

ISSUE #185

OCTOBER-DECEMBER 2015

STARFLEET MARINE CORPS



20151001-

LOOKING FOR A FEW GOOD LIFEFORMS!

WWW.SFI-SFMC.ORG

FEATURES & ARTICLES

STARFLEET SCHOLARSHIP FUND	03
THE CQ IS LOOKING FOR YOU!	04
Promotions	05
ORDERS OF MERIT	06
Preparing for Starfleet's biggest recruiting opportunity of 2016	7
EXETER TREK UPDATE	8
Drunk or Treat	09
STARFLEET BADGES	10
STAR TREK 2015 A YEAR IN REVIEW	11-14
Transparent aluminium now a reality	15-16
Drunk or treat (continued)	17
HYPOSPRAY	18
OPERATIONS REPORT	19
COMMUNICATIONS REPORT	50
STARFLEET ACADEMY REPORT	21
BOOTHBY AWARDS	55
COMPUTER OPERATIONS REPORT	23
FINANCIAL OFFICE REPORT	24
CADET CORNER	25-26
Where in the world is captain kirk?	27
ATTENTION ON DECK!	28-32
STAFF DIRECTORY	33-34



Issue 185 OCTOBER-DECEMBER 2015

Publisher: Wayne L. Killough, Jr. **Editor-in-Chief**: Matthew Miller

Layout Editors: Kevin Plummer, Cynthia

Duran and Matthew Miller **Graphics Director:**

Cover Design: Matthew Miller **Senior Copy Editor**: Mary Kane

Copy Editors:

Production Manager: Bran Stimpson

Published by: STARFLEET, The International Star Trek Fan Association, Inc. PO Box 2706 Denver, CO 80201

Submissions may be sent via e-mail to: cq@sfi.org

Postmaster, please send address corrections to: STARFLEET Member Services

PO Box 2706 Denver, CO 80201

Star Trek and All Related Marks and Logos are Trademarks of CBS Studios, Inc. All rights reserved.

The STARFLEET Communiqué is a publication of the Communications Department of STARFLEET, The International Star Trek Fan Association, Inc. It is intended for the private use of our members. STARFLEET holds no claims to any trademarks, copyrights, or properties held by CBS Studios nor Paramount Pictures. All content from *Star Trek* including still images and character names is the property of Paramount Pictures Corporation and CBS Studios, Inc. and no infringement is intended. STARFLEET, The International Star Trek Fan Association, Inc. operates as a non-profit fan club and is committed to promoting *Star Trek*.

The contents of this publication are Copyright © 2015 STARFLEET, The International Star Trek Fan Association, Inc. and/or the original authors. All rights reserved. No portion of this document may be copied or republished in any way or form without the written consent of the Office of the Chief of Communications, STARFLEET.

(USPS 017-671) Entered as periodical matter at the Post Office of Denver, Colorado, under the act of March 8, 1879. The Communiqué is published quarterly by STARFLEET, The International Star Trek Fan Association, Inc., P.O. Box 2706, Denver, CO 80201.

STARFLEET SCHOLARSHIP FUND

WWW.SFI.ORG/SCHOLARSHIPS

Ever since 1990, our organization has presented monetary scholarships to special active STARFLEET members who are attending community colleges, four -year colleges, most technical schools, junior colleges and universities or graduate school, or any other accredited institution/organization that offers a certificate/certified program. If unsure, just ask the Director.

Scholarships are awarded in amounts of up to \$1,000 based on number of applicants and availability of funds. APPLICANTS MUST BE A STARFLEET MEMBER AND MUST HAVE BEEN A STARFLEET MEMBER FOR AT LEAST ONE YEAR BEFORE THE APPLICATION DEADLINE. The application period runs from January 1 through June 15 of each year. June 15 is the Application Deadline. At our annual International Conference each summer, the scholarship winners are announced for the next academic year beginning in the fall semester.

Over the years, the number and variety of our Scholarships have changed. The following is a list of the current Scholarships that STARFLEET offers:

ENGINEERING & TECHNOLOGY – James Doohan/Montgomery Scott Engineering & Technology Scholarship
This very popular Scholarship covers any field related to engineering and other fields of study involving technology, computer science, etc.

MEDICINE & VETERINARIAN – DeForest Kelley/Dr. Leonard McCoy Memorial Medical & Veterinarian Scholarship This is for medical studies of both humans and animals and is awarded for programs in medical school, nursing school, physical therapy, pre-med, EMT-Paramedic, surgical technician, biomedical technician, and the study veterinary medicine.

ARTISTIC – Gene Roddenberry Memorial/Sir Patrick Stewart Scholarship for Aspiring Writers & Artists
This is for all those studying acting,

This is for all those studying acting, dance, music, writing, literature, or for skills and training relating to the media, graphic artists, film making, etc.

BUSINESS/MANAGEMENT/
EDUCATION – Armin Shimerman/
George Takei/LeVar Burton Scholarship for Business, Language Studies &
Education

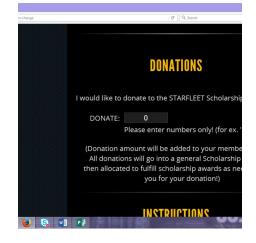
This Scholarship is for business and management studies, the study of foreign languages or studies abroad, and for teaching.

MISCELLANEOUS – Space Explorers' Memorial Scholarship

This scholarship honors the Apollo, Shuttle Challenger, and Shuttle Columbia astronauts and Russian cosmonauts that have died to further our efforts in space exploration. It is a "general duty" scholarship and applies to all courses of study not mentioned in the other 4 Scholarships. If scholarship applicant's field of study does not quite match up with one of the other scholarship types, they may be awarded this one.

Think about it, if every member made a \$1 donation to the scholarship fund each year, we could fully fund the program.

When you renew, look for this box.



The CQ is looking for you!

Do you have what it takes to join the STARFLEET News Service? If you are interested in any of these things, we need you!

- Editing.
- Layout Design.
- Reporting and Investigation.
 - Administration

Does this describe your skillset?

