

3D Printing: Intro to 3D Printing for Christmas Displays S67

This class will cover how to get started in 3D printing, including choosing or building your first printer. We will discuss different mediums to print with and will utilize design and printer software to print a model during class. We will also discuss how to use your 3D printer for your Christmas display.

3D Printing: Creative Uses of 3D Printers for Your Light Display S72

As the cost of 3D printers is dropping, 3D Printing is another tool in the belt of Christmas DIYers that will help you tackle problems and create new objects. Learn how you can design and print the things you need for your display using a 3D printer.

Catherine Baer

Catherine Baer has a small Grinchy display in the panhandle of FL. She has been running animated displays for 8 years.

All Things Wireframes T4

Wireframes are one of the most versatile display elements one can have. This class will take you through the gamut of options that you have from buying off-the-shelf versions to working with vendors to customize wireframes specifically for you and your use, as well as different lighting options. We'll also deep dive on the ultimate DIY option; the ins and outs of welding your own frames. This class is filled with tons of information, plus tips and tricks to make your wireframes one of the highlights of your display.

Mark Zembruski

Blast Off to Automation T12

If you are new to lighting and animation and not sure how to begin, this class will convince you that you can do this! Ernie will share how he went from an avid Christmas light fan to an automated LOR user in 6 short months and will share the ups, downs and pitfalls he discovered in the process.

Ernie McAnally

Ernie is an experienced speaker, avid Christmas light fiend, fun loving person and general good guy. He enjoys helping others to understand how to take their displays from static to animated.

Building your Christmas Display Website T17

In this course the student will build a website for their Christmas display. The first 30 minutes will be a review of the resources needed to build the website and an explanation of the Wordpress template being used. The remaining 1.5 hours will go through building the actual website using the student's computer. Participants are encouraged to have an account with a hosting company and a URL so that they can get their site up and running shortly after the class. If the student does not have an account or a URL, arrangements can be made to provide temporary access through my personal account.

A [reservation is suggested](#) for this class so that the instructor can provide you with pre-class information.

Greg Konzal

I have been decorating my home for the past 16 years and the second time instructing at the Christmas Expo. I have a certificate in website design and have assisted many individuals and organizations in creating websites. <http://www.konzalchristmas.com>

Cyber Security 101 - Don't Let the Grinch Steal Your Christmas Show T19

Computers and networks are an important part of almost everyone daily lives and are especially vital to our lighting displays. The threats that face users are very real and grow both in number and sophistication every day. Do not fear, this is not a computer science level class where we will talk in geek-speak the whole time. This class is designed for the average computer user to learn basic behaviors, skills, concepts that you can easily implement to protect your computers and light shows at home. You will leave with my top 10 tips you can do for \$10 or less that will greatly improve your security posture at home and even at your small business. Expect a good bit of fun interaction and you may even get to see a hacking demonstration before it is all said and done.

**Russell McFarland**

Russell has been the IT industry for 20 years and has a vast background in networking and infrastructure, server and network administration, cyber security, digital forensics, and physical security. He holds a bachelor's degree in Computer Science as well as a Master's degree in Business Administration and is a senior cyber analyst for a major energy provider where he also speaks to outside groups nationwide about the importance of cyber security. At night, he can be found playing with his 4 children or planning the next great thing for his popular pixel show in Columbia, SC.

Designing a Dazzling Display F39

How do you create a light display that looks good? This class will explore design thinking in the context of holiday light displays. Good display design requires an intentional organization of elements, colors, and technology within your display. Whether you've got pixels, incandescents, or blowmolds, this class will cover design principles that apply to all setups, and we'll talk about how to create environments that inspire visitors and elicit emotion. You'll understand why things look good, and you will take away examples that will help you improve your display's composition or start fresh with a blank canvas.

Luke Kamp

Luke Kamp is an architect from Grand Rapids, Michigan, where he designs spaces for people to learn and work. Outside of the office, his desire for engaging environments influences his work in Christmas lighting design, where he continues



to explore new display ideas. He's been around the lighting community for over a decade, sharing with and learning from people like you.

DIY Building with plastics in and for your display using Coro, PVC, Acrylics and Strips T11

The class will present many DIY uses and techniques for using PVC, HDPE, Pex, and ABS pipe. Corrugated Plastics (Coro), Acrylic Sheets, domes and tubes, Pixel strips and 3D printed tools and props. This class will have multiple examples of the materials including resources for further learning and sourcing. It will provide tips and tools for working with the plastics along with how-to's for many of the popular display elements in use today. Learn about signage, singing/talking trees and bulbs, stars, snowflakes, candy canes, leaping arches, different styles of pixel strips and much more.

Don McGillivray

Don has been working on a large scale display for the last 7 years as the primary prop builder with extensive use of PVC and Coro. The display includes several thousand classic C9 LED bulbs held in place with PVC pipe. 2 LED mega trees, 28 tall pixel tree, 8 mega arches, 20 mini arches, 16 Corocanes and 6 PVC North poles with RGB animation. Dons most popular item and his home towns favorite Christmas picture spot is a 40' long PVC LED light tunnel. The display can be seen on Youtube searching Evergreen lights.



Falcon Pi Player: Beginner F27

This class will help you understand what Falcon Player is and will give a feature overview between releases. You'll learn how to install the Falcon Pi Player, how to set up your audio and video connections and how to upload your sequence and media files. We'll cover creating a playlist, an overview of the playlist type and how schedule your playlist. Timer permitting, we'll connect everything to show you the finished result.

