

国際ウミガメシンポジウム・プレイベント
日本ウミガメ会議・各種地域会合・各種ワークショップ

日時：2月18日 ワークショップ（時間は下記参照）
2月19日 第28回日本ウミガメ会議（10：00-13：00）
ワークショップ・地域会合（時間は下記参照）

参加費：参加は国際ウミガメシンポジウム参加者に限る。

*日本ウミガメ会議および地域会合は無料。ワークショップ：一人550円。

*人数把握のため、事前登録（日本ウミガメ協議会宛）をお願いします。事前の送金が有難いですが、振込手数料がかかる場合、お支払いは当日大会受付にて申し受けます。

使用言語：日本ウミガメ会議のみ日本語。その他地域会合、ワークショップは英語。通訳はありません。

実施日時一覧（ワークショップの内容は下を参照）

2月18日（日）

【ワークショップ】

9:00-12:00 調査と保全のための飼育
Captive Rearing for Research and Conservation

9:00-18:00 統計解析ソフト「R」の紹介と統計解析ワークショップ
Introductory R and statistics workshop

9:00-15:00 学生委員会ワークショップ“科学を描くアート”
Student Committee Workshop: “The art of writing science”

13:00-20:00 温度依存性決定ワークショップ
Temperature-dependent sex determination: Beyond protection of sea turtles

13:00-20:00 第2回海洋ゴミとウミガメ
2nd Workshop on Marine Debris and Sea Turtles

13:00-20:00 GIS（地理情報システム）ワークショップ
GIS Workshop

2月19日（月）

【ワークショップ】

9:00-12:00 第2回 UAV（ドローン等無人機）のウミガメ保全と調査への利用ワークショップ
2nd Use of UAVs (Unmanned Aerial Vehicles or Drones) in Sea Turtle Conservation and Research Workshop

9:00-12:00 第9回ウミガメへの投薬とリハビリテーションワークショップ
9th Sea Turtle Medicine and Rehabilitation Workshop

9:00-12:00 ウミガメ保全プロジェクトを長期的に成功させるための地域の状況に合わせた収入創

出活動の構築

Building Income Generating Activities adapted to the local context to ensure the long-term success of Sea Turtle Conservation Projects

【日本ウミガメ会議】（日本語）

10:00-13:00 第28回日本ウミガメ会議（全国のとりまとめ）

【地域会合（Regional Meeting）】

9:00-12:00 パシフィックアイランズ・オセアニア Pacific Islands/Oceania

地中海 Mediterranean Reunion

インド洋・南東アジア Indian Ocean and South-east Asia (IOSEA)

中南米 Latin America (RETOMALA)

13:00-16:00 アフリカ Africa

14:00-17:00 東アジア（日本含む） East Asia

***** ワークショップの内容 *****

調査と保全のための飼育

Captive Rearing for Research and Conservation

Organizers: Jeanette Wyneken (jwyneken@gmail.com), David Owens (owensd@cofc.edu)

日時: 18日 9:00-12:00

内容: オサガメを除けば、ウミガメは“生きたまま飼育する”ことは難しくない。しかし、管理のクオリティは差が大きく、向上には時間がかかる。獣医によるケアスキルや、種・ライフステージごとの餌の管理などは重要なポイントである。長年のトライアンドエラーや経費をかけることで、いくつかの研究室では調査や保全の研究のために非常に状態のよいウミガメが飼育できるようになっている。サウンドハズバンドリー技術など、多くの成功事例がある。熟練した調査者や水族館職員、養殖業者が、彼らが飼育されたウミガメについて何を習得してきたか、現在の限界は何か、調査における飼育ウミガメの価値とは、そしてどんな問題があるのか、について議論する。