- I can work on a team of professionals or on my own.
 - I consider myself unbiased and fair.
 - I can get things done
 - Excellent time management

20151001-20151231

JOIN THE STARFLEET NEWS SERVICE TODAY! CONTACT CQ@SFI.ORG FOR MORE INFORMATION.



STARFLEET Q3 2015 Promotions & Awards

ADM Linda Kloempken, Member Recognition Administrator, USS *Czar'ak*, Region 6

rom the period of October to December 2015, the following officers were promoted on the order of the Regional Coordinator or the Executive Committee, submitted for consideration by their peers using the online form at http://www.sfi.org/promotions/. If you know of a crewmember who is eligible and deserving of a promotion, use that form. Promotion criteria are located at http://www.sfi.org/docs/flag-promotion-criteria.pdf.

In STARFLEET, promotions up through the rank of Commander or Lt. Colonel, SFMC, are typically granted by the chapter Commanding Officer. Promotions to Captain or Colonel, SFMC are typically the responsibility of the Regional Coordinator. Those promotions are usually announced at the chapter and regional level. Flag Officer ranks are those of Fleet Captain (Brigadier) and above, and those promotions are voted on by the seven-member Executive Committee after reviewing nominations submitted by members. If you have any questions or concerns, you may reach me at promotions@sfi.org.

To the rank of FLEET CAPTAIN:

Scott Nakada, USS Thermopylae, Region 5 Ted Klosowski, USS Tycho, Region 1 Matthew Bergin, USS Iceni, Region 20

To the rank of BRIGADIER:

Bill Rowlette, USS Constellation, Region 12

To the rank of REAR ADMIRAL:

To the rank of MAJOR GENERAL:

To the rank of COMMODORE:

Peggy Eubanks, USS Star League, Region 1

To the rank of BRIGADIER GENERAL:

Thomas Clark, USS Regulator, Region 3

To the rank of VICE ADMIRAL:

To the rank of ADMIRAL:

Darlene Harper, USS Columbus, Region 1

Orders of Merit (October to December 2015)

ORDER OF HAWKING

Third Class

Thomas Clark, USS Regulator, Region 3

ORDER OF DARMOK & JALAD

Second Class

John Bevan, USS Dark Phoenix, Region 12

GRANKITE ORDER OF TACTICS

Third Class

Leah Reeves, USS Iceni, Region 20 Lorna Bergin, USS Iceni, Region 20

ORDER OF PRENTARES

Third Class

Christopher Osborne, USS Drakonia, Region 1 Gerald Box, USS Drakonia, Region 1 Jan Sleigh, USS Drakonia, Region 1 Mary Still, USS Drakonia, Region 1 Nathan McClellan, USS Drakonia, Region 1 Robert Chaffin, USS Drakonia, Region 1 Samuel Osborne, USS Drakonia, Region 1

ORDER OF RODDENBERRY

Third Class

Richard Sams, USS Stargazer, Region 20 Martin Strang, USS Alba, Region 20 Pamela Michaud, USS Ronald E McNair, Region 1

ORDER OF SAMARITAN

First Class

Angela Lewis, USS Victorious, Region 2

Preparing for STARFLEET's Biggest Recruitment Opportunity of 2016

By Captain Hooper, USS Odin, Region 1

Putting arguments aside in the Prime Trek vs. NuTrek debate, there is one unmistakable truth that both sides can agree on: Trek is back, profitable, and bringing new life into the franchise! As a result, new fans are emerging who may have no previous exposure to the wonderful worlds of Roddenberry. Instead of sticking tongues out and screaming "NOT MY TREK!" we would be better suited to looking at this opportunity as a way to experience Star Trek anew and to expose potential fans to the old Trek we fell in love with. Bridging this gap between the two will hopefully result in a better outcome than bridging gaps did for Captain Kirk. For STARFLEET, the biggest and best Star Trek fanclub in existence, it means a chance to see our numbers grow again and more so: to shrug off stagnation and truly engage into new networking and friendships formed from this shared love. To this end, we must begin to form a plan and prepare now in buildup to the release of the upcoming film: STAR TREK BEYOND. The most obvious and coveted plan is to work with your local cinema) to allow you to be present on the release night or weekend to help promote the film and our club. Most cinemas are quite friendly in this regard, as long as you're not trying to sell anything and stay out of the way. If you can offer any assistance to them, such as line control or cleanup assistance after closing, they'll be doubly likely to support



bringing you in. A single table with information about Star Trek, STAR-FLEET, and the USS Odin would suffice. Promotional materials for the first two can be found on the official STARFLEET website, sfi.org. USS Odin specific flyers are available in the Files section of the facebook group. Show up in a cordial good humored mood, be wellmannered but relaxed, and if possible be in uniform or cosplay as your favorite race. Make sure that it is enjoyable for you, and that you are having fun - this attitude will bleed through to potential recruits. And if you can't come dressed in Trek attire, for monetary or any other reasons, just make sure you're clean and neat. At this moment, you're the face of STARFLEET, and the key person who can help the USS Odin grow! However, the local cinema is not your only option! If your city still has those archaic ancient facilities known as rental stores, you may find a chance to work a table during key weekend hours on the weekends leading up to the film's release. Recommend to the store a

display of the other Star Trek films and shows they have near your table, and assist customers to help show thanks to the store. Another viable place to look is your local Public Library. Working together, you can build a display full of all forms of Star Trek media and man a booth that may find a more indepth bit of interaction with interested parties as they have more chance to dig into the true depth of the Trek universe. Finally, if any local school campuses include dedicated science buildings, you may find some enjoyment in the potential for in-depth Daystrom Institutelevel discussions from fans. The science separates us from Star Wars.

