



Arenal Volcano. Photo by: Erick Mata.

TDWG 2016 Annual Conference

Santa Clara de San Carlos, COSTA RICA

5-9 December 2016

Recent Updates

The [program](#) is now available (updated 1 Dec. 2016) is available [interactively online](#) and as a [downloadable PDF](#). Printed copies of the program will NOT be provided at the meeting. If you want a printed program, please print the latest version before you leave home.

Conference Recordings: We thank iDigBio for enabling the live streaming of much of the conference as well as making these [presentations available for viewing](#) afterwards! See also their [summary](#) of this meeting for some of what you may have missed or want to revisit.

Photos: We are building a [photo album](#) in a Flickr group from the meeting and its post-conference biocursos. Please join and share your TDWG-related photos or view what has already been uploaded.

Twitter: Did you miss all the buzz on Twitter about [#tdwg16](#)? Go check it out!

See latest program and event information [below](#).

Travel information updated end November, includes recommendations for travel to and from La Fortuna. For most participants, the best option will be to use a TDWG chartered bus (\$30 each way). We've also added some [hotels near the SJO airport](#) if you need to overnight in San Jose between your flight and bus.

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Conference Theme: Standards Supporting Innovation in Biodiversity Research and Conservation

Standards for the description and exchange of biodiversity information help promote research, support decision-making for conservation and planning, and provide a means of communicating observations by both professional and citizen scientists across taxa and political boundaries. TDWG standards are an integral foundation of the largest biodiversity information sources, but given the wealth and diversity of information collected for plants, animals, and fossils, the need remains to extend and refine the concepts required to achieve greater integration for the discovery of knowledge and its use in biodiversity conservation.

This year, TDWG is focusing its annual meeting not only on supporting research, decision making, and communication of biodiversity information, but also on how standards can support innovative research. Scientific innovations often "stand on the shoulders of giants," but they can also be **disruptive** -- causing major changes in the way that science works. To what extent do our standards promote innovation, and does the most innovative research show us where our standards need to be refined and extended? Current research both in Computer Science (e.g., deep learning, computer vision, ambient computing) and Biodiversity Sciences offers excellent opportunities for multidisciplinary innovative synergies among researchers, decision makers, students, and citizen scientists.

The Program

Program on your mobile device: the program (sessions, talks, abstracts, author lists), is available through [Sched](#), a responsive web application (adapts well to screen size). See: <https://tdwg2016.sched.org/>

Program as PDF: A full PDF program for TDWG 2016 (including presentations and sessions by date and time; links to abstracts; overview; posters; sponsors; and a campus map) is now available (updated 1 Dec. 2016) for download. A separate [overview](#) (2 pp. last modified 1 Dec.) version of the schedule is also available for download.

Note that printed programs will NOT be available at this meeting. If you want a printed program, please print the latest version before you leave home. Internet access to a schedule by [date and time](#) as well as a list of [presentations and authors by session](#) (includes posters) will retain the latest information and are linked to abstracts.

Posters may be up to A0 in size, in either orientation. Push pins will be made available for mounting posters in the CTEC Lobby on Monday during breaks. Please mount your poster at your poster's ID number. Posters should remain available for viewing all week. You may choose times to post times when you will be available to interact with viewers and answer questions.

Oral Presentations are given 15 minutes, which includes changing speakers and questions. Please make sure your presentation does not exceed this time limit or you will be asked to stop.

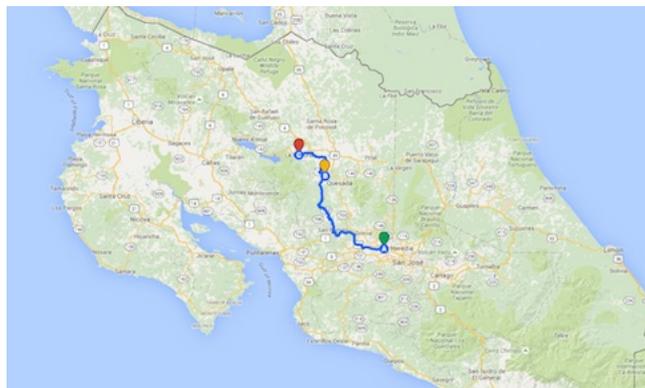
Upload slides for oral presentations before the start of the session. All authors should have received instructions on uploading and formatting slides in an email sent 26 Nov. Uploading slides during the session will take away from your time to present. If you have questions, please contact [conference\[at\]tdwg\[dot\]org](mailto:conference[at]tdwg[dot]org)

Welcome Reception and opening of **Registration** will be at the **Arenal Manoa** & Hot Springs Resort on Sunday evening 4 December from 6 to 8 PM. Please make every effort to prepay for your registration to speed the process. Buses will bring participants from conference hotels (and in front of the church on the Central Plaza in La Fortuna) to and from the venue (see program for schedule).