Pat Delaney

Pat Delaney is a co-author, along with Ben Shaver, of some of the many plugins that are available to use with the Falcon Player.

Falcon Pi Player: Intermediate F42

In this class, we'll cover MultiSync, including FPP Master -> FPP Remote; xLights Master -> FPP Remote (just a mention, not a demo); and FPP Master -> xLights Remote (can xLights do this?), as well as provide an overview of LED panels and output options, including BBB native (Octoscroller, PocketScroller, etc.); Gigabit Ethernet (ColorLight 5a-75* and Linsn RV908*); and Pi native (Pi matrix hat). In addition, we'll be talking about Advanced Network configurations (screenshots/diagrams), encompassing Pi on home WiFi, eth0 connected to show network or directly to controller and Dual routers (show router WAN port connected to LAN port on home router).

Ben Shaver

Ben Shaver is a co-author, along with Pat Delaney, of some of the many plugins that are available to use with the Falcon Player.

Falcon Pi Player: Advanced S57

The Advanced class will review Playlist Updates in v2.0 including new Playlist Entries (v2.0 due out late Summer), including Branching (time based conditional jump to another item in the playlist); Channel Remap (remap channels on the fly in a playlist), Dynamic (read a playlist entry's JSON at the time the entry is played), MQTT integration with home automation and other systems, how to run a script directly (you don't need an event anymore), and URL - GET/POST to a HTTP URL (w/ POST data ability). We will also discuss Remote Input and Control with GPIO, sACN/E1.31, and HTTP and, finally, we'll cover Pixel Overlay.

Chris Pinkham (CaptainMurdoch)

Chris Pinkham has been one of the core developers for the Falcon Player since it's inception.

How to Make an Epic Video of Your Display! (Shooting and Editing) S75

Tired of blurry, washed-out, or lackluster videos? Search no further! This class will cover basics of shooting video of light displays (camera settings, equipment, techniques) as well as how to edit it all together to give you the epic video you've been looking for. Video editing demonstration will be done using Final Cut Pro. Techniques discussed, however, will be transferrable to any professional program.

Tom BetGeorge

*Tom BetGeorge has been directing productions most of his life. He is the owner of Magical Light Shows and has been featured in publications worldwide including TIME, People, and US Magazine. He has also recently been featured on ABC News, CBS News, CNN, NBC News, SKY News, Good Morning America, NBC Nightly News, The View, the Today Show, and the second season of the Great Christmas Light Fight. <http://www.magicallightshows.com>
<https://www.youtube.com/tombetgeorge>*

**How to Produce Singing Face Sequences Without Software Assistance
T18**

This class will help those individuals who would like to venture into the fun production of singing face sequencing without using any software or RGB lights. Sequences will use mini LED and incandescent lights.

JR Dibble

JR is retired from the US Military and has conducted 100's of presentations in his 24 years of military service. He has also assisted many members of LOR Forums with various setups and shared all of his singing faces sequences for free.

Illumination of Lights T9

No redundancy in this class name. With Holiday decorating, there is a wealth of lighting products to choose, and use. Incandescent/LED, flood/strobe, RGB/node, strip/chip, etc... Newbies to the hobby can be inundated with choices and decisions. What to use, where to use it, where to find, what to spend. This class will brighten your perspective, and shed some light to help you with your decisions.

I Love it When a Plan Comes Together: Display's the A-Team Way F37

Crawl – Run – STUMBLE... Newbies inevitably get glassy eyed looking at ALL the cool things that can be done for a Holiday display. There is a key element that is often forgotten; PLANNING. A Display can be a detailed coordination of many elements. This class will help prepare you to ensure you can Light Up on time, and without stress.

Mark Zembruski

Husband, Step Father, weekend warrior, techie, and gadget geek. With a background in PCB Design, Mark works in the Electronic Design Automation industry. Mark has loved Christmas since a young age and has been decorating inside since he was 19. His outdoor decorating took off when he bought his first home in 1989. Then everything he loved to do collided and Woodinville Wonderland became a reality. Mark is most un-famous for coining the term "I have the C.L.A.P. do you? Christmas Light Addiction Problem."

<http://www.WoodinvilleWonderland.com>



Internet Controlled Christmas Lights F45

Learn how to make your Christmas lights controllable by passer's by on their smartphones or literally by anyone around the world! In this class, an overview is provided on using a Raspberry Pi, streaming webcam, xLights, and Falcon Player to take your show to the next level: true interactivity via the Internet. This method is proven and has garnered national recognition on public television for the past two years.

Tom Hammond

Working with pixels for the past five years, Tom Hammond is always pushing the boundaries of what can be done with Christmas lights. Using commercial and home-built pixel controllers, Tom has garnered national attention for his light display with numerous television & radio interviews and newspaper features. Tom is an active member of online and local Christmas lights enthusiast groups.

<http://www.itwinkle.org>
<https://www.youtube.com/watch?v=xqLZ-qhbFuc>



Introduction to Audacity F28

An introductory class demonstrating the use of Audacity audio editing software. Topics will include Basic Controls, Mixing, Blending, Cutting and saving Christmas music files.

Jeff Oberst

Jeff 'Obewan' Oberst is an electrical engineer from San Jose, CA. He began lighting animation in 2006 with 96 channels and continues to expand every year. He loves being part of something that brings joy and happiness to children, young and old, and reminding them what Christmas is all about.