Summary: Sea turtle species, with the exception of the leatherback, are not difficult to “keep alive” in captivity. Turtle farms, aquaria and zoos have held sea turtles for decades. Yet, the quality of care can vary greatly and has evolved across time. The high cost of maintenance, the need for skilled veterinary care, and the challenges of providing species- and life stage-appropriate diets are all key challenges. These topics and many other “How To” considerations will be covered. The good news is that after years of trial and error, and at a high cost, several labs are now consistently able to produce very healthy animals for research and conservation studies. Many successful

studies now are possible because of sound husbandry techniques and studies now being published are supporting this research strategy. Literally hundreds of projects ranging from eco-physiology, to TSD studies, morphology, and behavior such as imprinting, orientation, sensory biology are possible because of access to many similar sized animals of known histories. Additionally, testing of novel techniques ranging from tracking oceanic stage turtles to testing fisheries mitigation measures, head starting, captive reproduction, together documented the value of this research paradigm using captive reared sea turtles. Experienced investigators, aquarists, and aquaculturists will discuss what they have learned about captive reared animals, what the current limits are, and the value of captive animals in research and what have been their key problems. Important comparisons between captive and wild research animals will be offered. Each talk will include ample time for questions and discussion.

統計解析ソフト「R」の紹介と統計解析ワークショップ

Introductory R and statistics workshop

Organizers: Tomo Eguchi (tomo.eguchi@noaa.gov)

日時: 18日 9:00-18:00

内容: Rは無料で様々なOSで使うことができるため、生物学や生態学の中で主要な統計解析ソフトになってきました。しかし、Rにはpoint-and-clickボタンがないため、ユーザーは訓練が必要です。このワークショップでは、Rでの解析の始め方、データのエラーチェック方法、魅力的な図の作り方、統計モデルの適用方法、結果の読み方について学びます。実習型のワークショップなので、ノートパソコンを持ってきてください。ワークショップに先駆けて、インストールの必要なソフトをお知らせします。Rプログラミングの経験はいりません。経験者の申し込みは奨励されていません。

Summary: In the recent years, R programming language has become a common statistical analysis tool in biology and ecology (and others). The language has been used widely because it is free, runs on all major operating systems (Microsoft, Apple, Linux, and Unix), easily creates complicated figures, and relatively easy to learn. Further, many packages have been written to conduct a wide variety of data analyses, including capture-mark-recapture, line-transect, genetic, stable isotopes, telemetry, etc. However, because R does not have point-and-click menu options, users need to learn the programming language in order to analyze data. For someone who has never experienced programming, this learning process can be daunting. In this workshop, I will show how one can get started on using R and to conduct common statistical data analyses, such as linear and logistic regressions. We will start with learning how to import data into R from spreadsheets, how to check for errors in data, making attractive figures, applying statistical models, and interpreting results. I expect to use the morning to work on data manipulations and plotting. The afternoon session will be used to learn statistical analyses in R. If time allows, we will discuss the Bayesian philosophy of statistical inference.

This will be a hands-on workshop so you are expected to bring a laptop. I will provide instructions on

how to install necessary software prior to the workshop. No prior R programming experience is required. Consequently, experienced R programmers are not encouraged to sign up for this workshop.

学生委員会ワークショップ “科学を描くアート”

Student Committee Workshop: “The art of writing science”

Organizers: Student Committee (Itzel Sifuentes, Catalina Urueña & Adriana Cortes: iststudentcommittee@gmail.com)

日時: 18日 9:00-15:00

内容: 書くことは最も一般的な科学的なコミュニケーションです。しかし、多くの若い科学者は科学的な書き方、そして論文発表されるまでの過程を習ったことはありません。このワークショップは、学生を対象に、科学原稿を書き、投稿し、くための技術を向上させる手伝いとなるものです。言い換えれば、私たちは学生たちにわかりやすい科学文章を書けるようになってもらいたい、

Summary: Writing is the most common form of scientific communication. However many young scientists have never been taught how to write science, and how to go through the process of publishing. Improving scientific writing is critical to closing the gap between the scientists and the public. This workshop aims to help students develop skills needed to write, submit, and publish scientific manuscripts. In other words, we want students to develop the skills needed for clear scientific writing, and provide them with the necessary tips for success.

Expected outcomes: By the end of the workshop, participants should have the skills to plan and produce a draft of a research paper, and know how to choose the proper journal for submission. In addition, they will learn what to expect about the publication and peer-review process.