Gala Dinner will take place on Thursday evening 8 December at **Ecotermales** where participants may enjoy a pre-dinner soak in the hot springs (bring your bathing suit; changing facilities available), wander the grounds, or enjoy a cocktail before dinner at 7:30 PM. Buses will pick up participants from conference hotels at designated times and leave Ecotermales at 9:30 PM. Tickets for the banquet are sponsored by Instituto Tecnológico de Costa Rica (TEC) and included with full registration.

Location

Recommended **hotels** are near La Fortuna de San Carlos, Costa Rica, while the conference will be held in CTEC, Santa Clara de San Carlos, Costa Rica. Daily shuttles will be provided between the recommended hotels, the central square in La Fortuna, and conference venue.



[Click to view in Google Maps \(interactive\).](#)

Travel Information

See the links below for information about:

- [General recommendations for travel to and within Costa Rica](#)
- [Visa requirements](#)
- [Health Advisories for Travelers](#)
- [Flying into Costa Rica](#)
- [Getting to La Fortuna \(and back to San José\)](#)
- [Transportation between Hotels and Conference Venue \(CTEC\)](#)

Conference Hotels

Registration Fees

Registration Period	Dates	Registration and Membership	Members (2016 Dues Already Paid)
Early	before Aug 16	\$500	\$425
Normal	Aug 16 - Nov 06	\$550	\$475
Late	Nov 07 and later	\$600	\$525

Registration includes TDWG membership, the welcoming reception, daily transportation between the hotels and the conference venue, lunch during the week, and the conference banquet. Register as soon as possible to secure the best rate.

Members who have already paid dues for 2016 will receive a \$75 discount code to use on the registration site. Your membership fee can be waived if you are **from a developing country** [1], but you must request a discount code from the Treasurer. **Students** enrolled in a degree program are also entitled to membership fee waiver, as well as an additional \$50 discount over the early registration fee. To **request the applicable discount code**, please email [treasurer\[at\]tdwg.org](mailto:treasurer[at]tdwg.org). A daily rate of \$120/day will be available to participants who cannot attend the full conference. A daily rate of \$80/day is available to students. Again, request a discount code from the treasurer[at]tdwg.org, and please indicate which days you will attend.

Registration fees can be paid on-line with a credit card. If you cannot use a credit card, you can select an off-line payment method, such as bank wire or cash on site, at the end of the registration process. Please ensure that your registration fees are as you expect them before paying on line. If the amount is not correct, you can save your registration data and secure the current registration fee by selecting on "off line" payment method at the end of the registration process. Then contact the Treasurer to sort out any corrections to your fees. **Find the registration site at <https://www.regonline.com/tdwg2016>** [2].

[1] TDWG follows the UN/OECD classification of national economies. To be eligible for the developing country waiver, your country must be listed as low-income [here](#) or lower-middle income [here](#).

[2] Please note, our conference registration site is a separate secure system (RegOnline) and requires a different user account and password than the systems that support abstract submission (OCS) or the main TDWG website. If you have problems logging on to RegOnline, please contact [Stan Blum](#), Registration Coordinator. 🐛

Symposia, Workshops, and Interest Group Meetings

Symposia

S01 **Semantics for Biodiversity Science - An Interoperability Frontier.**

Sophia Ananiadou, Jose Araya-Monge, Riza Batista-Navarro, Pier Luigi Buttigieg, Nico Cellinese, Hong Cui, John Deck, Hilmar Lapp, William Ulate, and Gaurav Vaidya.

S02 **BHL: 10 Years of Innovation and Growth.**

Constance Rinaldo, Martin Kalfatovic, Grace Costantino, and Carolyn Sheffield.

- S03 **Establishing Standards and Protocols to Enable Interoperability and Document Data Provenance for Online Biodiversity Specimen Transcription Crowdsourcing.**
Elizabeth Ellwood, Paul Flemons, Robert Guralnick, Paul Kimberly, Kevin Love, Simon Chagnoux, Edward Gilbert, and Austin Mast.
- S04 **Application of Data Visualisation for Sustainable Biodiversity: Deriving Useful Knowledge and Insights from Heterogeneous Data.**
Jitendra Gaikwad, Pawandeep Kaur, and Friederike Klan.
- S05 **Big Data Analysis Methods and Techniques as Applied to Biocollections.**
Matthew Collins, Jennifer Hammock, and Alexander Thompson.
- S06 **Biodiversity Data Quality – issues, methods and tools.**
Arthur Chapman, Antonio M Saraiva, and Alexander Thompson.
- S09 **Agricultural Biodiversity Standards and Semantics.**
Cynthia Parr and Gail Kampmeier.
- S10 **Citizen Science for Biodiversity Research.**
Robert D Stevenson, Etienne A Cartolano, and Jacob van Etten.
- S12 **Globally Unique Identifiers for Names.**
Chuck Miller and Richard Pyle.
- S13 **DNA-based species and taxon occurrences.**
Urmas Kõljalg, Kessy Abarenkov, and Gabriele Dröge.