<http://www.obewanproductions.com> | <https://vimeo.com/obewanchristmas>

Intro to DMX T8

Are you tired of using plug and play Christmas lights? Are you ready to dive into the universe of using theatrical fixtures like moving heads, mega strobes, RGB floods and the myriad others available? Then you need an understanding of the basics of DMX. DMX is the stepping stone to using theatrical fixtures, RGB and smart pixels. We'll discuss the DMX standards for signal, wiring and termination. We'll show many examples of DMX controllers, fixtures and demonstrate with some live products. We'll also have a few devices available for testing your DMX devices and network.

Kevin Thomas

Kevin has been doing large displays for years and began using DMX fixtures back in 2008. His display includes a 36' & 26' mega tree, over 90 mini trees, six pixel arches, five RGB singing Christmas trees, a 24' pixel tree, a 8' X 16' pixel grid and then there's the stuff on the house. Visit his website for many how-to's and other resources. <http://www.christmasinkent.com>

**Intro to Papagayo: Lip synching made easy! F46**

The seminar will include a brief history of Papagayo, the software used to lip synch singing faces for Light-O-Rama musical sequences. The seminar will touch on installing and configuring Papagayo, as well as the Papagayo-to-LOR tool. The main focus will be the basics and some tips and tricks for lip synching a song and including that work in a LOR musical sequence. This year's demo song is You make it feel like Christmas by Gwen Stefani featuring Blake Shelton. Students will be provided with links to the Papagayo and Papagayo-to-LOR software, various video tutorials, and a step-by-step Getting Started with Papagayo document. The Getting Started document will provide easy to follow instructions for installing and configuring the tools. Bonus: Students will receive a link to download the completed sequencing for 4 singing faces. The seminar assumes basic familiarity with the Light-O-Rama S4 Sequence Editor and Visualizer. The tools and tips presented in this seminar may not be compatible with Light-O-Rama S5.

Mike Barsky

Intro to Pixel Prop Workshop S63

This class is intended for students interested in adding pixels to their respective displays. The class will show simple techniques on how to identify correct orientation of the wires, attaching the pigtailed onto the pixel strings, and then installing the assembly into the pixel prop. We will provide a simple, and easy method of attaching pigtailed onto the strings. When completed the student will have the opportunity to test their prop and then can take them home.

This class has a kit fee of \$25. Class size is limited and a [reservation and kit fee purchase is required](#).

Don McGillivray & Kevin Thomas

Introduction to Soldering F33

This is one of those skills that just about every decorator needs. You may not ever want to solder surface mount electronics but soldering those occasional parts and wires together is a must. We'll start you off right with a new soldering iron and a basic kit. Together we'll learn the soldering basics and build a functioning electronic kit.

This class has a kit fee of \$25. Class size is limited and a [reservation and kit fee purchase is required](#).



Don McGillivray & Kevin Thomas

Laser - Fundamentals of Laser Display for Holiday Décor T13

This returning seminar focuses on the fundamentals of laser display for holiday lighting. We will focus on safety, laws and regulations regarding laser usage, what laser projectors can and cannot do well and how to get the greatest dynamic laser effects for holiday display use.

Laser – Laser Light Show Design Session S66

This project session demonstrates the creation of a Christmas themed laser light show from scratch using Pangolin's Quickshow software. In this session we'll cover creating a timeline show from existing cues, text, and new static and dynamic animations.

Adam Raugh, X-Laser

Adam Raugh has over 20 years of experience with stage lighting and production and is the President and Owner of X-Laser. X-Laser was built on helping those new to laser light shows get involved safely and effectively and now X-Laser is the partner for more than half of all new laser users in the US every year.

<http://www.x-laser.com> | <https://youtu.be/FIX-Lvznn4M>



Lighting & Decorating Business Track:

- Materials & Products T5
- The Office and More T10
- Estimating and Basic Install T15
- Other Businesses & Hiring/Staffing T20
- Options for Adding Light Animation for Your Clients F30
- Open Discussion F35



Materials & Common Products T5

There are core products that everybody uses and this class will help you to understand what is available, what can be special ordered and which products you should keep in stock.

Estimating & Basic Install T15

Estimating and basic install, everybody always wants to know what to charge, and how to estimate without screwing up. That includes trees, rooflines and suggesting design elements like wreaths. The installation part is more unique to professional installers, proper use of stringer and blank wire, vampire plugs, and other tips and tricks to set a pro apart from an average homeowner.

Paul Hayden, Reinders Inc.

Paul works with RGB products and projects at Reinders Inc., a direct importer and wholesale distributor for the seasonal lighting industry. He is involved with creating, selling and installing dynamic and programmed RGB lighting shows and elements.

The Office and More T10

This discussion will give you an outline of the process of workflow from initial contact with the customer through the removal process. It will cover contacting repeat customers, handling new callers, estimating, booking and scheduling, collecting payments, handling repairs and organizing the removal.

Other Businesses and Hiring/Staffing T20

We'll discuss the process for hiring employees, where to find them what to look for, training and managing the crews. Pay rates, insurance etc. He will also be open to discussing other businesses with attendees.

Joe DeMars, ProLightHangers.com

Joe is founder and co-founder of several successful companies in the San Diego area. Previously a franchise owner, Joe realized he preferred the freedom of running his own company and now operates Pro Light Hangers with his son, Tommy. Originally started as a seasonal-business opportunity for Joe, Pro Light Hangers quickly expanded into a full scale, year-round business, installing professional holiday lighting for both residential and commercial properties, as well as permanent market lighting, and landscape lighting. Joe is constantly looking for new ideas and innovations to improve what he offers to his clients, as well as networking with other business owners, and working to elevate the industry as a whole. He has been decorating homes and businesses for the holidays for 12 seasons.

www.prolighthangers.com

Light-O-Rama: Getting Started with Animation with Light-O-Rama T1

This is a back to basics class to help anyone that is wanting to take the next step in their display. I will cover hardware, software and how it all comes together to put on an animated lighting show. If you are looking for answers on how these great displays are created this is the class to get you going.