Speakers

- Richard Reina (Associate Professor at Monash University, Australia)
- Kate Mansfield (Assistant Professor, University of Central Florida)
- Jeff Seminoff (Southwest Fisheries Center NOAA, USA; Editor of the journals Chelonian Conservation and Biology and Endangered Species Research)

Program: We propose to have 3 different sessions:

1. Theoretical part (1 hr):

Twenty minutes talks (preferably with Power Point presentation) in which speakers could address all these different topics. 1. Planning: Organizing data, 2. Understanding the writing process, 3. Writing an outreach paper, 4. Breaking down the structure of papers to generate writing goals, 5. Developing techniques for being an effective writer, 6. Choosing a proper journal: the cost of publishing, 7. Dealing with submission, 8. What to expect from editorial boards and reviewers, 9. What happens once published?, 10. Disseminating your science (scicom), working with institutional media folks, social media, google scholar, researchgate, and 11. Citation counts and h-index (academia currency).

2. Practical part (3 hrs): The idea is to form several working groups that can be led for each one of the speakers. The exercise may consist of: 1. Prepare an abstract, 2. Pick a proper Journal, 3. Identify the proper format, 4. Make a checklist of all the requirements, and 5. Discuss the exercise within your group.

3. Concluding Remarks (1hr): Get the entire group together again to share their own experiences, give constructive feedback and make a final discussion in a plenary session.

Writing is the most common form of scientific communication. However many young scientists have never been taught how to write science, and how to go through the process of publishing. This workshop aims to help students develop skills needed to write, submit, and publish scientific manuscripts. In other words, we want students to develop the skills needed for clear scientific writing, and provide them with the necessary tips for success. The ultimate goal is to improve the dissemination of research and enhance knowledge sharing. Improving scientific writing is critical to closing the gap between the scientists and the public. We will be covering the following topics: • Planning: how should I start? • Understanding the writing process • Breaking down the structure of papers to generate writing goals • Developing techniques for being an effective writer • Dealing with submission and reviews • And much more....

温度依存性決定ワークショップ

Temperature-dependent sex determination: Beyond protection of sea turtles

Organizers: Marc Girondot (marc.girondot@u-psud.fr), Matthew Godfrey (mgodfrey@seaturtle.org), tzel Sifuentes (itzel_sifuentes@yahoo.com), Jean-Michel Guillon (jean-michel.guillon@u-psud.fr)

日時: 18日 13:00 – 20:00

内容: 温度依存性決定に関する研究は様々なレベルで進められてきた。このワークショップでは近年の研究成果、温度と性比の分析に関する優良事例を紹介する。最初の3時間はこれまでのTSDに関する歴史的なレビュー、昨年公表された研究の分析、新たなデータの報告。2つ目のパートではTSDと性比分析の練習をするので、自分のPCに解析ソフトRとRstudioをインストールし、あれば自身のフィールドのデータを準備しておいてください。

Summary: Temperature-dependent sex determination in reptiles was discovered more than 40 years ago, first in a lizard, then in a tortoise and a freshwater turtle and later in all marine turtles. TSD research is particularly active at different level of organization (biochemical, molecular biology, ecology and evolution) and many progresses have been done in recent years. This workshop will be a mix of presentations about the recent developments about TSD and best practices when analyzing sex ratio and temperatures in the context of evolutionary biology and conservation. The first 3 hours of the workshop will be dedicated to an historical review of TSD, analyses of the most recent papers published last year and presentation of new data. The second part of the workshop will be dedicated to practical exercises about TSD and sex ratios analysis: bring your computer with R and Rstudio installed and your own field temperature data if you have!

If you will present a poster or a talk dealing about TSD at plenary session, please contact Marc Girondot at marc.girondot@u-psud.fr

第2回海洋ゴミとウミガメ

2nd Workshop on Marine Debris and Sea Turtles

Organizers: Daniel González-Paredes (daniperilla@gmail.com), Alejandro Fallabrino (afalla7@gmail.com)

日時: 18日 13:00-20:00

内容: 海洋ゴミの問題を科学的な視点で考える。プラスチック公害問題に焦点を当てる。海洋で増え続けているプラスチックごみはウミガメに影響を与えており、大きな脅威のひとつとなっており、この脅威をいかに取り除くことができるのかが重要である。

Summary: The workshop on Marine Debris and Sea Turtles aims to address the current concern of the scientific community about the issue of anthropogenic marine debris, improving our understanding of its impacts and effects on marine turtle populations.