Workshops

- W01 **Towards Best Practices for the Implementation and Documentation of Biodiversity Informatics Services.**
Anton Güntsch, James Macklin, and Paul J. Morris.
- W03 **Darwin Core Invasive Species Extension Hackathon: six schemas for GitHub.**
Annie Simpson, Catherine S Jarnevich, and Jim Graham.
- W04 **Citizen Science in Biodiversity Research: Defining infrastructure needs and standards to increase global monitoring.**
Robert D Stevenson, and Etienne A Cartolano.
- W05 **How to standardize a dataset to Darwin Core with OpenRefine.**
Dimitri Brosens and Peter Desmet.
- W06 **Darwin Core: Tutorials, best practices, current issues, future directions.**
Joel Sachs, James Macklin, John Wieczorek, Tim Robertson, and Steve Baskauf.
- W08 **New Approaches and Tools in Open Data Publishing.**
Lyubomir Penev, Teodor Georgiev, and Viktor Senderov.

Interest/Task Group Meetings

- IG **Annotations.**
R.A. Morris.
- IG **Biodiversity Informatics Curriculum.**
H. Koivula (or TBD).
- IG **Data Quality.**
A. Chapman and A. Saraiva.
- IG **Literature.**
M. Kalfatovic.
- IG **Natural Collections Descriptions.**
Deb Paul.
- IG **Paleobiology.**
D. Reed.
- IG **Joint Research Data Alliance/TDWG Interest Group on Metadata Standards for Attribution of Physical and Digital Collections Stewardship.**
Anne Thiessen.
- IG **Species information Interest Group.**
Paco Pando.
- IG **TDWG Architecture Group (TAG).**
G. Whitbread.
- IG **Vocabulary Maintenance Specification.**
S. Baskauf.

Participant List

A list of participants with their email addresses is available here to people with accounts on this site. You must log in to see the download. [Register as a user on this site](#) (free).

Software Carpentry Workshop (pre-conference)

Software Carpentry is an organization dedicated to teaching the basic skills for scientific computing. A biodiversity-oriented, two-day workshop on Software Carpentry will be offered at the conference venue just before the main conference (3-4 December). The workshop will be taught by by Matthew Collins, Deb Paul, and Alex Thompson, and will cover basic concepts and tools, including program design, version control, data management, and task automation. Participants will be encouraged to help one another and to apply what they have learned to their own research problems. For more information, including prerequisites and logistics, please see the [workshop website](#) and the links contained there.

A workshop fee of \$100 (\$50 for students) covers the cost of transportation, lunch, and venue. Space is limited to 25 participants, and registration will close when the workshop is full. Visit the main conference registration site to sign up for the workshop. (Students should contact the Treasurer ([treasurer \[at\] tdwg.org](mailto:treasurer@tdwg.org)) to request a discount code for conference and workshop discount.)

Program Committee

Committee Member	Organization
Erick Mata Montero, Program Co-Chair	Professor, School of Computing, Costa Rica Institute of Technology

Committee Member	Organization
Gail Kampmeier, Program Co-Chair	Illinois Natural History Survey, USA
Francisco ("Paco") Pando	Real Jardín Botánico-CSIC, Spain
Maria Mora	Instituto Nacional de Biodiversidad (INBIO), Costa Rica
Joel Sachs	Agriculture and Agri-Food, Canada
Manuel Vargas	Instituto Nacional de Biodiversidad (INBIO), Costa Rica
Stan Blum, ex-officio	TDWG Coordinator
William Ulate, ex-officio	TDWG Treasurer, Missouri Botanical Garden, USA
Denisse Vargas, ex-officio	CTEC Conference Manager

TDWG 2016 Local Organizing Committee (LOC) members

Committee Member	Organization
Rogelio Gonzalez, LOC Chair	Professor, School of Computing, Costa Rica Institute of Technology
Erick Mata Montero	Professor, School of Computing, Costa Rica Institute of Technology
Vera Gamboa	Professor, School of Computing, Costa Rica Institute of Technology
Oscar López	Professor, School of Computing, Costa Rica Institute of Technology

Conference Venue



Technology Transfer Center (CTEC), San Carlos/Santa Clara TEC campus, Alajuela, Costa Rica

Excursions

Sponsors of TDWG 2016

We gratefully acknowledge the following sponsors of this year's conference:

Platinum Level Sponsor



Gold Level Sponsor



Silver Level Sponsor



Additional financial and in-kind support provided by:



Points of Contact

For **logistical issues** please send your inquiries to: [conference \[AT\] tdwg.org](mailto:conference@tdwg.org)

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