- Local Cinema
- Local Video Rental Businesses
- Regional Public Libraries
- Science Buildings on School Campus

Find the USS Odin on Facebook at: www.facebook.com/groups/ussodin

Exeter Trek Update

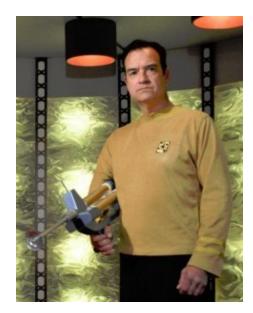
By Captain Sims, USS Exeter, Region 2

Exeter Trek is still among the living. Our first episode titled, "Our Dearest Blood" is in the can. We filmed it over the course of a year. We shot our first exterior scenes back in October of last year. Unfortunately we were unable to complete the scenes needed. So we returned to our location here in Jacksonville just as things started warming up in 2015. Despite missing a key cast member and the heat plus the ever present possibility for a downpour, we indeed finished off all the sequences needed. Both shoots went well and despite all the hard work involved, I am pleased with what we did. Our interiors were shot at the then, Farragut Studios in late January. It was a 2 day, hardcore exercise in back dating the sets to our pilot era look, shot set-ups, several takes of the scenes, costumes being completed last minute, trying to find a hot cup of coffee, etc,...But when we left the studio late Sunday night, we were all exhausted, but had a Blast! Now the real magic begins. Our tor, Wayland Strickland will begin the process of editing, sound effects, cgi, music cues, etc ,...as soon as he has completed his work on another film that's ahead of ours in the cue. Wayland, Tori (AD),



and I are all pretty much on the same page when it comes to bringing you a fan film that really "LOOKS" & "FEELS" like a show made in 1965. From the angles for the shots, lighting, wardrobe, hairstyles... we did everything we could to go back to that first pilot time frame. Ken Thomson, our Special effects master will start his work on our space shots as soon as he completes, "Eye of the Tempest" One of his personal projects. I have sent him a rather lengthy list of shots needed with some visual aides to make the rendering somewhat easier. Ken knows what we need and has the skills to get that old school look without it looking too cheesy. A happy medium between the pricey and overblown CGI that some folks use and our 1965 look. That being said, we would like to say that this process takes time. All the talented folks of the Exeter team have real lives, families and

jobs. So when they have the free time to help us complete it, they will. We are grateful for the help. We may have this first episode ready by the first of the year,... hopefully. Mind you, when we are close to release, there will be a great deal of fanfare to indicate it's arrival! Another behind the scenes update is that we are definitely moving forward with our series. We are confident that when you finally see what so many folks poured their hearts into, you will want to see more,...much more! We have 3 vignettes penned and another full episode is already in the very early stages of preproduction. I really appreciate everyone's interest and will continue to update you as often as is warranted.



Drunk or Treat

By Eddie Allen, USS Horizon, Region 12



This event, hosted the Saturday before Halloween each October, is about all day fun. The venues under the umbrella of this function change from year to year, although some of the best portions are continued each year. It starts around 12:00 noon or 1:00 pm and the finish is some 12 hours later at 1:00 am. Transportation is provided on their bus to avoid the DWI thing, but you can follow in a car with a designated driver and a reduced fee. While I have followed in a car before, this year I opted for the bus. I had a great time and the bus is a lot more fun than first blush, even for us old fogies.



The function started for many at Hanson Hills campground in Kingdom City. Those who wished could camp out, starting Friday evening. The partying started a day early for that

group. The campout continued for two nights. How about a little cooking and sleeping outdoors? Anyone game?

I did not make the campout, as I already had other plans long before it was announced. They have suggested that it will be continued next year.

After everyone was on the bus, we made



our first stop at Tropical Liqueurs in downtown Columbia, MO. This is a favorite and has been on the schedule since the first year.



This is a very good way to start the trip as their frozen drinks are to die for. They have about 60 different varieties and even have several that are virgin (non-alcoholic.) We spent about 45 minutes there.

Our second stop was for 90 minutes at Laser Lanes. Choices were laser tag, bowl-

ing and video games on site. This is a fairly large complex and we had front of the line privileges. I played video games and then had a Margarita.

This stop also featured José Jalapeno which has the best frozen strawberry Margaritas in Columbia. If you are not into any of the activities, then there is the opportunity to have some Mexican food and a drink or two. Some members enjoyed the drinks and food and some enjoyed games and bowling.

A new feature this year was "calling ahead." This kept us completely on schedule, and



made the evening run smoothly. The moderator made sure the event hosts were aware we were on the way, and the hosts at the next stop moved us to the front of the line and made sure we got done on time.

When we left Laser Lanes we went to our third stop at Craft Beer Cellar in downtown Columbia. Again, there were options. The first was the beer tasting at Craft Beer Cellar. Some of the group who were not into tastetesting beer went into U Knead Sweets and had various sweets and coffee. A little something for everyone at this stop.

I, of course, ended up at the Sweet Shoppe

...Continued on page 17

STARFLEET BADGES

BADGES.SFI.ORG



Product Description

Members who are ordering the "STARFLEET Name Badge" need to provide the following ordering information at the checkout screen in the fields provided there.

- 1. Your Name must consist of AT LEAST your real FULL FIRST & LAST NAME, unless your name is legally a single name.
- 2. Your Title or Position on your Chapter. If you hold a Fleet Staff role (including RCs), we can add a 3rd line under your name for this, example below:
 Fleet Role

Chapter Role
Chapter Name, Region ##

- 3. Name of your Chapter & Region your chapter is based in.
 Note: We do not require your
 Chapter's NX/NCC number.
- 4. Your Character Name (if your chapter uses personas), or a Nick Name people call you by.
 Note: Profane/Obscene names will not be allowed and will delay processing of your badge.
- 5. Your STARFLEET SCC number, which we will verify is active or not. Note: We will not allow expired or non-SFI members to purchase

badges, and your payment will be refunded.

PLEASE CHECK YOUR SPELLING & INFORMATION FOR YOUR BADGE, AS WE CANNOT UNDO INCORRECT INFORMATION.

Please contact BADGES@SFI.ORG if you would like to arrange a single bulk delivery for your chapter to be sent to an appointed chapter member for local distribution.

