies.

Again, Roy was in the right place at the right time. In the mid-late 1990s, the recognition that global biodiversity was being lost before it was even discovered (as the mantra goes) set new opportunities for expeditionary studies under the auspices of the UN Convention on Biological Diversity. The Smithsonian's International Census of Marine Life (CoML) (2000-2010) in combination with NOAA's Reef Assessment and Monitoring Program (RAMP) for Micronesia, specifically targeted remote and unpopulated islands in order to discover new species and expand the ranges of known species. The mission was to establish a baseline understanding of biodiversity of reef communities and ecosystems, i.e., not only corals and fish, but all life forms. Roy participated with gusto. Over the next 16 years of "retirement" his various collaborations led to 32 additional publications. Although Roy did not live to see his most recent publications (Tsuda 2021, McKenzie et al. 2021a,b), his life long enthusiasm for marine botany never wavered.

In Memoriam

How did he accomplish so much as a scientist and administrator? Even during periods of heavy administrative responsibilities, he constantly thought about his beloved marine seaweeds and plants, and studied them as his form of recreation. As both a scientist and administrator he was thoughtful, organized, and thorough in his attention to details. Roy was perceived as an "island boy"—someone without pretensions and never condescending towards other islanders. He had no hidden agendas; what you saw was what you got.

Although the administrative stress was sometimes intense, he was able to remain calm and constructive. He had a good sense of what to focus on and what to ignore. He avoided the temptation to pass off responsibility to someone else in order to "get it off his desk". He was clear in what he expected and took responsibility for his own mistakes. His general good judgement included careful selection of subordinates, for whom he engendered deep loyalty. Few administrators among his contemporaries enjoyed such respect. He genuinely loved UOG.

Roy continued to go to the Bishop Museum to pursue his algal interests until just a few days before his death. He passed away after a short hospital stay in the early morning of 7 December 2020. He was just shy of his 81st birthday on Christmas day. In the weeks following, the emails from former colleagues, friends and graduate students flew the world round—all with a remembrance of some special experience with Roy in the field, or Roy's knack for solving all kinds of intractable administrative problems. The confidence instilled by Roy has served many of us for a lifetime—calmness, a positive attitude, fairness and perseverance.

Home is the sailor, home from the sea — Robert Louis Stevenson

Former Colleagues Remember

Robert Underwood (Roy's Successor as Academic Vice President and later President of UOG). When I became Dean of the College of Education in 1988, Dr. Tsuda was my academic supervisor. He was incredibly supportive, organized and meticulous. He wanted the University to do well and while he was direct in his comments, he was never domineering. He simply told you what could or could not happen. The system he had in place was clear and easy for me to follow. The greatest lesson I learned from him was the importance of continuing one's research and not becoming totally subsumed by administration...When I became Academic Vice President, we shared the same

Administrative Assistant in Terry Leon Guerrero, who often remarked, “Dr. Tsuda would do it this way.” I never tired of hearing it. In fact, the entire University had come to see him as a reliable and stabilizing force in the operations of the University.

Helen Whippy (Vice President for Academic Affairs UOG selected by Roy & who later brought him back as Acting VPAA).

As an administrator, he was thoughtful, straightforward, and hard to fool. His scientific training served him well as he always wanted documentation and evidence for decisions. I learned a lot about how to deal with legal and complex issues from him. His advice to me was to remain calm and look at all sides before decisions were made. I have done that. Oh, also, he said to enjoy yourself. I did that and continue to do so.

Jim Marsh (Former Dean UOG Graduate School Research & Professor Emeritus ML)

Roy was my colleague, my mentor, my compadre, my friend—perhaps even my mentee occasionally.

I appreciated and enjoyed his and Sally’s company so many times over the years and will always savor those memories. I continue to think of Roy first and foremost for his seminal role and influence as one of the original Marine Laboratory faculty members. I particularly savor the many field projects where we worked together in Micronesia. As ML Director, Roy persevered and pulled the rest of us along with him in the darkest budgetary moments. He was professional, efficient, knowledgeable, observant, and just plain fun. Once, when we were traveling in Japan, airport officials directed him into a different line than Dan Cheney and I. He seemed somewhat baffled until he saw that he was in a line for returning residents and quickly (a bit sheepishly) picked up his bag and rejoined our line.

