

April 2017



Newsletter of the County of Orange Radio Amateur Civil Emergency Service

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Captain's Corner

by RACES Captain Ken Bourne, W6HK, Chief Radio Officer

Experimenting on 40 Meters

RACES members become more effective when they increase their knowledge of radio-electronics. With that knowledge they become problem-solvers during activations and provide new ideas for enhancing communications capabilities. Plus, they increase their enjoyment of amateur radio. A RACES member who takes a get-your-license-quickly course and buys a preprogrammed HT from HRO just to check into a RACES net, with no further activity in amateur radio and no understanding of how to program his HT for other frequencies, is of limited value to a RACES unit.

RACES members should subscribe to amateur radio magazines such as *QST* and *CQ*, which are full of useful information and projects every month. An engineering degree is not necessary to have fun with technology! Try building a QRP (low power) HF transceiver kit, or experiment with wire antennas, as a starter.

A good part of the radio spectrum in which to experiment is 7 MHz (40 meters). OCRACES runs an ACS net on 7.250 MHz every Saturday at 10:00 AM (except during activations). Signal propagation varies dramatically on that band. A simple wire antenna, costing only a few dollars, is easy to build. If you don't have at least a General Class license, needed to operate on 40 meters, get busy! Don't restrict yourself by being stuck with a Technician Class license. And don't take a quick memorization course to get your General or Extra license. Teach yourself the radio theory required to pass the test, by studying the

many easy-to-understand books available. You will enjoy amateur radio much more that way, and you will be more valuable to your RACES unit.

Anyway, I started talking about 40 meters. Ray Grimes, N8RG, recently forwarded a link to an article about a low-power (7 watts) 40-meter SSB transceiver kit from India, and suggested it would be a great OCRACES group project. He said, "The low cost plus free shipping is amazing." It is a \$59 superheterodyne filter style SSB transceiver with LCD display. It tunes the entire 40-meter band. I clicked on the link, <http://www.hfsigs.com/>, and I am impressed.

Here is some information about the BITX40 Raduino. It is a two-board, 40-meter SSB module kit with digital control. The manufacturer, HF Signals, claims you can be on the air with this digital SSB transceiver inside an evening of easy building. You need to supply the earphones or speaker, but a small electret microphone is included, along with connectors, sockets and jacks, tuning and volume controls, mounting hardware, etc. No cabinet is included, but HF Signals says almost any box may be used.

The BITX40 Raduino is an Arduino Nano powered, small, hackable board based on the Si5351 synthesizer with a 16x2 frequency display, free and open source code, six analog ports, three oscillators, and six digital lines. The receiver's front end has a triple tuned circuit that cuts out-of-band signals. The diode-ring mixer

Continued on page 2

**The Next
OCRACES
Meeting Is**

**April 3, 2017
1930 Hours**

**840 N. Eckhoff
Street, Suite 104, in
Orange**

**OCIAC Presentation:
Pre-Incident Indicators to Terrorism**



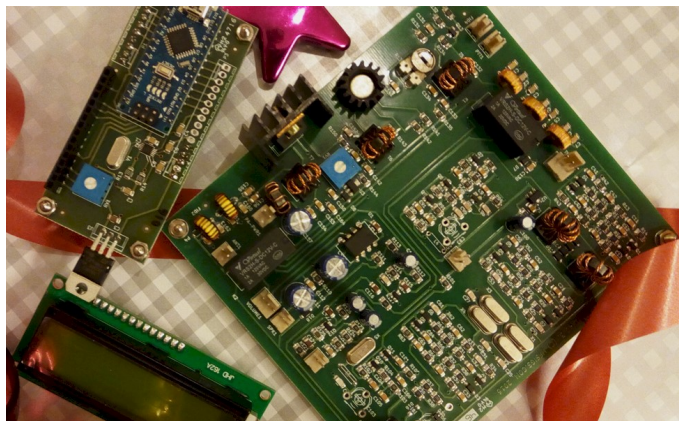
Captain's Corner *Continued from page 1*

front end reduces overload. The all-analog signal path to an earphone or speaker provides audio clarity. A 12-Vdc, 2-A power supply is adequate for the 7-watt transmitter, or a relatively small battery may be used. More than 20 watts of power may be achieved with a 25-V_{dc} power supply (and a larger heat sink).