- See more at: http://sfi.org/shop/ starfleet-name-badge/ #sthash.uBU7f0gv.dpuf

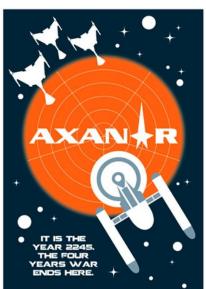
STAR TREK 2015 A YEAR IN REVIEW

By Eric Morin, Denali Station, Region 1

As we leave 2015 behind us and journey forth into the new year, we do so with a renewed sense of hope for a brighter future. However, before we close the door completely on 2015 let us journey back and take a look at some of the memories that made us smile and those that made us cry. 2015 was a memorable year in the Star Trek world, so come with me as we step inside the holodeck and relive a year that made being a Trek fan a great one. Computer, run program.

First in the long list of memorable Trek related stories is that of a feature length fan film created by Axanar Productions. The film is the brain child of Alec Peters, he is also the owner of Axanar productions and stars as Captain Kelvar Garth. Fans of Star Trek The Original Series may recognize that name from an episode in season three entitled "Whom Gods Destroy." The film is not so coincidentally entitled "Axanar." It is a follow-up to a 2014 short film called "Prelude to Axanar."

The film is a prequel to the era of Captain Kirk, Spock and the Enterprise, and is set during the battle of Axanar between the United Federation of Planets and the Klingon Empire. The film which is entirely fan funded through popular crowd-funding website Indiegogo has raised over \$570,000 as of this article. The film has been widely supported by fans and Star Trek alumni alike, however not everyone is excited. As of December, 2015 CBS and Paramount have sued Axanar Productions for "unauthorized exploitation" of the Star Trek Franchise.



PRELUDE TO AXANAR

DIRING HOHAD HAIDH TON TOO KAIT VERON JG HEVILER GAY GAWAN AO ALE PETERS

WITHIN A ALE PETER AND DIRECTAN BOSET MICE OFFICER OF A BERNERN MICH. GETER OF BRING FATER

MICHIER O ALE PETER BURGET MICE OFFICERA BOSETT SET OF BOSET MICE BANGET.

Simply put, they accuse Peters and his production company of stealing copyright and trademarked material. Peters however maintains that while this is a Star Trek film he has done nothing illegal. He has even gone so far as to sit down with CBS executives prior to filming to make sure he

stays within the legal guidelines. Peters who is also a lawyer has stated he intends to finish the film and hopes to settle the dispute amicably. In the lawsuit filed in federal district court in California on December 29th, 2015, CBS and Paramount are seeking \$150k per infringement. One interesting side not to this story is Lucas Films has set up a program that not encourages fan films but also rewards those who make them. Film makers must follow legal guidelines set forth by the company, but are rewarded with licensing and distribution. This model makes a profit for both the filmmaker and Lucas Films which paints them in a pretty good light and at the same time encourages more people to make fan films. While there is no sign CBS or Paramount has any plans to venture down that road when it comes to the Star Trek franchise, it certainly would go a long way to show Gene Roddenberry's vision for the future is closer than we think.

Keeping in line with Star Trek films the third installment of J.J Abrams revival of the beloved series wrapped filming on October 15, 2015. The release is slated to hit theaters July, 22nd of this year. Star Simon Pegg who portrays beloved engineer Mr. Scott also spent time working behind the cameras

in what is expected to be another masterfully artistic depiction of the Star Trek universe. I think we can all agree that Star Trek isn't going anywhere for quite some time.

NASA ambassador and actress who portrayed Uhura in Star Trek The Original Series, Nichelle Nichols was among the first non essential personnel to experience NASA's SOFIA telescope. SOFIA which stands for Stratospheric Observatory for Infrared Astronomy was a join project between NASA and the German Aerospace Center. Nichols, who suffered a minor stroke earlier in 2015 was 82 years old when she made the trip in September.

Star Trek celebrates it's 49th anniversary In September. On September 8th, 1966 NBC aired the very first Star Trek episode entitled "The Man Trap." The show ran for three seasons and at the time was not only the most prolific and "far out" shows (pun intended) it was also one of the most expensive shows to film.

While 2015 has been filled with wonderful memories, there have also been dark times. Death is no stranger to any of us and we lost our fair share of friends on both sides of the camera. Here is a list of those we lost last year. May they travel safely on their journey through the stars.

February 27th-Legendary Star

Trek actor Leonard Nimoy known as the lovable Vulcan Spock dies at 83 from COPD

March 4th- Harve Bennett producer of 4 star trek films dies at 84

May 3rd- Grace Lee Whitney who portrayed Yeoman Janice Rand in TOS, assistant to Capt. Kirk dies at 85

June 22nd -James Horner composer for Star Trek II and Stare Trek III dies in plane crash at 61

August 7th- Terrance Evans who played in both Star Trek Voyager and DS9 dies at 81

August 17th- Yvonne Craig who had several appearances in the 3rd season of TOS dies from breast cancer aged 78

September 28th- Catherine Coulson who worked as a camera assistant on Star Trek II dies from cancer aged 71

October 13th- Bruce Hyde who played Lt. Kevin Riley on TOS lost his battle with throat cancer. Age 74

Nog was the first Ferengi ever to join Starfleet, which in itself was no easy task. In the DS9 Episode "Heart of Stone," Nog was once quoted as saying; "I may not have an instinct for business, but I have my father's hands and my uncle's tenacity." He worked hard to prove he wanted to be a Starfleet Cadet and even when he could have given up, he persisted. Nog

was not unlike the actor who portrayed him, Aron Eisenberg. Thirty years ago he underwent the first kidney transplant that ultimately stunted his growth at just five feet. On August 25th, 2015 Aron was informed he would need yet a second kidney transplant. The following day Aron began his dialysis treatment which is only typically required when a patient loses between 85 and 90 percent of kidney function. On December 29th Aron successfully underwent his second transplant. Aron's girlfriend Malissa Longo started a gofundme account to help with bills as neither would be able to work during that time. As of the writing of this article Malissa reports that Aron is recovering well and in good spirits. January 6th is also Aron's birthday and we want to wish him a fast recovery and very happy birthday.

My friends 2015 has been an incredible year for Star Trek fandom. We have laughed and we have cried. As we enter 2016 with wide eyes we still have so much to look forward too. We will celebrate the 50th anniversary which promises to be full of spectacular things. As I close this article I want to wish you all a wonderful 2016. May you all boldly go where no one has gone before and in the words of the legendary Mr. Spock, live long and prosper. Computer, end program.