This second edition will be held on Sunday 18th February (1pm - 8pm) and hold a special session focused on the plastic pollution issue. Plastic pollution has become one of the main threats that have emerged over the last decades in the marine environment. The increasing occurrence of plastics in the oceans has direct effects on marine turtles. Moreover, turtles interact with plastic debris in all their life stages and in different ways such as entanglement, ingestion or bioaccumulation, causing different health problems or even mortality. Therefore, it is essential to strengthen research and conservation actions to mitigate and reduce these impacts.

The 2nd Workshop on Marine Debris and Sea Turtles represents an excellent opportunity to create a common framework of reference for the research in the fields of plastic pollution and marine turtles. Through a forum, specialists in the matter and attendees will be able to discuss the different topics related to this issue. The specific workshop objectives are:

1. Identify the potential hazards of plastics at different scales.
2. Share experiences and results of cutting-edge research.
3. Detect knowledge gaps.
4. Discuss methods, indicators and technical tools for risk assessment.
5. Standardize data collection protocols.
6. Discuss mitigation strategies, laws and policies.

This workshop is aimed at scientists and researchers who are interested in the subject of the plastic pollution and its effects on marine turtles, and in general for the public interested in knowing more about these issues.

We look forward to having you join us for this exciting workshop!

GIS (地理情報システム) ワークショップ

GIS Workshop

Organizers: Andrew DiMatteo (andrew.dimatteo@gmail.com)

日時: 18日 13:00-20:00

内容: GIS ワークショップは参加者にデータマネジメント、視覚化、分析の最良の実践を紹介します。ウミガメの長い回遊経路、謎めいたライフステージ、世界規模の分布など、GIS はウミガメの生態を理解し、結果について議論するために最適な道具です。産卵情報、衛星追跡、水中での調査など様々なデータタイプをカバーしています。今年のワークショップでは、データベース、自動化、どのようにして複数のソフトウェアパッケージ (GIS ソフト、R、リモートセンシングデータなど) を紐づけて解析を行うかの習得、に焦点を当てます。GIS のプロフェッショナル向けのワークショップではありませんが、1-2 年の学習経験または業務経験が望まれます。熟練した GIS のプロフェッショナルの参加も歓迎いたします。

Summary: The GIS workshop will introduce participants to best practices in data management, visualization, and analysis. Given their long migrations, cryptic life stages, and broad global distribution, GIS is a critical tool in understanding sea turtle ecology and communicating results. Multiple data types will be covered, including, nesting, satellite telemetry, and in-water surveys. This year a special focus will be placed on databases, automation, and learning how to tie multiple software packages together to perform analyses. Increasingly, GIS analysis relies on database management, both in and out of GIS software, using specialized statistical packages available in software like R, and remotely sensed data. These topics are complex disciplines in their own right and a well-rounded GIS analyst should have some understanding of them. Participants do not need to be GIS 'pros' to attend but should have at least had 1-2 semesters of GIS training or 1-2 years professional experience. Experienced GIS professionals are welcome to attend as well in order to share their experiences with others and network with other professionals. Our goal is to foster a robust GIS user base within the sea turtle community and provide a forum for learning and resource sharing. Time will be set aside for attendee questions, discussion, and one-on-one time with workshop presenters.

In our 6 hour workshop, the first 4 hours will be dedicated to talks on various topics by GIS professionals. The last two hours will be for group discussion and 1-on-1 time. Please stay tuned to the CTURTLE listserv for info on how to schedule 1-on-1 time.

第2回 UAV (ドローン等無人機) のウミガメ保全と調査への利用ワークショップ

2nd Use of UAVs (Unmanned Aerial Vehicles or Drones) in Sea Turtle Conservation and Research Workshop

Organizers: ALan Rees (a.f.rees@exeter.ac.uk), Brendan Godley (b.j.godley@exeter.ac.uk)

日時: 19日 9:00 - 12:00

内容: ウミガメの調査へのドローン等の無人機 (UAV) の活用について、使用方法や技術等の事例紹介、情報交換を行い、今後の発展に寄与する。ワークショップは主に 1) UAV とその技術の紹介、2) UAV

の使用事例、の2つのパートに分かれる。

Summary: The three-hour session is intended to bring together sea turtle researchers that are experienced, novice and just interested in using UAVs or drones. The primary aims are to continue dialogue on the best use of UAVs for sea turtle studies and catalyze a network where technical advances and method development are shared.

