Fundamentals of Trail Stewardship
Pre-Conference Workshop
Tuesday, April 23, 2019
8:30 a.m. to 4:00 p.m.
Early Bird Fee: $50 includes workshop, lunch, & transportation

Presenters:
- Garrett Villanueva, Trail and Travel Management Program Leader, US Forest Service
- Chris Orr, Trail Specialist, International Mountain Biking Association

Description: The goal of this workshop is to build knowledge in trail assessment and maintenance solutions. Presenters will cover techniques used in a variety of terrain and sensitive areas. We will discuss Best Management Practices for trail maintenance, teach participants how to read the landscape, and break down the assessment process to identify root causes of trail failure. Instructors will discuss site-specific applications of Best Management Practices including how and where design standards may be pushed to achieve desired trail experiences. Participants should bring a clinometer. If you don't have a clinometer, there are apps for smart phones that can be used instead.

Itinerary:
- 9:00 – Depart hotel
- 9:30 – Introduction and Lecture
- Noon – Lunch
- 1:00 – Trail Maintenance and Restoration Project
- 4:00 – Return to Hotel

How to Prepare
Bring a clinometer or an app for your smart phone. Wear appropriate personal protective equipment including gloves, pants, closed-toe shoes, long sleeve shirt, hat, and eye protection. Also bring water and sunscreen. Tools will be provided.
Min and Max attendance: Minimum 20, max 30

Weather dependent: In the event of inclement weather, the workshop will be altered to take advantage of developing trails for weather events and focus more time on assessment related to the weather event.

Educational Objectives:
The objective of this workshop is develop robust base knowledge of key concepts for trail operations and encourage future learning in the following areas:
1. Contouring alignments
2. Trail Design and specifications
3. Drainage design and drainage frequency
4. Clinometer use
5. Maximum short pitch grades
6. Soil, vegetation and precipitation as design parameters
7. Restoring closed trails

Presenter Bio
Garrett Villanueva is a trail professional and has been employed by the US Forest Service since 1998. His passion and full time job include managing trails and fostering land stewardship. While he likes nothing more than digging in the dirt, his job has evolved from trail construction and trail design to trail operations, policy development and partnerships development. Currently, Garrett leads the trail program for the US Forest Service, Pacific Southwest Region which encompasses the beautiful state of California. He works with statewide partners, participates in policy development, and tackles complex trail issues throughout California’s National Forests. Representing the US Forest Service, Garrett has travelled internationally to share knowledge about partnerships, community engagement, trail management, and trail planning in Brazil and Israel. In his free time he enjoys nordic and alpine skiing, cycling, hiking, paddle boarding and surfing with his family. As his jobby, he has a small business building wooden surfboards, paddleboards, kayaks and canoes.

Chris Orr is a trail professional and has been working in the trail and conservation communities for the past thirty years. Currently Chris splits his time as a Trail Construction and Conservation Specialist for IMBA Trail Solutions and as the Assistant Director of the Valentine Eastern Sierra Reserve (VESR), one of thirty nine University of California NRS research and education field stations. For Trail Solutions and local communities, Chris specializes in trail system survey, design, mapping, education, heavy equipment construction, and trail impact / storm water runoff mitigation methodologies. As the Assistant Director of VESR, he manages the conservation of one of the remaining un-logged, un-grazed montane conifer habitats in the Eastern Sierras. Chris enjoys hiking, bike packing, snowboarding, fly-fishing, and exhibit restoration work with the Santa Barbara Museum of Natural History.