Transparent Aluminum Now A Reality



Dr. Jas Sanghera

Photo: U.S. Naval Research Laboratory/Jamie Hartman

By CMDR Kevin Creamer, Region 1

Imagine a glass window that's tough like armor, a camera lens that doesn't get scratched in a sand storm, or a smart phone that doesn't break when dropped. Except it's not glass, it's a special ceramic called spinel {spin-ELL} that the U.S. Naval Research Laboratory (NRL) has been researching over the last 10 years.

20151001-20151231 Dr. Jas Sanghera and colleagues at the U.S. Naval Research Laboratory (NRL) invented a new way of making transparent spinel. "The advantage [of spinel] is it's so much tougher, stronger, harder than glass," says Sanghera. "For weight-sensitive platforms—UAVs [unmanned autonomous vehicles], head-mounted face shields—it's a game-changing technology." Spinel also could be used for watches and consumer

electronics, like the smart phone.

"Spinel is actually a mineral, it's magnesium aluminate," says Dr. Jas Sanghera, who leads the research. "The advantage is it's so much tougher, stronger, harder than glass. It provides better protection in more hostile environments—so it can withstand sand and rain erosion."

As a more durable material, a thinner layer of spinel can give better performance than glass. "For weight-sensitive platforms-UAVs [unmanned autonomous vehicles], head-mounted face shields—it's a game-changing technology."

NRL invented a new way of making transparent spinel, using a hot press, called sintering. It's a low-temperature process, and the size of the pieces is limited only by the size of the press. "Ultimately, we're going to hand it over to industry," says Sanghera, "so it has to be a scalable process." In the lab, they made pieces eight inches in diameter. "Then we licensed the technology to a company who was able then to scale that up to much larger plates, about 30-inches wide."

The sintering method also allows NRL to make optics in a number of shapes, "conformal with the surface of an airplane or UAV wing,"

depending on the shape of the press.

In addition to being tougher, stronger, harder, Sanghera says spinel has "unique optical properties; not only can you see through it, but it allows infrared light to go through it." That means the military, for imaging systems, "can use spinel as the window because it allows the infrared light to come through."

NRL is also looking at spinel for the windows on lasers operating in maritime and other hostile environments. "I've got to worry about wave slap and saltwater and things like that, and gun blasts going off—it's got to be resistant to all that. And so that's where spinel comes into its own," says Sanghera.

Sanghera says, "Everything we do, we're trying to push the mission. It's designed to either enable a new application, a new capability—or enhance an existing one."

What is spinel?



(Spinel pressed into rectangle)

The U.S. Naval Research Laboratory uses a hot press to make spinel into conformable optics, like this flat sheet. "Ultimately, we're going to hand it over to industry," says Dr. Jas Sanghera, who leads the research, "so it has to be a scalable process." In the lab, they made pieces eight inches in diameter. "Then we licensed the technology to a company who was able then to scale that up to much larger plates, about 30-inches wide."

Spinel can be mined as a gemstone; a famous example is the Black Prince's Ruby, which is actually spinel with a color dopant. NRL chemists have also synthesized their own ultra-high purity spinel powder, and other synthetic versions are commercially available. "The precursors are all earth abundant, so it's available in reasonably low cost," says Sanghera.

The spinel NRL makes is a polycrystalline material, or a lot of crystal particles all pressed together.

Whereas with glass, "A crack that forms on the surface will go all the way through," spinel might chip but it won't crack. "It's like navigating through the asteroid belt, you create a tortuous path: if I have all these crystals packed together, the crack gets deflected at the hard crystals: you dissipate the crack energy."

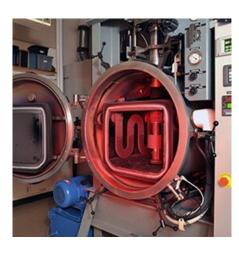
When scientists first started trying to make glass-like spinel, they were using a crucible instead of a press.

"A big problem with growing crystals is that you have to melt the

starting powder at very high temperatures, over 2000 degrees Celsius," says Sanghera. It's expensive to heat a material that high, and additionally, "the molten material reacts with the crucible, and so if you're trying to make very high quality crystals, you end up [with a] huge amount of defects."

That's why Sanghera and his colleagues turned to sintering. "You put the powder in [a hot press], you press it under vacuum, squash this powder together—and if you can do that right, then you can get rid of all the entrapped air, and all of a sudden it comes out of there clear-looking."

(Hot press in NRL spinel lab)



The U.S. Naval Research Laboratory uses a hot press to make spinel, a process called sintering. It's much less expensive than melting, and the size of the pieces is limited only by the size of the press. Says lead researcher Dr. Sanghera, "You put the powder in [a hot press], you press it under vacuum, squash this powder together—and if you can do that right, then you can get

rid of all the entrapped air, and all of a sudden it comes out of there clear-looking." To further increase the quality of the optic, "You can grind and polish this just like you would do gems."

If the press has flat plates, the spinel will come out flat. "But if I have a ball and socket joint, put the powder in there, I end up with a dome shape," says Sanghera, "so we can make near net shape product that way."

NRL was not the first to try sintering. But previous attempts had yielded "a window [where] most of it would look cloudy, and there would be an odd region here and there—about an inch or so—that was clear, and that would be coredrilled out."

So NRL deconstructed the science. They started with purer chemicals. "Lousy chemicals in, lousy material out," says Sanghera.

Then they discovered a second problem, with the sintering aid they were adding to the spinel powder. "It's about one percent of a different powder, in this case lithium fluoride," says Sanghera. This "pixie dust" is meant to melt and "lubricate the powder particles, so there's less friction, so they can all move together during sintering." They were putting the powders together in shakers overnight, but, "The thing is, on a scale of the powder, it's never mixed uniformly."

Understanding the problem led to a unique solution for enabling uniform mixing. Now, "there's only one path-

20151001 20151231

Transparent Aluminum Now A Reality

way for densification," and the spinel will come out clear across the press.