John "Scooter" Paschall

Scooter Paschall has been in the hobby for 15 years. Starting small in his hometown of Hazel, KY in 2004, his personal display has grown with a combination of computerized and static displays in his yard. In 2010 he started working with Holiday Technologies and is now a Lead Programmer for the company. He has done several large projects around the country and a few have been showcased on TV.

<https://www.paschallsmagicalchristmas.com/> | <https://vimeo.com/149810775>

Light-O-Rama S5: Introduction to LOR S5 T6

Light-O-Rama's newest software version, "S5", is more powerful and easier to use than ever. The Sequence Editor, Pixel Editor, and Visualizer modules have been combined into a single program that makes sequencing easier, yet retains many of the familiar commands and shortcuts of prior versions. In this class, we will review the major changes in S5 and set the stage for the other S5 classes being offered at the Expo. This class is being held twice.

Michael DeMaria, Light-O-Rama

For 20 years, Michael has worked in the entertainment industry as a product manager, producer, and computer programmer for such companies as AOL/Time Warner, Turner Networks and the Walt Disney Companies. For the past 8 years he has been an employee of LOR, first as the lead programmer of the S3/S4 Visualizer and now as a Customer Experience developer.

Light-O-Rama S5: Adding Your First RGB Pixel Display Element Using LOR F41

After using traditional light strings for years, taking your first step into RGB pixels can be intimidating. In this class we show you how Light-O-Rama hardware and software can make that transition easier! We will spend most of the time focused on adding a pixel element to an existing sequence and make it light up in step with the other lights.

Light-O-Rama S5: Modeling Your Display T16

In S4, there were 3 ways to visualize your display: Visualizer, the Sequence Editor animation tool, and Pixel Editor "previews". In S5, this has been condensed to a single tool, largely based on Pixel Editor previews. If you used Visualizer or animations in the past - no problem - we will show you how to easily migrate that work into S5. Once it is in S5, we will show you how to make changes to it - move things around, modify display elements, assign channels, and create groups. We will also show you the best way to model common elements such as strobes, megatrees, icicle lights, flood lights, roof lines, and snowfall tubes. This class is two sessions.

Light-O-Rama S5: Sequencing Pixels Using LOR S5 S51

LOR S5 has all of the pixel sequencing capabilities of the Pixel Editor, and a lot more! In this class, we will review the new effects and how best to use them (if you had trouble sequencing arches using the Pixel Editor, you need to be in this class). We will go over what to watch out for when upgrading a Pixel Editor sequence to S5. And finally, we will cover all of the new capabilities, such as: viewing effect favorites, subdividing your prop into sections, new mixer modes, transparency support, and changing effect parameters in step with the music. This class is two sessions.

Light-O-Rama S5: Sequencing Traditional Lights in LOR S5F26

LOR S5 keeps many of the same commands and shortcuts used in previous versions of LOR software. However, a few things have changed. This class will show you how to upgrade your sequence and use the new features. This class will have 0% pixel content. So if pixels aren't your thing, or you have a mix of pixel and non-pixel elements, this is the class for you. However, to understand the full scope of LOR S5 it is recommended that you also take "Introduction to LOR S5" and "Modeling Your Display in LOR S5." This class is two class sessions.

Light-O-Rama S5: Using SuperStar with LOR S5 S71

In LOR S5, it is now possible to intersperse Pixel Editor effects and SuperStar effects on the same pixel-based display element (such as a CCR tree). Doing so requires a Pro-level license and a SuperStar license; but if you love to make pixels dance, we will show you how to take advantage of this new capability!

Matt Brown, Light-O-Rama

With degrees in Electrical Engineering and Computer Science, Matt started animating Halloween many years ago using custom circuits and software. His first animated Christmas display debuted in 2007 with one song and 16 channels – using LOR controllers and software. By 2015, the display had grown to over 15,000 channels of lights covering 2 yards. For the past year, Matt has been working on the next generation of the Light-O-Rama Software Suite: S5.

Brian Bruderer, SuperStar

Make those lights dance to the music! S53

Tired of the same old boring Christmas lights? We're going to take off-the-shelf lights, add some special effects, connect everything to a computer, stand back and be dazzled by a musical show. Class participants will be doing the work with firm guidance from a seasoned leader. Can we do it in less than an hour? All we'll really need is about 30 minutes but we're going to go slow so everyone can participate and understand what's involved. You're going to leave the class with real experience and insider's knowledge of how to create over-the-top shows for the most wonderful time of the year.

Chuck Smith, PlanetChristmas

Chuck Smith has been doing computerized displays from the beginning. After 30+ years he knows all the tricks. <http://www.PlanetChristmas.com>



Music's DNA: Melody, Harmony, and Rhythm T14

There are a million ways to design a show. Some people focus on color and musical emotion, others on creating chases and patterns for their light fixtures to loop, and some go for the wow factor through the latest equipment and technology. What if you would take YOUR design method to the next level? Musicality is the key to taking a good show and turning it into one people won't forget. In this class, we'll explore the building blocks of music and how they go hand in hand with programming. How do I find a down beat? How do I handle a tempo change? How do I interpret all of those fast notes? How do I break down the different layers of music? All of these questions and more will be answered as we look at designing a show from a musician's perspective and explore how to translate musical rhythm into incredible lighting effects. While Light-O-Rama will be used for this demonstration, a knowledge of music can apply to any software, and no prior musical experience is required to attend this class. Go for the emotion, the patterns and wow factor, but add the ability to sequence the lights perfectly in time with the music? That's what will set your show apart.