The BITX40 encourages you to experiment. Raduino is a standard Arduino Nano that accepts code written in C language to work on more modes, bands, and utilities, including RIT, dual VFOs, CW/RTTY, etc. The main board uses all analog large-sized SMD components that are laid out on a double-sided board with broad tracks. Jump points enable you to add more modules such as the DDS, more bands, improved audio amplifier, etc.

The kit includes:

- Tested transceiver module, 4½ inches by 5 inches, covering any 400 kHz segment of the 7 MHz band
- Tested Raduino board with Si5351, Arduino Nano
- BNC connector for the antenna
- Small electret microphone
- Two earphone style audio jacks for the mic and the earphones or speaker
- Set of DC power socket and plug



HF Signals BITX40 Raduino 7-watt, 40-meter SSB transceiver kit.

- Volume control with on/off switch
- 10k linear pot for tuning
- Eight brass stand-offs with mounting nuts and bolts
- Connectors with wires for all connections on the board

The boards are hand-assembled in India. Each of the toroids is hand wound. The assembled boards are then DC checked and a final RF check is performed to check the receiver's sensitivity as well as the transmitter's output before being shipped.

KB6GPM Proposes Field Day Plan

At the March 6th OCRACES meeting, Brad Russo, KB6GPM, proposed an ambitious Field Day plan. (Field Day this year is June 24-25.) He asked the members if they have lost interest in the traditional same old Field Day, or would they be willing to support and participate in a unique and exciting "outside the box" version of Field Day by introducing some new exciting elements involving youth and community outreach, a countywide RACES unit participation and competition event based upon the RACES support mission model, on-site testing and monitoring sessions, a GOTA station, a Radio Merit Badge Workshop, and several other categories.

Brad said we would be offering a panel of guest speakers and demonstrators covering everything from amateur radio, digital communications, emergency preparedness, fundamentals of CERT, and displays and exhibits of interest that would be promoted within the community via broadcast and printed media along with social networking, making our Field Day site a destination for a family and friends, young and old, or anyone interested in the world of radio communications. This would be a classic recruiting and membership opportunity too.

In other words, said Brad, this would be a Field Day unlike any in recent memory. He acknowledged it would be a lot of work. His only caveat is that we would expect a high degree of participation, not only in terms of preparation for the event but in its operation as well. With our RACES van out of service, Brad said this will be challenging, to say the least, but not unachievable. "After all, that's what Field Day is all about!"

Brad suggested administrative or operational responsibility on an operations team, facilities team, logistics team, OCSD liaison, public relations, community youth outreach, GOTA team, VE testing team, commissary team, recognition team, and safety officer.

Last year, OCRACES teamed up with the Orange County Amateur Radio Club for Field Day. OCARC would like us to do that again this year. We will make a decision at the April 3rd OCRACES meeting as to whether we will go with OCARC or conduct our Field Day in accordance with Brad's proposal.

Next OCRACES Meeting: April 3rd

The next OCRACES meeting will be on Monday, April 3, 2017, at 7:30 PM, at OCSD Communications & Technology Division, 840 N. Eckhoff Street, Suite 104, in Orange. Nick Freeman and Alain Sirgy from OCIAC (Orange County Intelligence Assessment Center) will give a 45-minute presentation on pre-incident indicators to terrorism.

Next City/County/MOU ACS Exercise: May 6th

The next City/County RACES & MOU ACS Exercise will be on Saturday, May 6, 2017, from 9:00 AM until 11:00 AM. The scenario for this exercise will be civil disorder, also known as civil unrest. Civil disorder can include a form of protest against major socio-political problems. It is essentially the breakdown of orderly society. Examples include illegal parades, sit-ins, riots, sabotage, and other forms of crime—even terrorism. The role of RACES would be to observe and report, and to provide backup communications.

County Launches “myOCgov” Mobile App

On February 15, 2017, the County of Orange announced the launch of a mobile application (app) called “myOCgov,” a free interactive tool that makes information about County services easily accessible to community members on their mobile devices.