To further increase the quality of the optic, "You can grind and polish this just like you would do gems," says Sanghera. This is the most costly part of the process. "One of the things we're looking at is, how do we reduce the finishing cost?" The surface of the press is imprinted onto the glass. "If we can improve upon that," he says, "make that mirror finished, then—and so that's where we get into a little bit of IP [intellectual property], is what's the best way to do that?"

For both the Department of Defense (DoD) and private industry, "Cost is a big driver, and so it's important for us to make product that can be affordable."

There are unique applications for military and commercial use

"There are a lot of applications," says Sanghera. He mentions watches and consumer electronics, like the smart phone, as examples.

The military in particular may want to use spinel as transparent armor for vehicles and face shields. A "bullet-proof" window today, for example, has layers of plastic and glass perhaps five inches thick. "If you replaced that with spinel, you'd reduce the weight by a factor of two or more," says Sanghera.

The military's also interested in using

spinel to better protect visible and infrared cameras on planes and other platforms. Glass doesn't transmit infrared, so today's optics are made of "exotic materials that are very soft and fragile," and have multiple layers to compensate for color distortions. "So that's what we've been doing now, developing new optical materials," says Sanghera. Spinel windows could also protect sensors on space satellites, an area Sanghera's interested in testing.

"You could leave these out there for longer periods of time, go into environments that are harsher than what they're encountering now, and enable more capabilities," he says."

The U.S. Naval Research Laboratory (NRL) is making transparent ceramics, called spinel, that could one day replace the glass in military imaging systems. In maritime and other hostile environments, "I've got to worry about wave slap and saltwater and things like that, and gun blasts going off," says optical scientist Dr. Jas Sanghera. "And so that's where spinel comes into its own." In addition to being tough, spinel has "unique optical properties; [...] it allows the infrared light to come through."

NRL is also looking at spinel (and other materials) for next generation (NEXTGEN) lasers. "Lasers can be thought of as a box comprised of optics," he says. "There's passive

and there's active components: passive is just a protective window; active is where we change the color of light coming out the other end."

For passive laser applications, like exit apertures (windows), the key is high quality. "That window, if it's got any impurities or junk, it can absorb that laser light," says Sanghera. "When it absorbs, things heat up," which can cause the window to break. Sanghera and his colleagues have demonstrated, working with "ultra high purity" spinel powder they've synthesized in NRL clean rooms, spinel's incredible potential.

For active laser applications, they've demonstrated how sintering can be used with materials other than spinel to make a laser that's "excellent optical quality." Instead of spinel, they use, "things like yttria or lutecia [and] and dope them with rare earth ions."

NRL has transitioned both types of laser materials and applications to industry.

What makes NRL tick is solving problems.

Sanghera came to NRL in 1988, after completing his PhD at the Imperial College, London in materials science. "Little by little—talking to people, asking questions, going to conferences—you find out that what makes this place tick is solving problems," he says. "No two days are the

same, it's very exciting."

The U.S. Naval Research Laboratory (NRL) presses spinel powder into transparent domes, sheets, and other shapes. "For weight-sensitive platforms—UAVs, head-mounted face shields—it's a game-changing technology," says Dr. Jas Sanghera, who leads the research. If the press has flat plates, the spinel will come out flat. "But if I have a ball and socket joint, put the powder in there, I end up with a dome shape."

He first worked with glass, drawing it into optical fibers, and a lot of his success with spinel comes from that heritage of insisting on purity and quality. "An optical fiber's very long: it can go from 1 meter to 100s of kilometers. Purity's very important, because if there's any junk in there, the light will either be absorbed or it can be scattered."

His lab also makes lightweight, inexpensive fibers for infrared countermeasures applications on helicopters and other platforms. By weaving it through the platform, "This fiber can remote the energy from the laser, which is inside the platform, to a device on the outside, which can then track and then shoot the laser beam out, confuse the missile."

He acknowledges, "In DoD, we are the premier place for development of fiber lasers. It's something we are heavily involved with, all the different types of fibers and configurations and materials required to enable these eye-safer and NEXTGEN lasers."

Sanghera says that there's evolution,

like enhancing an existing capability by improving size, weight, and performance/power (SWAP); "But revolution is when you come up with some new idea, you just enabled completely new capabilities." For that, he credits the many different disciplines NRL brings together. "We have a lot of smart people, we have a lot of what I call head-banging sessions, where we discuss new ideas and opportunities. If you don't ask the questions, you won't get answers and you won't stimulate new ideas."

He also credits a close relationship with industry and with those NRL serves. "We talk to the warfare cen-

ters, the systems people—so that what you're doing really is going to be of value. There's already the application there in mind, and we're just trying to solve that problem; so it's very focused in that sense."



The U.S. Naval Research Laboratory invented a new way of making transparent spinel. "We talk to the warfare centers, the systems people—so that what you're doing really is going to be of value," says lead researcher Dr. Jas Sanghera. In this photo, from left to right: Michael Hunt, Dr. Woohong (Rick) Kim, Dr. Jas Sanghera, Robert Miklos, Dr. Guillermo Villalobos, Dr. Colin Baker, Bryan Sadowski, and Dr. Shyam Bayya.

(Photo: U.S. Naval Research Laboratory/Jamie Hartman)

Drunk or Treat (Continued)

and had a Peach Ginger scone and coffee.

The Beer Cellar is a great place and accord-



ing to those who tasted the beer, it was a great sampling. Most of the group had beer and only a few of us went to have sweets.

Our fourth stop was at Poe Golf Company or the old Perche Creek. This stop included batting cages, go karts and miniature golf. Again, most had a great time and found something to entertain them. This was another 90-minute stop.

For some, the bus was their hang-out place,



as there was a cooler on board, but most of us enjoyed the stops and the activities. This was a discounted stop.

I played mini golf. How about a 71 on a par 72 course, with alcohol consumption? I felt good about this score, considering the con-

ditions. I even competed against Spiderman in this contest. Starfleet won!



The fifth stop was Panhead Billy's BBQ in Kingdom City. The restaurant is an old biker bar that has cleaned itself up to become more family friendly. At least until we showed up. Again, there is a bar and you can drink, but why worry about that when they serve up wholesome meals, burgers or BBQ? Everyone got really good food and drink, if they wished.