Music's DNA Part 2: Time Signatures and Syncopation S74

There are a million ways to design a show. Some people focus on color and musical emotion, others on creating chases and patterns for their light fixtures to loop, and some go for the wow factor through the latest equipment and technology. What if you would take YOUR design method to the next level? Musicality is the key to taking a good show and turning it into one people won't forget. In this class, we'll build on the content from 'Music's DNA: Melody, Harmony, and Rhythm', and go deeper into the intricacy of music: focusing on how to use your display to highlight the different instruments, subtle tricks to enhance musical patterns using direction, intensity, and effects, and ways to group fixtures in your display to work with the various time signatures of music. While Light-O-Rama will be used for this demonstration, a knowledge of music can apply to any software, and no prior musical experience is required to attend this class. Go for the emotion, the patterns and wow factor, but add the ability to sequence the lights perfectly in time with the music? That's what will set your show apart.

Aubrey Kall, Luminous Harmony

*Aubrey has worked with Light O Rama software for her family's display for 10 years and programmed for clients for six. She's sequenced over 70 shows using music as the driving force of creativity and manages to find more complicated songs every year, sometimes causing her own stress because she felt compelled to create a mash-up. She graduated with her MBA in May of 2017 and is currently working in Madison, Wisconsin. <http://luminousharmony.com/>
<https://www.youtube.com/watch?v=NGaAmGNXY0k&t=1s>*



Overcoming the Wrath of Mother Nature's Winds: Guy Wires, Anchors and Wind Load S70

This class tells the real truth about effective guy wire techniques and explores multiple concepts of unique and specialized anchoring. Here you can learn how to determine the wind load on various props in order to utilize adequate wind resistance.

Walter Monkhouse

Walter is a long time decorator and creator of one of the first pixel trees [ColorMotion Tree], the Portable Hole, JUMP [Jack Up Mega Pole], and the current ASAP Pole.

Pixel Power Injection S54

In this class, you'll find the answers to what pixel power injection is all about; what is required to do pixel power injection; when power injection is required; and where you should locate the power injection for best performance.

Pete Peters

Instructor for electrical apprentices in Washington state. Programmable Logic Control Instructor. Christmas display enthusiast for many years.

Pixel Sequencing for "what you see if what you get" T25

This class will show you how to plan, and layout your sequencing so what what you see on your PC is what you get in real life. I will use LOR S5 to demonstrate how to layout the preview of your sequencing software so that what you see on the PC closely matches what you see in your physical display. The principles will apply to most any software that allows you to see a preview of your display. We'll end the class with a video that shows concurrently both the software preview and physical presentation demonstrating "what you see is what you get."

Darren Huffty

Darren Huffty has had an animated Christmas display in Jacksonville Florida for 11 years. He is a champion of the Great Christmas Light Fight in 2014. He also works on several Commercial displays sequencing and designing the displays to please audiences in the Jacksonville area.

<http://ChristmasOnCrystalSprings.com> | <http://ChristmasOnCrystalSprings.com/videos>

RGB Technology F40

You will be learning about the advances of RGB lighting within the Christmas industry. Top sections that will be covered include Open Source Artnet 4.0 Technology; True RGB Tower Trees; RGB Curtains; RGB Lighting Techniques utilizing different types of RGB products; and RGB Wall Wash.

Dave Dolak

Dave has 25 years in the Christmas lighting industry and has trained hundreds of contractors around the country in commercial holiday lighting and decorating.

www.ChristmasDecor.net

Matt Reed

Matt has 10 years of experience focused on RGB Technology in the Christmas industry.



RS485 and Communications Protocol Overview F50

Let's make sense of hardware interfaces and communications protocols that are used in music and light synchronization. RS232, RS485, Ethernet, DMX, LOR, WS2811, E1.11, E1.31, SACN, Unicast, Multicast so what does all of this mean and why should I care? This class will start out simple enough so that most everyone will be able to follow. It will go through basic concepts and move towards an intermediate level of understanding of these communications concepts. Some advanced discussions will follow and there will be a Q&A session to allow attendees to ask questions at the end of the class.

Gordon Varney

Gordon is a senior Systems/Applications Engineer for Texas Instruments. He started his career at Motorola CE on the first simulcast paging systems and mobile data radio systems that are now the heart of what we know as cellular. He has worked in the industrial automotive industry, including product design and then became lead applications designer for the Automotive Battery Management team of Texas Instruments. He was offered a position in Texas Instrument's elite Research and Development facility, Kilby Labs, for a special project and was given an award for Excellence in Innovation in 2013.



S5 SuperStar F36

This class will cover how to use SuperStar in S5. Topics covered will include loading existing SuperStar sequences and storing them in the S5 Sequencer; how to create the best Previews in the S5 Sequencer for use in SuperStar; how to do Vis-Effects for all effects, not just morphs; and how to use Instant Sequence and Auto Sequence in S5 SuperStar.