The session would be divided into two interactive parts, where the attendees are encouraged to ask questions to the presenters and the group at large.

- 1) Brief introduction to UAVs and technology
 - a. Types of UAV, their general properties
 - b. Data capture and processing options
 - c. Review of current level of relevant peer-reviewed literature
- 2) Examples of UAV use
 - a. General outline of basic research topics
 - b. Brief demonstrations on some of the popular software used to control UAVs and process data
 - c. Brief presentations of UAV research undertaken by workshop participants

The workshop is envisaged to be repeated and developed over successive years/ symposia so that the international sea turtle community are kept up-to-date with advances in UAV-based research and ‘recruits’ to the field have opportunity to learn from experienced practitioners first hand.

第9回ウミガメへの投薬とリハビリテーションワークショップ

9th Sea Turtle Medicine and Rehabilitation Workshop

Organizers: Daniela Freggi (dafregg@tin.it), Antonio Di Bello

Date: 19日 9:00-12:00

内容: リハビリテーターや獣医、飼育者がウミガメに対して医学的ケアをする機会に備えて、経験と知識を共有するために企画された。レスキューセンターとのコラボレーションで新たな医学的手法、手順、手術技術が得られてきている。1つ目のパートでは、熟練者からのレクチャー。2つ目のパートではJCU Turtle Health Research チームを迎え、“ウミガメ疾病リスク分析 (DRA)” を実施する。

Summary: The Sea Turtle medicine workshop is designed to be an opportunity for rehabilitators, vets and biologists involved in sea turtle medical care, in order to share experiences and knowledge. Sea turtle rehabilitation represents a challenge often with a lack of resources and expertise. The collaboration among rescue centers allows the flow of info about new medical procedures, protocols and surgical techniques for the sea turtles benefit. In this edition we will have 2 different moments: in the first part, lectures from experienced professionals will be presented in an open forum format to allow for free-flowing discussion between lecturers and attendees. The lectures will be focused on critical care and emergency medicine, specific diagnostics and new challenges. In the second part, we will host the JCU Turtle Health Research team in order to cooperate to their program, in the

preparing a "sea turtle disease risk analysis (DRA)", a multidisciplinary attitude towards conservation strategies and wildlife pathogen surveillance. The topic will be to rank/prioritize the risks of diseases (infectious/non-infectious) for sea turtle health, conservation and research. The common goal is to standardize common protocols and develop facilitated, structured review and analysis of the scenario, in order to avoid the waste of economical resources, time and pain for the animals.

ウミガメ保全プロジェクトを長期的に成功させるための地域の状況に合わせた収入創出活動の構築
**Building Income Generating Activities adapted to the local context to ensure the long-term success of
Sea Turtle Conservation Projects**

Organizers: Alexandre Girard (alexandre.girard@rastoma.org), Alexis Guilleux (alexis.guilleux@rastoma.org)

日時: 19日 9:00-12:00 (このワークショップは参加無料です)

内容: 収入の創出活動(IGA)は、2018年の国際ウミガメシンポジウムのテーマ「ウミガメ保護のその先に」と地域コミュニティと強固な関係を構築する必要があり、持続可能な解決策を共に探す必要があることに合致する。これには人的活動の影響を軽減する方法を探ることや変化や制限を求める代わりに IGA を提案することを含んでいる。発展途上国では、ウミガメに関わるプログラムの長期の成功は、地域との近い関係の中で IGA を適合させられる力量があるかどうかにかかっている。

Summary: The theme of the ISTS this year is “Beyond Protection of Sea Turtle”.

Building Income Generating Activities (IGA) is right in line with the theme of the ISTS 2018: Beyond Protection of Sea Turtle there is the necessity to build strong relationships with local communities, searching together for sustainable solutions. This includes looking for mitigation solutions to reduce the impact of anthropogenic activities and proposing IGA to compensate for induced changes and restrictions. In developing countries, long-term success of Sea Turtle Program therefore relies on our capacity to create adapted IGA in close cooperation with the communities.

[No registration fee for this workshop. The organizers will cover the A/V costs]