The meals were called in ahead and were just about ready when we got there. The restaurant had added extra staff to accommodate us. This was a stop last year and I suspect it will be again.

The sixth stop was Necro Planet haunted house in mid Columbia. This featured two haunted houses.

The line here was four hours long, but we were again rushed to the front of the line to be ticketed and to go to the fronts of the lines for both haunted houses.

One of the two was a little physical and required some crawling and a little more activity but the other was walk-through. You could opt out of one or both as you desired. We were done here in about 40 minutes.

From the outside, you could hear men screaming like little girls and lots of general screaming before entry, and you knew they



were going to get to you in the end. But, just imagine, skipping a four hour line to enter...The last stop was at Battlecreek Paintball stop in Kingdom City right near the campground. This was an opportunity to shoot zombies in droves. Again this was a welcome repeat stop and it offered finishing-up fun for the group. It was very late in the evening by this time,11 pm, but many of the group were still



going strong.

While I was not there for the campfire and concluding camp out this year, they continued into the night, and then had breakfast as a group the next morning. How about some bacon on the Barbie. Consider this as a stop for your fall entertainment for next year. It is a continuing function but would need prior planning by anyone not from mid -Missouri, as this is also homecoming weekend for the University of Missouri.

HYPOSPRAY

Colonel Gregory Fant, STARFLEET Medical, Surgeon General

By, LCDR Amanda Barrow R20

I came across this blog the other day "Cancer Story - Research on effectiveness of herbs and alternative therapies for cancer"(URL: http://cancercaremalaysia.com/). Several beloved people in my life have been attacked by Cancer. Surprisingly a very small number survived (much to our great relief and joy). A very dear friend is our latest joyousness, and, in a couple of weeks' time, the five of us will be meeting up to celebrate not only her life but to catch up on a year's worth of news and gossip, to put the ailing world to rights and very probably to indulge in a couple of glasses of a very fine red wine. During the time from her diagnosis, through the (seemingly) endless treatments, surgery, more chemo, hair loss, and trips to the hospital, Beloved faced a raft of incredibly hard choices, including having to decide whether to have both breasts removed or undergo radical chemo which would make her incredibly sick. Incredibly sick, along with the loss of her hair. Beloved has braved all of this



PUBLIC DOMAIN IMAGE

with fortitude, grace and determination. Unlike me (and the rest of our group). I suspect next weekend will be very emotional for us all. I know that I, for one, haven't coped very well with her illness. I want to hear her story, indeed more than [ever] I NEED to hear her story. I don't think the shock will go away, and I am probably alone in this when I say that being on the outside, with all the feelings of helplessness and futile frustration has to be worse than being the patient themselves. My younger sister too is battling, not cancer, but something equally as insidious, degenerative bone disease. Her choices?

To undergo radical surgery to fuse the neck spinal bones – which doctors say will probably

leave her paralyzed from the neck down or do nothing. The doctors have not given her an alternative, no medicine, no other treatments, nothing...so my sister has researched and researched, visited medical doctors, and her conclusions are quite intriguing... Beloved 3 has adopted a simple lifestyle - which for many of us means "radical". Out has gone processed foods, white flour, cakes, beef, pork and in has come fruit for breakfast; vegetables, vegetables and more vegetables. Together, we have been experimenting with spelt and corn flour - often neither of us can tolerate the 'additional' ingredients that hide in brought food. Beloved 3 maintains that the "cheap – quick fix processed foods" we buy from our supermarkets is slowly killing us. I suspect she may have a point. [Note: The World Health Organization has a list of health topics for us to review, as needed:

http://www.who.int/topics/en/]

STARFLEET Operations Report

ADM Robert Westfall, Chief of STARFLEET Operations, ISS *Katana*, Region 6



REPORTING STATS FOR NOVEMBER 2015

MSRS RECEIVED: 204 MSRS MISSING: 34 TOTAL CHAPTERS: 238

REPORTING %: 85.71% of all chapters

CHAPTERS LAUNCHED

None

CHAPTERS COMMISSIONED

USS Valiant (R12) - 7 November 2015

REGION	MEMBERS (CHANGE)	CHAPTERS (CHANGE)
01	935 (-20)	52 (0)
02	543 (+11)	28 (0)
03	490 (+11)	25 (0)
04	466(+14)	19 (0)
05	173 (-6)	9 (0)
06	111 (-2)	9 (0)
07	588 (-24)	27 (-1)
08	7 (+3)	1 (0)
09	56 (0)	3 (0)
10	62 (+7)	2 (0)
11	104 (0)	6 (0)
12	425 (-4)	24 (0)
13	138 (+9)	6 (0)
14	2 (0)	0 (0)
15	169 (-1)	11 (0)
16	0 (0)	0 (0)
17	115 (-4)	7 (0)
18	18 (+1)	0 (0)
19	0 (0)	0(0)
20	218 (0)	8 (0)
00 & 99	3 (-1)	0 (0)
TOTAL	4,623 (0)	240 (+1)

STARFLEET Communications Report

CDRE Matthew Miller, Chief of STARFLEET Communications, USS Alaric, Region 1



Chief of Communications:

Last CQ of 2015! Soon we will be all caught up.

Hours working on the CQ for the month of March 2016:

April 1-7th

7 Hours

April 8-14th

7 Hours

April 15-21st

5 Hours

April 22-29th

8 Hours Total

Hours: 27

Communiqué Staff:

Thanks to Commander Kevin Plummer for helping me find articles and complete this edition.

List Moderators:

No issues to report.

Facebook Admins:

Keeping up with regular posts on the STARFLEET Facebook page.

Director of Public Relations:

Nothing to report.

