

R Training

November 8th at The Greenbrier in White Sulphur Springs, WV and also live-streamed virtually

With advances in computer and data science and the enormous opportunity to share software applications, one statistical software application has stood out as a real game-changer. That software tool is called R. R is an open-source resource that provides access to tools by some of the greatest minds in statistics and data science. These tools include all the basic statistical methodologies but also cutting-edge methods that are only now developing in academic and industrial centers around the world. Learning how to use R effectively creates in the user enormous potential to approach routine and advanced tasks with ease.

In this course, you will:

- Learn what R is and how you can make use of it in your daily work
- Use R Studio to write and manage scripts
- Develop facility with the most useful commands and learn how R is structured
- Import data from a wide variety of sources and learn how to clean and manipulate it
- Write your own functions and export results in graphical and numerical form
- Manage multiple projects

TUESDAY

November 8, 8am - 4pm ET

► Welcome and introductions

► Introduction to R

- R and RStudio®
- How to write scripts
- Useful commands

► Data Analysis

- Importing data
(Including CSV, XLSX, SPSS, SAV, etc.)
- Data wrangling, cleaning, and manipulation
- Functions for statistical analyses
- Packages and libraries

► Scripting and Project Management

- Writing custom functions
- Data Structures
- Visualization
- Data export



Drivers of Liking

Principles and Applications

November 9-11 at The Greenbrier in White Sulphur Springs, WV and also live-streamed virtually



Marrying hedonic data with sensory descriptive and analytical information is necessary to understand what drives consumer liking. Many analytical options have been available over the years, but they often will not result in the same

conclusions. One analysis might find sweetness to be an attribute driving liking, while another might not. One technique might uncover clear population segmentation, while another might not. How can you choose the most suitable approach? What are each approach's underlying analytical assumptions and how likely are they to deliver trustworthy results and insights? In this course we will review commonly used techniques to understand why consumers like some products and dislike others and identify the strengths and weaknesses of each technique. We will introduce Landscape Segmentation Analysis® (LSA) which is a tool specifically developed to link liking to possible explanatory variables such as sensory and analytical inputs for multiple consumer segments.



Since reliable insights cannot be learned without reliable data, we will also describe experimental approaches that maximize data quality when selecting test products and generating sample presentation orders.

In this course, you will:

- Learn how to select optimal sets of products for a Drivers of Liking® project and generate presentation orders that minimize common experimental biases
- Compare different liking models and understand why they might not always reach the same conclusions, and learn how to select the most suitable approach
- Construct maps with products and consumer ideal points and identify population segmentation
- Uncover a category's drivers of liking using descriptive and analytical data
- Learn how to combine different analytical tools such as LSA and conjoint analysis or decision trees for deeper insights
- Use mapping results to improve existing products
- Conduct product portfolio optimization