The new app, available online through the Apple iPhone “App Store” and through Android Google Play, gives users the ability to browse and search all County services near them or learn more about services in categories such as “Libraries,” “Parks,” “Health & Human Services,” “Public Safety,” and “Other Government Services.”

The County of Orange offers many public services to make the County a safe, healthy, and fulfilling place to live, work, and play. This app gives users greater visibility to County of Orange services, particularly services close to an app user’s location.

The “myOCgov” app can be used in ways such as the following:

- Real-estate agents can show clients the closest parks, libraries, and other services available to a location.
- Job-seekers can locate the closest one-stop center to search for jobs.
- Entrepreneurs can easily get directions to file their fictitious-name statements and register a “Doing Business As” (DBA) name.
- Health and social services can be easily located by proximity to the user’s location.
- Families can quickly locate the closest County park.

To download the app, visit <http://apple.co/2lILgi9> for Apple devices and <http://bit.ly/2lpzSof> for Android devices.



KJ6UJS Hides in Santa Ana

Fran Needham, KJ6UJS, was the fox on Monday, March 20, 2017, on the monthly cooperative T-hunt. He turned on the fox box immediately following the 2-meter OCRACES ACS net, hiding in Santa Ana next to an Albertsons at 16th Street and Williams Street.

First to find the fox was the team of Ken Bourne, W6HK, Bob Bourne, K6RBI, and Dennis Brunning, KC6NVX. Next to arrive was Ron Allerdice, WA6CYY. Third place was taken by the team of Patrick Williams, KJ6PFW, Bill Rose, KA6HMS, and Patrick's friend Ziara. Fourth place was taken by Richard Saunders, K6RBS.

The next cooperative T-hunt will be held on Monday, April 17, 2017, immediately following the OCRACES 2-meter net (approximately 7:20 PM). The fox will transmit on the input (146.295 MHz) of the 146.895 MHz repeater. Hunters will compare bearings via the 448.320 MHz repeater (while the 449.100 MHz repeater is down), and are encouraged to beacon their positions via APRS throughout the hunt. The fox will be hiding in a city or sector of Orange County (to be announced a few days prior to the hunt) on paved, publicly accessible property. No fees will be required to drive directly to the fox. We are looking for a volunteer to be the fox, and a "fox box" will be available.

The cooperative T-hunts are usually held on the third Monday of each month. The hunts provide excellent practice in working together to find sources of interference quickly. The hunts are not official RACES events, so DSW (Disaster Service Worker) coverage does not apply. Please drive carefully!

Fox-hunt loops and beams are available from Arrow Antenna and HRO, including the Arrow Model FHL-VHF fox-hunt loop (covers 1 MHz to 600 MHz) and the Arrow Model 146-3 three-element portable hand-held yagi. The Arrow OFHA 4-MHz offset attenuator can be useful when close to the fox, to prevent receiver overload. An all-mode transceiver is quite useful, allowing hunters to switch to the SSB or CW mode for detecting extremely weak signals, or to switch in a built-in attenuator, reduce RF gain, or tune slightly off frequency when dealing with extremely strong signals. Some hunters use the DF2020T radio direction finder kit, which is a Doppler system available from Global TSCM Group, Inc. (<http://www.kn2c.us>). A very similar system is the MFJ-5005 Doppler direction finder. Other useful tools are the Fox-hunt app for iPhones and the Triangulate app for Android phones. For some excellent information on T-hunting, see <http://www.homingin.com>.



At the fox's den are (left to right) Dennis Brunning, KC6NVX, Richard Saunders, K6RBS, Bob Bourne, K6RBI, Fran Needham, KJ6UJS (the fox), Ron Allerdice, WA6CYY, Bill Rose, KA6HMS, Patrick Williams, KJ6PFW, and Patrick's friend Ziara.

ARRL Fights California "Wireless Driving" Law

ARRL is recommending that amateur radio be specifically excluded from a California statute prohibiting the use of "wireless communication devices" while driving. ARRL Southwestern Division Vice Director Marty Woll, N6VI, is taking point on the effort to revise the statute, known by its legislative bill number AB 1785. It was signed into law last September, and it took effect on January 1, amending §23123.5 of the state's Vehicle Code.