Chuck Birkeland (UOG Professor Emeritus ML)

Roy Tsuda was level-headed and direct. He truly set my career on track, as he was responsible for my getting a faculty position at the new UOG Marine Lab. In that moment, however, it was far from certain that there would be a career path because my position was cancelled while I was already on my flight from Panama (via LA and Honolulu) and my belongings were coming by ship! Roy did not panic. Rather he found an unfilled position in the music department to cover my salary for the first year. On another occasion, I was sitting in his office when he received a bomb threat. He answered, “OK. I’ll handle the matter” (or something like that; it was long ago). But he did not postpone the exams or tell anyone but me (because I happened to be there). It was ultimately a risk for his potential blame, but he made the best decision not to disrupt the exams for the whole university because of a threat from an unprepared student.

Dan Cheney (Original ML faculty member)

Roy was an amazing contributor and steady voice for the Marine Lab. We shared many memorable adventures on field surveys. On Yap in 1972, what began as a relatively effortless series of calm water starfish counts quickly led us into worsening wave and wind conditions. We were soon struggling in wild white waters with breaking seas pouring over the boat. There was no chance in turning back. Roy, Jim Marsh and I shared bailing duties while looking for a protected opening in the reef. After several hours we finally saw a small opening which allowed us to get to calmer waters inside the reef. It was only back on land that we all finally relaxed.

Margie Falanruw ((Botanist Curator, UOG Herbarium (1964-1971); Founder of the Yap Institute of Natural Sciences))

Oh gosh, Roy was always so steadily there. Hard to imagine otherwise. I remember that shortly before he arrived on Guam, I received a letter from Dr. Fosberg about him coming to UOG, saying, “He’s conscientious, you’ll like him.” Right on both counts. Roy was professional and no nonsense but behind it all also an endearing Hawaii-boy-trait. I remember when he, Bob Jones and I originated the Environmental Biology course. We all had different approaches and the students really got their time’s worth. Years later he came to Yap to do an environmental assessment of a dredging project that had a lot of us upset as it was up-current of the main manta cleaning stations among other things and there were disputes between those against it and those who said the dredging was necessary in order to build a road. Roy didn't get involved with the arguments. He just went about the work - and did the math. Among his findings was that if carried out as far as proposed, the amount of coral dredged would be over twice that needed for the road.

Bob Jones (First ML Director)

Roy’s passing brought forth memories of many wonderful days we spent together on campus, in the field and as two (both professional and foolish) young men learning about life and still growing up. He was successful in raising research funds and maintained an outstanding record of published papers and reports He worked well with his colleagues and was an outstanding chief scientist in important on- and off-island projects. I will miss but never forget him and those days in Guam and in the field.

Christopher S Lobban (UOG Biology Professor Emeritus)

I replaced Roy as phycologist at UOGML in 1988, arriving from Atlantic Canada and needing to get up to speed on the tropical Pacific seaweed flora. Roy very generously allowed me the pick through his vast literature collection to assemble a set of photocopied descriptions of every species that had been reported for the region (mostly by Roy). It was an essential tool as I started teaching marine botany. At the same time I was also asked to take over editing *Micronesica*, a role I filled for 25 years, and Roy’s encouragement and enthusiasm for the journal helped keep me and the journal going through some very dark times. While I rarely met him during his years as an administrator and during his long and productive retirement, he was always — and continues to be — the father of phycology in the region.

G. Curt Fiedler (UOG Biology Professor, *Micronesica* Editor 2014 - Present)

Roy made an immediate impact on me when I first took over the editorial reigns of *Micronesica* in 2014. He would often email me to ask if I needed articles or help with editing. And if he didn’t see a new article on the *Micronesica* website in a few months, he would contact me to ask if there were any problems. The Word template we use today for the journal was created by Roy, with a few tweaks to format it for US letter size paper. Ironically, I never met Roy in person, though his brother Dick was a helpful presence to me as a graduate teaching assistant for the UH Manoa Entomology Department.