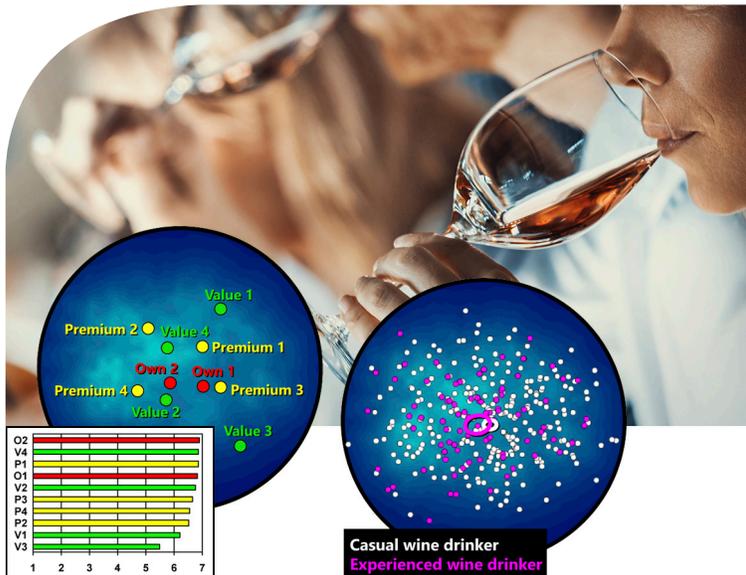
IFPROGRAMS® AND R SOFTWARE

The course instruction includes software to perform analyses and exercises. Prior to the course, you will be sent information by email to install R and RStudio® to be used on Tuesday, and IFPrograms® to be used Wednesday-Friday. To introduce you to the capabilities of IFPrograms®, you will also receive a complimentary 3-month trial of the Professional version used for an extensive collection of sensory and consumer data related analyses. For a detailed listing of IFPrograms® features and licensing, please visit www.ifpress.com/software. (Note: IFPrograms is not required to apply course principles.)

WEDNESDAY

November 9, 8am - 4pm ET

- ▶ Introduction of the two course projects:
 - Chocolate chip bitterness reduction research (**Project 1**)
 - Cookie ingredient change (**Project 2**)
- ▶ Why link consumer and sensory data?
- ▶ Overview of the sensory and Drivers of Liking® (DOL) spaces
- ▶ How to approach a category appraisal (*IFPrograms® exercises*)
 - Product selection using graph theory
 - Method comparison to generate sample presentation orders (random, Williams Squares, CR&S)
 - Multiple day effect, complete vs. incomplete block designs
- ▶ Two common analytical mapping options (*IFPrograms® exercises*)
 - Factor analysis (**Project 1**) and external preference mapping (**Project 2**)
 - Assumptions and potential limitations of the two techniques
- ▶ Review of the background to mapping consumer hedonic data: modeling liking, biplots, unfolding
- ▶ Introduction to Landscape Segmentation Analysis® (LSA)
 - Successive analytical steps
 - Modeling approach
- ▶ Applications of LSA principles to **Project 1** (*IFPrograms® exercises*)
 - **Project 1:** LSA on consumer data
 - Product space generation
 - Investigation of the drivers of liking space
 - Illustration of weak and strong DOLs
 - Comparison to previous factor analysis results



FOR YOUR CONTINUED STUDY...

To enhance your continued study, you will receive a printed manual with all presented slides and a copy of our current books, *Tools and Applications of Sensory and Consumer Science* and *Thurstonian Models: Categorical Decision Making in the Presence of Noise*.

THURSDAY

November 10, 8am - 4pm ET

- ▶ Applications of LSA principles to **Project 2** (*IFPrograms® exercises*)
 - **Project 2:** LSA on consumer data
 - Product space and DOLs
 - Color coding of consumers based on segmentation
 - Investigation of demographic effects
 - Comparison to previous external preference mapping results
- ▶ A comparison of LSA and internal preference mapping
 - Contrasting assumptions and outputs
 - Three-dimensional solution example – The “Cube”
 - Application to 27 real-world® category appraisals
- ▶ A comparison of LSA and external preference mapping
 - Illustration of differential consumer fits
- ▶ Diagnosing the need for a three-dimensional solution
 - Application to an orange juice example (*IFPrograms® exercises*)
- ▶ Going beyond the Drivers of Liking® space 1: Predicting new product success
 - Conditions for successful predictions
 - Applications to Projects 1 and 2 (*IFPrograms® exercises*)

FRIDAY

November 11, 8am - Noon ET

- ▶ Going beyond the Drivers of Liking® space 2: Creating optimal product sensory profiles and portfolios
 - Portfolio optimization strategies: Maximizing consumer satisfaction and maximizing First Choice (*IFPrograms® exercises*)
 - **Project 1:** Maximizing consumer satisfaction with one or two products
 - **Project 2:** Maximizing First Choice based on own products and main competitor
- ▶ Next level learning: Using incomplete block designs
 - Situations where a complete block design is not possible
 - Generation of rotations for incomplete block designs
 - Comparison of outputs between complete blocks and incomplete block scenarios (*IFPrograms® exercises*)
- ▶ LSA applications to other types of consumer generated data using IFPrograms software (*IFPrograms® exercises*)
 - Applications of LSA in the beer category
 - Measuring brand effects on consumer landscape using 10 white wines
 - Motivations for product consumption
 - Moisturizing and refreshing properties of soap bar images
 - Usage occasions
 - Food concept preferences of children and adults
- ▶ Review of course principles and conclusions