ARRL General Counsel Chris Imlay, W3KD, pointed out that that the prior statute excluded amateur radio by definition. The new law, which completely replaced the earlier statute, never mentions amateur radio, but instead contains an open-ended definition of an "electronic wireless communications device," the operation of which while driving is prohibited. According to the statute, this "includes, but is not limited to, a broadband personal communication device, a specialized mobile radio device, a handheld device or laptop computer with mobile data access, a pager, or a two-way messaging device."

"Because of the 'not limited to' language, such a device is whatever a law-enforcement officer thinks might be included, and an amateur radio operator is not at all protected," Imlay wrote. Such a broad definition could stymie "even the most diligent law-enforcement officers," who might interpret the new Vehicle Code language "more broadly than was intended."

EOC Offers Training Opportunities

The Orange County Emergency Operations Center is offering some training opportunities to all County employees and Operational Area Partners, as well as OCRACES members, over the next three months. Please see the course descriptions below:

April

- **EOC Support Pool Training**, April 12, 9:00 AM to 11:00 AM
This course will focus on the use of WebEOC and the Smart Board projection system used to plot information in the EOC and personnel who may be assigned as Messengers, Hotline, or Documentation staff in the EOC. Training will include the proper use of message forms, gathering of information from your assigned Section or Branch, and information flow in the EOC. There will be hands-on training in the form of an exercise, and participants will practice on the hotline using WebEOC. Participants will learn how to appropriately answer calls and to identify and manage trends and rumors, and will use information from callers to report information to the Public Information Manager. Training will be interactive and hands-on. Enrollment is open to all County employees and Operational Area Partners.
- **WebEOC 8.0/JIMS 8.0**, April 18, 1:00 PM to 3:00 PM
This is a 2-hour class on the WebEOC Incident Management System used in Emergency Operations Centers. The WebEOC system has been completely redesigned and this course will demonstrate how to use the new WebEOC and JIMS 8.0 version. The class is a hands-on tutorial including log-in procedures, Activity Logs, and the Jurisdictional Information Management System. Enrollment is open to all County employees and Operational Area Partners.
- **Care and Shelter Branch Training**, April 26, 9:00 AM to 10:30 AM
This course is designed for individuals who may staff a position within the Care and Shelter Branch during an exercise or activation of the Emergency Operations Center. Training will include an overview of the positions within the Care and Shelter Branch and their responsibilities. The training will include hands-on practice on position-specific roles and responsibilities.

May

- **EOC Response: *Action Planning, Information Analysis, Situation Awareness***, May 11, 8:00 AM to 12:00 PM
This course is designed for agencies and jurisdictions who may fill a Planning and Intelligence Section position within the EOC to maintain information management and situational analysis. Training will include an overview of the Planning and Intelligence Section, consequences management, EOC Action Planning process, and training on specific emergency plans and annexes maintained by the Emergency Management Division. Training will include hands-on practice and training on position-specific roles and responsibilities.
- **Web EOC 8.0/JIMS 8.0**, May 17, 9:00 AM to 11:00 AM

June

- **EOC Response: *Logistics & Finance Section***, June 8, 9:00 AM to 11 AM
This course is designed for those who may fill a Logistics & Finance Section position within the EOC. Training will include an overview of the Logistics & Finance Section process, protocols, position checklists, and hands-on practice. Enrollment is open to all County employees and Operational Area Partners.
- **Web EOC 8.0/JIMS 8.0**, June 14, 9:00 AM to 11:00 AM
- **Intro to SIMS, NIMS, ICS, and EOC Orientation**, June 20, 1:00 PM to 3:00 PM
This introductory course is intended to give participants a basic overview of the Incident Command System, Standardized Emergency Management System, National Incident Management System, and an orientation to the basic functions of the County Emergency Operations Center.

To register, please download the registration form from the “Forms” page on the OCRACES Web site at <http://www.ocraces.org/forms.html>. Click on “EOC Training Registration Form January to June 2017.” Then e-mail Miriam Aldana at maldana@ocsd.org.