Former Students Remember

Jim Branch (1969 MSc) I was saddened to learn of Roy's passing. He had a positive influence on my life at a time when I was struggling with teaching, thesis research, and course work at the Marine Lab. He was one of three professors over seeing my thesis effort. Of the several courses offered by the Lab, Roy's algology was the most organized and his lab sessions the most in-depth. I shall keep Roy in my thoughts.

Ramon Rechebei (1973 Bachelor's student) Roy was my research and diving partner at the Marine Lab. As the first Micronesian Chief of Marine Resources for the TTPI, Roy's influence on my educational and career journeys were my 'North Star'. His technical and professional advice, conveyed with his soft smile and reassuring eyes; on perseverance and cultural challenges, have been my 'deep-water anchor', source of stability and confidence for over four decades. [From Liz Rechebei: We named our son, Roy (who passed away at a young age) after him.

Steve Hedlund (1973 MSc student) I always appreciated and admired Roy for the person that he was...kind and yet firm and fatherly... I was able to travel and work alongside of Roy and several of you in Yap, Chuuk, Saipan and of course Guam. He was always a mentor... When three years of data were burned in a fire, Roy calmly said, "Don't worry, you can pull it together and be done in another year." I opted to take a pause... So, I never finished my degree but gained immeasurably by my time on Guam and friendship with Roy.

Pat Bryan (1974 MSc) On a diving trip to Palau ca. 1969, Dick Randall talked me into entering graduate school at the new UOG-Marine Laboratory which was to open in 1970. I had been working in a fisheries program in Palau as a Peace Corps Volunteer. I showed up in Guam and got a position working on the starfish (*Acanthaster*) problem as a team leader. Roy took me under his wing. I also became interested in sharks, then a black encrusting sponge (*Terpios*) that was threatening coral reefs. Roy encouraged me on the one hand but also wanted me to focus. After two years of indecision on a thesis project, Roy took me aside and convinced me to work on Siganids (rabbitfish). Roy and I co-authored a couple of papers and ultimately I published my thesis in *Pacific Science*. Over the course of my career in Micronesia I worked with Roy on many environmental survey projects. I will always be grateful for his constant prodding and his help in scientific writing. We butted heads now and then but without his "push" to finish my thesis I probably would not have graduated. His phrase, "delete every extraneous word," will always be in my head.

Bill Fitzgerald (1976 MSc) I arrived at the Marine Lab in 1972 and Roy became the chair of my thesis committee. I worked with Roy on the Siganid project, focusing on the primary algal food (*Enteromorpha clathrata*) of the fry/juvenile stage. During my first year Roy also encouraged me to write up research I had done on the California coast's intertidal chitons. It was subsequently published in *The Veliger*, and later my thesis in *Botanica Marina*. This was all part of the mentoring that Roy generously provided over the years. He also helped me to land a position at Guam Aquatic and Wildlife. It was the first aquaculture project targeted at developing an aquaculture industry in Guam and ended up being a significant focus of my career for many years. The mentoring and guidance provided by Roy helped me develop professionalism, pursue grants in multiple areas, and continue to publish. I would periodically get together with Roy, even after he retired and had moved back to Hawaii. I will be forever grateful and indebted to Roy for the positive direction in my life and career that he provided.

Mike Gawel (1977 MSc) I will be grateful forever to Roy as my mentor. He taught me valuable management and scientific writing skills besides conveying a great understanding of marine algae and environmental studies. Roy referred me for my job as the first National Environmental Planner for the UN Trust Territory of the Pacific Islands. He also nominated me for my East West Center scholarship at the University of Hawaii which strengthened my service in international activities. I have been fortunate to have had many field experiences working with Roy where I experienced his honesty, concern for others and constructive support.