Sequence Creation Workshop S61

This class will cover the creative and practical side of sequence creation. The class will cover a quick introduction of why we create sequences and artistic principals behind quality sequences. We'll also review sequences and what makes them catch our attention and keep it. Class members will choose from a selection of songs and describe how they would approach the sequence, choosing the theme or vision of what you want to express; a set of colors; the location of the climax of the song; and where your favorite part of the song is located.

Brian Bruderer, SuperStar Lights

Brian Bruderer is the creator and programmer for the SuperStar Sequencer. He is also the creator of SuperStar Display which as 12 or 16 CCRs with a star at the top; CCP Tree with Globe; 4 circle display; and the 200 CCP Spider Web display for Halloween. Brian also makes giant Halloween spider webs, see www.spiderwebman.net. Brian and his wife Vickie reside in Allen, Texas (near Dallas) and are the proud parents of 5 children and 11 grandchildren.

<http://www.superstarlights.com>

<https://www.youtube.com/watch?v=Iw8YWRCpELc>



Simple, Safe and Effective DIY Pixel Display Wiring F47

Frustrated by how to wire your pixel display? Don't be! Learn how to approach pixel power wiring safely and effectively with some simple rules and guidelines. Reduce the risk of failure and get rid of the pink pixel blues! Topics include fusing, sizing load, power injection, voltage selection and prop wiring.

Bill Porter

Bill is an Electrical Engineer for the U.S. Navy specializing in robotic power and control systems. When not designing ROVs and autonomous vehicles, Bill participates in STEM outreach activities including science shows for Elementary School students and teaches circuit design for High School STEM camps.

<http://www.billporter.info>



Social Networking Has the Answers to your Christmas Lighting Questions T24

No one has all the answers. Through the correct use of social networking and connections, we have the collective knowledge to anything. In this class we will learn where you can find the answers to any and all questions that will come up while you are planning, building, testing, and even last minute scares of your holiday display.

Vinny Bittinger

Vinny is the creator and founder of one of the largest and most active Christmas Light related Facebook groups. He is active hourly, working with individuals all over the world to help them with issues. His motto is that he is not the best at anything, but he know who and how to contact to solve any issue and would like to teach that to others.

Special Effects and You! T3

In this fun and educational class, fluid master Scott "Tater" Lynd will share tips and techniques on the proper and effective use theatrical fluids in Halloween or Christmas display. Topics discussed include fog machine placement, the correct fluid to use for each application, how to make fog stay low to the ground, fog vs haze, how and where to use scents and creating fog bubbles as well as the difference between discount store fog juice and professional grade fog juice. In addition, he'll cover the use of snow machines in your holiday display and whether adding bubbles is a good choice.

Scott "Tater" Lynd, Froggy's Fog

Tater likes a lot of things: Video Games, Drinking, Telling stories, Haunted Houses and long walks on the beach. What he doesn't like is writing about himself for convention bios, so please enjoy this totally made up list of things he has done. In his lifetime he has beat Super Mario Brothers blindfolded, beat Bigfoot in a game of checkers, created a better scare than a chainsaw (something that he deemed the industry not ready for yet) and rode the Loch Ness Monster around the lake. While he is just 37, he started haunting at the young age of 8 with his father. He has traveled all around the country perfecting his craft and the ins and outs of the industry. Now officially on the run from the law and stalkers around the country Tater is going to share all his special effect knowledge with you.

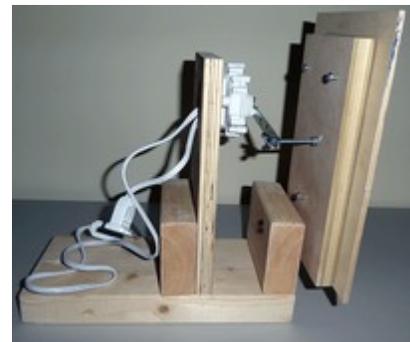


Tales from the Crypt Part 1: Tricks & Treats of Halloween Decorating S68

Want to be THE Halloween house in your neighborhood? This seminar will cover several Halloween decorating topics, including: How to make rocking tombstones using a reindeer motor and a few bits and pieces that you probably have laying about the house; How to carve and decorate tombstones, including how to use a rotary tool for perfect epitaphs; An easy way to make a facade for your entire house, and it's even easy to store; Tips on how to make a traditional haunted house work with an animated light show. Students will be provided with links to the seminar materials and various instructions.

Tales from the Crypt Part 2: Build a Rocking Tombstone S73

Want to add some animated pizzazz to your Halloween display? How about a rocking tombstone? All it takes is a reindeer motor and some easily sourced parts - many of which you may have lying around the house! In this class we will provide everything you need to build the animated mechanism for a rocking tombstone. Once you get home just paint it, add the tombstone of your choice, and voila - your home haunt will include some animated fun! Worried about how to get this home on a plane? It breaks down fairly small, which is why we are not including the tombstone itself in this build.



This class has a kit fee of \$25. Class size is limited and a [reservation and kit fee purchase is required](#).

Mike Barsky

MonstrousMike has long been a fan of Halloween and Christmas displays. He runs both a Halloween light show (The Chaos Crypt) and a Christmas light show. Starting with four Light-O-Rama controllers, MonstrousMike has tapped into the power of the Falcon and now runs pixels for both holidays. His claim to fame are his singing monsters for Halloween and singing snowmen for Christmas. MonstrousMike is an adept Papagayo user and has recently added xLights lyric



tracks to his repertoire. He can lip synch a typical song with very realistic mouth movements in about 2 to 4 hours!