RACES/MOU News from Around the County

"RACES/MOU News" provides an opportunity to share information from all City & County RACES/ACS units and MOU organizations in Orange County.

Please send your news to NetControl Editor Ken Bourne, W6HK, at:

w6hk@ocraces.org

Anaheim RACES

Anaheim RACES moved its Web site to Facebook at <https://www.facebook.com/AnaheimRACES/>.

Costa Mesa RACES (MESAC)

The 10th Annual Costa Mesa Community Run will take place on April 22, 2017, at Fairview Park. This event features one of the best 5K and 10K courses in Southern California. The run raises money for Costa Mesa's schools. MESAC provides communications support staff throughout the course and provides logistical communications, including coordination should a runner need medical attention or assistance off the course. MESAC also provides the staff with Business Band radios to improve setup, course coordination, event management, and teardown. The 10K course takes the runners on an out-and-back course through Fairview Park, onto the Santa Ana River Trail towards the beach, and then back to Estancia High School for a stadium finish.

Tri-Cities RACES

Tri-Cities RACES Chief Radio Officer Joe Lopez, W6BGR, is looking for radio communications support for the Warrior's Society Vision Quest event, which will occur in the Santa Ana Mountains on Saturday, April 8, 2017. The event will be part of the 2017 King and Queen of the Santa Ana Mountains Bike Championship Series. To sign up, use the form at <https://docs.google.com/forms/d/e/1FAIpQLSciildieoRNAY3B7sEZ-ow5YQxN26Dld6yue41-X1DK1dcg1w/viewform>.

The ride will begin from the end of Blackstar Canyon Road. Participants will ride up Blackstar Canyon Road to the Main Divide Road, across the Main Divide Road to and down the Silverado Trail (Motorway) to Aid Station #1 at Maple Springs. At this point, riders will follow Maple Springs Road to the Main Divide and Modjeska Peak and Santiago Peak and then down to the Holy Jim Trail. They will then ride down the Holy Jim Trail to Aid Station #2 at the parking area at the base of Holy Jim Canyon. They will then continue up Trabuco Road to the Trabuco Trail and the West Horse Thief Junction. They will hike up

the West Horse Thief Trail to the Main Divide Road. From this point they will ride across the Main Divide Road to the Trabuco Trail and down the Trabuco Trail to the Trabuco Creek Trail and Road. They will follow Trabuco Creek Road to the finish line at the intersection of Trabuco Creek Road and Trabuco Canyon Road.

Hospital Disaster Support Communications System (HDSCS)

HDSCS was activated by UCI Medical Center's hospital disaster coordinator via private cell phone and the HDSCS pager system at 3:25AM on Friday, March 17, 2017. All internal and external telephones had failed at the trauma center in Orange. Five HDSCS communicators responded to the hospital's command center, activated in accordance with HICS procedures. All communicators had been to the hospital last year during at least one or both of two standby operations. This facilitated their response in getting to the command center in the multi-building campus.

Fortunately, telephones started coming up at 5 AM, but the command center remained active and HDSCS was asked to remain on site until 7 AM as functionality and reliability of the system was determined. In addition to the on-site communicators, an external base station stayed in touch with the hospital and the county communications center until the hospital came off of diversion status.

HDSCS is sad to report the death of original member and early mentor to the group, Ralph Swanson, WB6JBI. Early in 1980, several Orange County hospitals had approached April Moell, WA6OPS, who at the time worked at St. Jude, about having amateur radio backup for their facilities. Uncertain as to how to proceed, April met with Ralph, a DEC for Orange County. Because of April's familiarity with the hospital environment, Ralph made her an assistant emergency coordinator with her role to help put together a group of hams dedicated to the special purpose of providing alternate communications to the local hospitals. And then Ralph became one of the original HDSCS members to show his commitment to this special ARES mission. Over the years he responded to many standby operations and several emergency responses, including the 2002 Placentia Train Collision.

