

TracePro® Spring 2017 European Training Courses

TracePro is a flexible and powerful ray tracing program based on ACIS®, the industry-standard solid modeling kernel. It predicts intensity patterns in candelas and calculates illuminance on any surface. TracePro can model any surface type, and any surface can be made a source of light. TracePro features an easy and fun to use, state-of-the-art graphical Windows interface and strong data exchange capabilities with CAD and lens design software.

Introduction to TracePro March 6-7, 2017

Day 1	Introduction to TracePro <ul style="list-style-type: none"> • Introduction to TracePro • Ray tracing Overview and Principles • Importing geometry and creating geometry in TracePro • Applying properties • Defining sources • Ray tracing • Analyzing the results
Day 2	Introduction to TracePro <ul style="list-style-type: none"> • Review of Day 1 and Questions • Creating custom properties • The Scheme macro language and macro recorder • Importance Sampling • Raytrace options and settings • Additional analysis tools including ray tables and path sorting • TracePro utilities

Optimization with TracePro March 8-9, 2017

Day 3	Optimization with TracePro <ul style="list-style-type: none"> • Principles of optimization • Overview of the 2D and 3D optimizers in TracePro • Creating geometry in the optimizers • Defining variables • Defining optimization goals and targets • Optimization examples including lens, reflector, and light guide example
Day 4	Optimization with TracePro <ul style="list-style-type: none"> • Using the Scheme macro language in the TracePro optimizers • Tolerancing and sensitivity analysis • Optimizing the position and rotation of CAD imported objects in TracePro • Selecting the best surface and material properties using the optimizer • Additional examples

Stray Light Analysis Using TracePro - March 10, 2017

Day 5	Stray Light Analysis Using TracePro <ul style="list-style-type: none"> • Stray light nomenclature • BSDF theory including the ABg model • Stray light metrics, PST, Stray Irradiance • The Monte Carlo method and Variance Reduction • Importance Sampling and Stratified Importance Sampling • Baffle Design Concepts • Newtonian, Cassegrain and Self-emission example
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Please note that the Introduction to TracePro course should be considered a pre-requisite for the third, fourth and fifth days of training.

We strongly recommend students take, or have taken the Introduction 2 day course in the past, before moving on to the more advanced classes. Please contact us if there are any questions on these courses. A student taking all five days of training will leave with a full and complete knowledge of TracePro and its features and capabilities, and be ready to use that knowledge on a daily basis.

Pre-registration with payment must be made at least 3 weeks before the start of the course. The fee is refundable up to that point (\$800 fee is charged for later cancellations).

TracePro® Spring 2017 European Training Courses

Introduction to TracePro

March 6th to 7th, 2017

Days 1 and 2 of our **Introduction to TracePro** training is an excellent option for users who have little or no experience with TracePro, as well as long-time users. The feedback we receive from this training is that everyone learns something new. We will cover all aspects of TracePro during these two days. In the first day of this two-day course we will take a TracePro model from beginning to end, starting with importing, defining, and modifying the geometry, then applying properties, defining sources, running the raytrace, and analyzing the results. Day 2 will focus on more advanced features in TracePro such as custom property creation, the macro language, Importance Sampling, advanced raytrace options, and the TracePro utilities.

Optimization with TracePro

March 8th to 9th, 2017

Days 3 and 4 is our course on **Optimization in TracePro**. The first day of this intensive hands-on course will cover the theory behind optimization and then provide a full overview of the 2D and 3D optimizers available in TracePro. All aspects of the optimization process, including creating the geometry, applying properties, setting up sources, and defining optimization targets will be addressed. After that we will work through several optimization examples featuring lenses, reflectors, and light guides. Day 2 picks up where the first day leaves off and will cover more advanced topics in the TracePro optimizers including using the Scheme macro language to expand the capabilities of the optimizers. Additional hands-on examples will be presented including tolerancing with the optimizer and using the optimizer to select the best surface and/or material properties to meet a user defined goal.

Stray Light Analysis

March 10th, 2017

Day 5 will cover **Stray Light Analysis using TracePro**. This course will cover the theories of stray light analysis including stray light nomenclature. We will focus on the BSDF (Bi-directional Scattering Distribution Function), its use in TracePro, and its role in stray light analysis. We will also cover the Monte Carlo method and Importance Sampling and how they can be used to increase sampling of stray light paths. The path sorting and analysis tools in TracePro applicable to stray light analysis will also be explored. This will be followed by several hands-on examples.

Classes will be held at the university: **Ernst-Abbe-Hochschule Jena, Germany**, and given in English language.

Address: Carl-Zeiss-Promenade 2, 07745 Jena, Thuringia, Germany.

Directions: <http://www.eah-jena.de/fhj/fhjena/en/fhj/portraet/seiten/anfahrt.aspx>

Lodging is available at nearby hotels within 30 minutes walking distance.

Attendees are responsible for their own room arrangements and should make reservations directly with the hotel. Here are a few recommendations:

Hotel Ibis Jena City	(+49)3641/8130
Hotel VielHarmonie	(+49) 3641 7962171

Tuition includes all materials, individual use of computer, beverages & refreshments as well as lunch. ***Tuition must be paid in full prior to attendance.*** Minimum enrollments apply.

To register please send your check or credit card number along with the completed registration form to:

Lambda Research Corporation

25 Porter Road

Littleton MA 01460 USA

Tel: 1-978-486-0766 • Fax: 1-978-486-0755

Email: sales@lambdares.com

Registration Form

Company _____ Name _____

Address _____ City _____ Zip _____

Tel: _____ Fax: _____

E-Mail: _____

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|--------------------------|---|--------------------------|
| <input type="checkbox"/> | Introduction to TracePro-\$1,600 | (March 6th to 7th, 2017) |
| <input type="checkbox"/> | Optimization with TracePro-\$1600 | (March 8th to 9th, 2017) |
| <input type="checkbox"/> | Stray Light Analysis using TracePro-\$800 | (March 10th, 2017) |

Credit Card (Circle one): AmEx / Visa / MasterCard

Credit Card No. _____

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