<http://www.facebook.com/MonstrousMike> | <http://www.vimeo.com/MonstrousMike>

The Art & Presentation of a Christmas Display: The Holy Grail S59

It is said, "If you build it, they will come." Well, that is not always reality. This class will expose the foundations of how to create a truly successful Christmas display, one for all ages. This class was created with the intent to get the attendee to objectively think about his or her motivation and approach. The subject matter will give you insight into key concepts and techniques, without telling you how to do anything! We'll help you to expose the single key that can transform your display from just another neighborhood house with lights, into a Christmas Card. The intent is to provide you with some insight into how to become the destination display for your community, a Display that will keep your visitors coming back year after year.

Mark Zembruski

The Basic Guide to Electricity T2

Ohms, Watts and Volts - Oh my! Ever wonder what all those electrical terms are, what they mean, or why you should care? This is an introductory course explaining the basics of electricity and simple electronic components we encounter in our hobby, in easy to digest non-technical double talk. No engineering degree required.

Jeff Oberst

The Evolution of Computerized Displays S55

This class is a discussion with three pioneers or legends of our hobby. They will tell their story of how they got started then answer questions based on the changes the hobby has gone through and where it is going now. This year's panel is Mike Ziemkowski, Owner of Seasons Greeters; Mark Zembruski, Woodinville Lights; and Walter and Jackie Monkhouse from Magic Christmas. If time permits you can ask questions. If you enjoy hearing the history of the industry, this class is for you!

Scooter Paschall

The Inspirational Story of Belardo Lights: Autism and Christmas Lights F44

This class will outline the story and journey of the Belardo Lights display in San Diego. Taught by Randy Schimka, you will hear the very special story of how a father's love for his two sons with Autism has triumphed to create an animated Christmas display with lots of homemade decorations and special quality time with his sons, while raising over \$50,000 for a local Autism non-profit and providing lifetime memories not only for the family but the entire community.



Randy Schimka

Randy Schimka is an electrical engineer with a passion for electric vehicles, Christmas lighting, and spending time with his family. He has worked for San Diego Gas and Electric for 33 years.

<http://www.belardolights.com>

Traditional Elements for a Modern Display F49

Would you like to add an element(s) to your modern display that will connect with your viewers? Want to make your static display pop? Everybody is looking for the next big idea that will set their display apart from the rest. If you look at the history of Christmas lighting and displays, that has been the goal from the very inception of outdoor Christmas Lighting. This presentation is part history, part brainstorming. I will walk you through some of the history of Christmas lighting and we'll delve into vintage Christmas lighting guides to discover lighting techniques that work with any technology and show examples of how vintage Christmas lighting ideas can be upgraded with current lighting technology. We will also look at some of the Popular Mechanics Christmas display projects like your dad or granddad make when you were a kid.

Jeff Carter, Christmas Craftsman

Jeff's is a Christmas lighting historian as well as a Christmas lighting designer and consultant specializing in retro and mid-century Christmas displays. His fascination with Christmas Lighting goes back as far as he can remember. It didn't hurt that his Dad's birthday was December 25th so he had parental encouragement early on. Some of his earliest light sets were GE which created a brand loyalty that lasts to this day. He's the administrator of the flickr group General Electric Christmas Lights and is known on YouTube as the Christmas Craftsman. Jeff contributed to the Lighting chapter of the book Midcentury Christmas and the November 2016 Planet Christmas Magazine. This will be Jeff's fifth year presenting at the Christmas Expo.

<https://www.ChristmasCraftsman.com>

<https://www.flickr.com/photos/jeffcarter629/38042318195/in/album-72157663458168128/>



Video Projected Holiday Scenes for Halloween & Christmas F34

Video Projected Holiday Scenes will provide the home Christmas or Halloween decorator, as well as commercial businesses and retail stores with window displays, a highly detailed class on using a video projector to create virtual reality scene and displays in windows, walls, the outsides of buildings and on the ground. You will see numerous behind-the-scenes examples of projection effects in different places, along with the logistics of setting them up. New and used projectors will be discussed in detail, including brightness/lumens and sources for purchasing inexpensive projectors. Rear Projection Screen materials will be shown with a goal of showing how inexpensive it is to obtain a usable rear-screen material for only a few dollars. Playback of visual effects will be covered, from DVD to Blu-ray, to the latest USB Flash Drive Digital Players, and Projectors with self-contained USB Players. NEW this year is the use of multiple Projectors and USB Players in sync with details on setting up scenes from start to finish. We will see examples of Halloween Projections, some "situations" that differ from Christmas, and can create unexpected effects, such as virtual shattering windows. In addition, we'll cover the new concept of "Personalized Holiday Projection Videos" which contain family and friends into videos with Santa Claus, flying in the sleigh or, for Halloween, the kids flying on a broom or even getting grabbed by a skeleton in your house. These state-of-the-art concepts put your family and friends into the action create the most advanced holiday scenes yet devised.

Jon Hyers

www.virtualsantaandme.com

Video Projection Mapping – Intro F43

This class will provide you with Introduction to the world of video projection mapping. We will define exactly what video projection mapping is and show you how to get started with the various software and hardware needed for the process. We will then follow with a step-by-step overview on how to bring the concept to reality on your house; covering how to create various video masks for the surface and/or surfaces onto which you intend to project.



Video Projection Mapping - Part 2 F48

This class will center around the process of content building and video mapping. The first area is learning the uses for jpeg, png, gif, mov, mp4 and green screen loops while touching on more advanced techniques such as making objects come to life. The second goal is to learn the uses of masks and video channel hierarchy and how they play a crucial role in mapping content to a single surface or multiple surfaces on your home.