April 2017

Upcoming Events:

- **April 3:** OCRACES Meeting, 840 N. Eckhoff Street, Suite 104, Orange; 1930 hours
- **April 10-13:** APCO Western Regional Conference & Exposition, Ontario Convention Center (register at www.apcowrc2017.org)
- **April 16:** Easter Sunday
- **April 17:** Cooperative T-Hunt on input of 2-meter repeater, 1920 hours
- **April 21:** Orange County Amateur Radio Club Meeting, American Red Cross (George M. Chitty Building), 600 Parkcenter Drive, Santa Ana; 1900 hours
- **April 24:** ACS Nets on five bands and Cal OES Nets from OC EOC
- **May 6:** City/County RACES & MOU ACS Exercise, 0900-1100 hours
- **June 24-25:** Field Day

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 Weekly 40 m ACS Net
2	3 Weekly 2 m ACS Net & OCRACES Meeting	4	5	6	7	8 Weekly 40 m ACS Net
9	10 Weekly 2 m ACS Net	11	12 APCO Western Regional Exhibits	13 APCO Western Regional Exhibits	14	15 Weekly 40 m ACS Net
16	17 Weekly 2 m ACS Net & Cooperative T-Hunt	18	19	20	21 OCARC Meeting	22 Weekly 40 m ACS Net
23	24 ACS Nets on Five Bands & Cal OES Nets	25	26	27	28	29 Weekly 40 m ACS Net
30						



www.ocraces.org



Mission Statement

County of Orange RACES has made a commitment to provide all Public Safety departments in Orange County with the most efficient response possible to supplement emergency/disaster and routine Public Safety communications events and activities. We will provide the highest level of service using Amateur and Public Safety radio resources coupled with technology, teamwork, safety, and excellence. We will do so in an efficient, professional, and courteous manner, accepting accountability for all actions. We dedicate ourselves to working in partnership with the Public Safety community to professionally excel in the ability to provide emergency communications resources and services.

County of Orange RACES Frequencies

- 40 m: 7250 kHz SSB (City/County/MOU Net—Saturdays, 1000 hours)
- 10 m: 29.640 MHz output, 29.540 MHz input, 107.2 Hz PL
- 6 m: 52.620 MHz output, 52.120 MHz input, 103.5 Hz PL
- 2 m: 146.895 MHz output, 146.295 MHz input, 136.5 Hz PL*
- 2 m: 146.595 MHz simplex
- 1.25 m: 223.760 MHz output, 222.160 MHz input, 110.9 Hz PL
- 70 cm: 446.000 MHz simplex
- 70 cm: 448.320 MHz output, 443.320 MHz input, 141.3 Hz PL (private)
- 70 cm: 449.100 MHz output, 444.100 MHz input, 110.9 Hz PL (out of service)
- 70 cm: 449.180 MHz output, 444.180 MHz input, 107.2 Hz PL (private)
- 23 cm: 1287.650 MHz, 1287.675 MHz, 1287.700 MHz, 1287.725 MHz, 1287.750 MHz, and 1287.775 MHz outputs, -12 MHz inputs, 88.5 Hz PL
- *Primary Net—Mondays, 1900 hours

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Questions or Comments?
Contact *NetControl* Editor Ken Bourne, W6HK
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**“W6ACS ...
Serving
Orange County”**

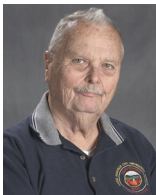
Meet Your County of Orange RACES Members!



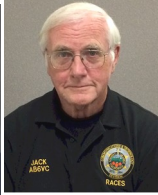
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Harvey Packard
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Jack Barth
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Ernest Fierheller
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Bob McFadden
KK6CUS



Tom Tracey
KC6FIC



Randy Benicky
N6PRL



Roger Berchtold
WB6HMW



David Corsiglia
WA6TWF



Jim Dorris
KC6RFC



Nancee Graff
N6ZRB



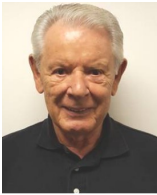
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Walter Kroy
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KJ6UJS



Kenan Reilly
KR6J



Tom Riley
K6TPR



Brad Russo
KB6GPM



Tony Scalpi
N2VAJ



Joe Selikov
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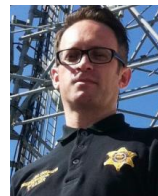
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