REGISTRATION

R Training

Tuesday, November 8, 2022

R Training only, in-person or virtually..... \$495

Drivers of Liking®

Wednesday, November 9 - Friday, November 11, 2022

In-person attendance at The Greenbrier... \$1,890*

Live stream attendance virtually \$1,575*

*Includes complimentary R Training on the first day. For academic and multiple registration discounts, contact us before registering.

Register Online: www.ifpress.com/nov-2022-courses

Fee includes:

- ▶ Printed manuals of slides and software exercises
- ▶ A printed copy of our book, *Tools and Applications of Sensory and Consumer Science* and a PDF download of our book: *Thurstonian Models: Categorical Decision Making in the Presence of Noise*
- ▶ Food and beverage refreshments each day, plus lunch and dinner on Tues. - Thurs. for attendees at The Greenbrier
- ▶ A 3-month free trial of **IFPrograms®** Professional version

Register online at www.ifpress.com/courses where payment can be made by credit card. A fee discount is available for students and multiple registrations. If you qualify for a discount or need information about payment by invoice, please contact **Shannon Denton-Brown** at mail@ifpress.com or call 804-675-2980 before registering.

LOCATION: The course will be presented at The Greenbrier® in White Sulphur Springs, WV. Nestled in the Allegheny Mountains, this gracious hotel is renowned for its hospitality and service.



LODGING: Lodging is not included in the course fee and participants must make their own hotel reservations. A block of rooms is being held at The Greenbrier at a special rate of **\$205** (plus resort fees & taxes). To make a reservation, please call **1-877-661-0839** and mention you are attending the **Institute for Perception** course (**Note:** the special rate is not available through online reservations.) To learn more about The Greenbrier, America's resort since 1778, visit their website at www.greenbrier.com.

TRANSPORTATION: The Greenbrier Valley Airport (**LWB**) in Lewisburg is only a 15 min. shuttle ride from the hotel. Direct flights to LWB are available on United Airlines from Chicago O'Hare (**ORD**) and Washington Dulles (**IAD**). Other airports include Roanoke, VA (**ROA**, 1hr. 15 min.), Charleston, WV (**CRW**, 2 hrs.), and Charlottesville, VA (**CHO**, 2 hrs. 15 min.).

CANCELLATION POLICY: Registrants who have not cancelled two working days prior to the course will be charged the entire fee. Substitutions are allowed for any reason.

The Institute for Perception

These courses have been developed for technical and supervisory personnel involved in all aspects of sensory and consumer research.

The concepts covered have valuable applications in product development, quality assurance, marketing and advertising claims departments of consumer product companies.

THESE COURSES WILL ALSO BE PRESENTED VIRTUALLY

If you are unable to attend in person, these courses will also be live streamed virtually. If you attend virtually, you will be sent a link by email with instructions on how to join the meeting with the speakers and other attendees. All supporting materials will be mailed to you before the event, so please register early to allow for sufficient shipping time.

SPEAKERS

For detailed biographical information, please visit www.ifpress.com/nov-2022-courses



Dr. Daniel M. Ennis

The Institute for Perception
- President



Dr. Benoît Rousseau

The Institute for Perception
- Senior Vice President



William (Will) Russ

The Institute for Perception
- Computational Market Researcher
and Lead Programmer



Anthony (Manny) Manuele

Molson Coors Beverage Company
- Retired Vice President of Global
Brewing, Quality, Innovation, and
Technical Governance

CFS Certified
Food Scientist*

This program qualifies for Certified Food Scientist (CFS) recertification contact hours (CH).

Register online at www.ifpress.com/courses or call 804-675-2980.