Jeanine Olsen (1979 MSc) When I finally finished my Masters a year late due to a freak storm that destroyed my original thesis topic, Roy asked me, most matter-of-factly, where I planned to do my PhD. I had been thinking about a position at Guam Fish & Wildlife or perhaps a graduate program at the University of Hawaii, as I wanted to stay in the tropics. Shaking his head, Roy replied, ‘Not UH. You’d never finish. You need to apply to UC-Berkeley.’ Hesitantly I did so with his support and it launched my own 40-year career with algae and seagrasses—but not in the tropics. Roy continued to be my mentor, especially in later higher administrative dilemmas I encountered as chair of our institute. My first visit back to Guam was in 2003. Roy and I went snorkeling and reminisced about (mis)adventures on various TT environmental surveys. For example, on a trip to Ulithi I got sick one night and was on all fours out on the sand next to our shack. Roy came out to see what was up and sat with me until I was well enough to go back inside. The next morning at breakfast everyone was wolfing down what food there was. I was sipping tea and still feeling a bit weak. Roy looked at me with a wicked smile and chuckle, and asked, “How about some leftover sashimi for that stomach of yours?” Everyone laughed. Even so, I did manage to hold my own in the field that day... Our last in-person get-together was an extended lunch in Waikiki in 2011 with Jim Marsh and my husband Wytze Stam. I had hopes for a rendezvous in Guam to celebrate the ML-50th Anniversary, but it was not to be.

Bill Zolan (1980 MSc) I had little contact with Roy over the past 30 plus years, so I missed his many later academic and professional accomplishments which others can address better than I. The Roy I knew was an “Island Guy” who wore island shirts to work nearly everyday. He had a wicked, ironic, sense of humor that you wanted to avoid being the subject of. He also was a teacher who was constantly throwing out ideas for thesis topics during his lectures. One of his ideas became an inspiration for my own thesis in 1973 and for a time he became my thesis committee chairman. In August, 1975, I accompanied Roy, Steve Amesbury and Ted Tansy to the Marshall Islands to complete marine environmental studies for two new sewage treatment plant outfalls. His nature as an “Island Guy” came out when we were offshore in a small boat, on the windward side of the Majuro’s Darrit-Uliga-Dalap reef, dropping drift drogues to measure current directions. The surf was huge, pounding on the reef. One of our drogues got carried by the breakers onto the reef. Roy took off his shirt and plunged overboard swimming through the breakers as we watched apprehensively, catching peeks of him now and then, hoping he would make it safely to shore. He got the drogue, turned around and swam back to the boat, as if it was nothing.

Bruce Best (1981 MSc) RT, Captain of the ML ship in our day [1970s-1980s], made my stay at the Lab. The knowledge gained in his algae class got me on the basic ‘field trip’ list to tag along with the coral/invert/fish team, as we surveyed Micronesian reefs. Tsuda definitely diverted my career path on another tangent after the day, in his class, when, unscripted, I got him to go to the board and outline the basic headers to put together a grant proposal (no internet in those days...). That day/week I went back and slapped together, with Barry Smith, an alternate energy proposal for a wind generator/tower system. My soft money temporary/interim/‘as funds are available’ life in Micronesia began and continues to this day... Barry’s career [fellow grad student] got a kick start when Roy broke off Sea Grant support for Guam by the University of Hawaii, and put Barry in charge. Tsuda’s sage advice to Barry was, “Spend the first few weeks letting the region know you are here”.

MSc Students of Roy

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Eponymy

As listed in the Index Nomen Algarum (INA), University of California-Berkeley Herbarium

1. *Gracilaria tsudae* (I.A. Abbott & I. Meneses) I.A. Abbott
2. *Hydropuntia tsudae* (I.A. Abbott & I. Meneses) M.J. Wynne
3. *Hypnea tsudae* M.O. Paiano, F.P. Cabrera, & A.R. Sherwood
4. *Martensia tsudae* A.R. Sherwood & S.-M. Lin
5. *Polycavernosa tsudae* I.A. Abbott & I. Meneses
6. *Polysiphonia tsudana* Hollenberg

Journal Publications, Published Abstracts, Conference Proceedings, Book Chapters, Technical Reports & Miscellaneous Papers

Note to readers: PDF-downloads for articles in *Micronesica* can be found at <https://www.micronesica.org/volumes>; and also via the UOG-ML website at <https://www.uog.edu/ml/papers>. Pdf-downloads for UOG-ML Technical Reports can be found at <https://www.uog.edu/ml/technical-reports>.

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Roy Tsuda, Jeanine Olsen and Jim Marsh (Wytze Stam back center) lunching and reminiscing at The Hau Tree, Kaimana Beach, Hawaii in 2011.

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