Charles Belcher, Onstage Systems

Now retired from the business he founded in 1978, Charles owned and operated a technical production company in Dallas, Texas called Onstage Systems for 30 years. His two grown children now own and operate the company. Charles has been an LOR Partner for many years, has appeared on The Great Christmas Light Fight, does several commercial synchronized Christmas light shows every year and has

incorporated video projection mapping at his home since 2014.

What makes a great Christmas display? Interactive class.S69

It's one thing to build a Christmas display but it's quite another to make people enjoy what you think is a masterpiece. It can get depressing spending hours building a prop only to have it go unnoticed. We're going to watch videos of other's work and discuss the good and bad. As a group, we'll quickly figure out what grabs viewers' attention and what's a waste of time/money. Want some critical feedback on your work? If there's time we'll take a look at your video. Just make sure it's already on a thumb drive in a .wmv or .mp4 format.

Chuck Smith, Planet Christmas

www.PlanetChristmas.com

Wood Cut Outs - Bring it to Life! F29

Turn your basic garage woodworking skills into your dream display. We will take participants through the creation of three dimensional wood cut outs, from wood selection and pattern choice to sealing and paint. Special focus on how to make it come alive with specific decor tricks and demonstration.

Melissa & David Loder

Melissa is a psychologist in private practice so her only relevant bio is a true passion for creating a display with David that brings thousands of people to enjoy our house every year. We think the beauty comes from Christmas Magic! David is a sales professional at Porsche Plano and was selected as the product specialist for Porsche's latest supercar. We believe he takes some of that super power and adds it to our display.



Your Pixel Show Network 101 S60

The new Pixel displays that have become very popular are not as easy to create as a LOR display. One must have some bit of skills in networking, IP addressing / subnetting, and topology. Many would like to be able to have some control over their show while standing in the yard from their phone or while out shopping. This class would cover a few different scenarios of how to put a show network together utilizing modern pixel controllers with integration with LOR equipment and xLights. If time permits, a possible showing of OpenVPN to allow you to connect to your network from anywhere for free

Ken MacMaster, Wired Watts, LLC

Ken is an all-around geek. Professionally, he's in telecommunications and deals with networking and application programming. As a hobbyist, he loves dealing with all things technology has to offer. Among his many hobbies, he is an extreme Christmas light decorator. <https://wiredwatts.com>

xLights – Introduction to xLights T7

This class will take the user from the initial installation of xLights to creating the final sequence. We will cover installing and configuring xLights; Creating the layout of your light elements on your house; Marking up a song with timing marks using audacity plugins; Overview of general sequence creation. We will also look at 40 effects library, create a playlist and schedule a show.

xLights – Advanced S52

This class will cover sequencing timing marks, basic layout, intro to xScheduler and FPP.

xSchedule: How do I? F32

When xSchedule was introduced in 2017, xLights got an advanced show playing capability. Join us in this session to not only understand how to set up a regular Christmas/Halloween show but also walk through the creation of a number of more complex schedule designs. The format of this session will be a series of cases studies with a walkthrough of how to create the required playlists and schedules. We will also spend some time helping you understand the hierarchy of schedules and concurrently playing playlists which makes xSchedule so much more than the old scheduling functionality.

xLights Discussion Group S62

Join us for our informal roundtable discussion where you can ask any question and talk about any aspect of xLights. Led by the xLights developers, Sean Meighan and Keith Westley.

Sean Meighan, xLights

Sean Meighan is the author of the Nutcracker software in 2012. He then has led the xLights team since 2013. xLights is free, open sourced software that can control > 1 million channels of sequenced lights.
www.xlights.org

Keith Westley

Keith is one of the core developers of xLights and, more specifically, the developer of the new xLights xSchedule software.
www.xlights.org

Specialty Classes

Indoor Designs for the 2018 Holiday Season: Trends, Ideas & Bows S58

You will be entertained in this hands-on class learning some helpful short cuts and tips from a seasonal design pro. We'll all be making an easy-peasy bow that looks like it was made by a professional and it used it's an unexpected shortcut that anyone can do. We'll also cover some hints on making beautiful garlands with a professional finish. To round out the class, we'll be discussing all of the hot Christmas and Holiday themes for 2018! Join us for this fun and informative filled to the brim with ideas and information for your Christmas decorating.

Cathy Malcolm

*Cathy Malcom is a seasoned designer and entrepreneur with more than 30 years of experience in bringing beautiful pieces to life from design conception and development to implementation and execution. Cathy has worked as a set designer and decorator on several AFI films and served as regional visual designer for a major national clothing chain. Her new venture, **Through a Designer's Eye** inspires others with how her eye creatively sees the world. Cathy uses her talents and experience to spur others on in their own creative vision with online tutorials, trend reports, product insights and more in the design and lifestyle realm.*

**Culinary Creations Even a Grinch Would Love S65****Straight from Mrs. Claus' Recipe Box S70A**

These two classes will show you how to create quick, creative and tasty appetizers, treats and holiday libations to tempt your taste buds. We'll also be sharing ideas on how to present your creations with holiday flair.

Chef Joe Patrick

Joe Patrick is a second generation restaurant chef who trained at the New England Culinary School, is a second generation restaurant chef and former executive rounds chef. Chef Joe has worked as an executive rounds chef for the Intercontinental Hotel Group, Baileys Prime Steak House and Patrizio's. He also works closely with non-profit companies like Cornerstone assistance network, and North Texas food bank.