STARFLEET Academy Report

ADM Peg Pellerin, Commandant of Starfleet Academy USS Constitution, Region 15

I know this is early, but many of you are already contemplating on either continuing your college education or entering a college come the fall of 2016. Are you interested in trying out for a scholarship? Will you have been a member of one year or more by June of 2016? If so, contact ADM Tammy Willcox, STAR-FLEET Scholarship Director scholarships@sfi.org

The Scholarship Program is always looking for donations. Many of you have made donations via auctions at your regional summits and some even through chapter activities, but here's a couple of other ways you could help the program gain more funds to continue with the scholarships. One is to add \$1.00 to each membership renewal and another is a coin jar at your chapter meetings. Many chapters of made a "piggy bank" that is dedicated to change for the Scholarship Fund. You may contact Admiral Willcox to get more information about how to help fund the Scholarship Program at the email in the above paragraph. Thank you for all you do.

Congratulations to:

Cynthia Lightheart for completing the Cadet College of Xeno Studies (13 Distinctions).

FEATURED INSTITUTE:

INSTITUTE of HISTORY AND GOVERN-MENT

The College of History brings the student from Ancient Earth History all the way to Olympic Class Ocean Liners and even Vulcan History. Director, Commodore Franklin Newman III franklinnewman3@gmail.com



The College of Historical Sites takes the student on a tour of US sites of historical importance and interest. Courses range from large tourist attraction sites like Colonial Williamsburg in Virginia, to smaller sites of interest like the Cotter fireboat in NY. Most exams consist of fill-in-the-blank type answers, and some include matching photos to descriptions. Director, Captain Chris Johnson, cljohnson395@triad.rr.com

The College of Military History is broken down into four schools. The School of the Age of Empire Building covers the conflicts and militarily historic events from 1700 to 1935, excluding the American Civil War and World War I. The School of the American Civil War covers a variety of aspects concerning the civil war that divided the United States between the years of 1861-1865. "The War to End All Wars" is the topic of the School of world War I. The School of World War II centers on topics relevant to the war that encompassed the world between 1939 and 1945. Director, Admiral Robert Westfall, rwestfall99@kc.rr.com

The College of North and South American Indians covers the various tribes of Native Indians throughout North and South America. History, culture, government, and general knowledge are covered. Director, Admiral Peg

Pellerin, admiralpeg@gmail.com

The College of Politics and Government Trivia is designed to expand your knowledge of the political arena and how the government has been shaped by politics. Director, Admiral Glen Diebold, gdiebold@sfi.org

The College of the U.S. Constitution explores the history, origins, and details of the United States Constitution and its amendments. From the Articles of Confederation, the drafting and the adoption of the document, to explaining the actual contents of the governing document, these courses provide a historical and legal exploration of the U.S. Constitution. Director, Lieutenant Phillip Gilfus, ncpublicservant@gmail.com

The College of U.S. Presidents covers the administrations of the individuals who have held the office of President of the United States. Director, Commodore Franklin Newman III franklinnewman3@gmail.com

Riddle me this

It flies without wings, Drops without fear, But held in warm hands, It will soon disappear

ANSWER: Snowflake

NEW Riddle:

It can move over water, But cannot fly. It can move under water, But stay quite dry.

ACADEMY INFORMATION

Further information about the Academy, its staff and faculty, courses offered, and scholarships will be found at the following website: http://acad.sfi.org/courses/index.php

20151001 20151231

STARFLEET Academy Boothby Awards

Bronze (50)	Dilithium (300)	
Roger Wright	Janice Graham	Ruby (900)
Shaun Smith		David Goldsberry
Randy Davis	Titanium (350)	
William Robbins, Jr.	Denise Rush	Emerald (950)
	Steve Bice, Jr.	David Goldsberry
Silver (100)	Ralph Brigham	Omega (1000)
Robert Towne	Hooper	James Herring
Katherine Lightheart		
Tom Guertin	Zirconium (400)	Bronze Star (1050)
Michael Brown	Fred Parsons III	James Herring
Martin Lightheart, Jr.	Denise Rush	Ricardo Garcia
Donna Jarrett		
	Trilithium (500)	Truman Temple (1100)
Gold (150)	David Miller	Oliver Savander
Andrea Debrestian	Amber (550)	
Shane Russell	Thomas Clark	Gold Star (1150)
Richard Bonham	Lee Vitasek	Ricardo Garcia
Latinum (200)	Amber (550)	Acamar Star (2050)
Chad Griffiths	Robin Vitasek	Adam Wenclewicz
Catherine Weeks		
Kelli Caplette	Garnet (600)	Alderbaran Star (2100)
Brian Landry	Allen Andrson	Eric Johannson
Robin Fleming	Thomas Clark	Adam Wenclewicz
Richard Bonham		
	Topaz (650)	Genovese's Star
Diamond (250)	Allen Anderson	Glendon Diebold
Mary Lightheart		
Brian Crist	Amethyst (700)	Tau Ceti Star (3850)
Catherine Weeks	Elizabeth Worth	Josephine Fisher
Robin Fleming		
	Opal (800)	USS Copernicus (5050)
	Stephen Satonick	Franklin Newman III

STARFLEET Computer Operations Report

ADM Laura Victor, Chief of STARFLEET Computer Operations, USS Challenger, Region 7

As we head into the last months of 2015, CompOps is handling a few new projects that will benefit all STARFLEET members. First off, a few months back STARFLEET Academy's online course request system had ceased to function, and had to be taken offline. Since then, course requests have had to be submitted via email request, which can be cumbersome and not easy to keep track of. After IC, I was asked by CS Wayne Killough to create a new course request system, that would provide a 1-step solution for SFI members, while maintaining submissions for all past course requests for Academy recordkeeping. A tall order - I had built the last version manually back in 2002, using a system similar to the SFMC Academy at the time. And unlike back then, I did not have the time to devote to building a new one out from scratch, all by myself.

Fortunately, I didn't have to. Using the existing forms setup on sfi.org, CompOps staffer Rey Cordero and I were able to setup a new course request form, which emails out course requests directly to SFA directors, and keeps a record of all students in the backend of sfi.org, The new course request form will be available this fall on sfi.org. A huge thank you to Rey for the hours of work he put into this project!

This was a particularly large project, with a tight turnaround, not an uncommon occurrence in a department like CompOps. And it can't happen without individuals who are dedicated to taking on the tough projects and personally seeing them out to their completion. Projects like the creation and redesign of web sites, recruiting materials and manuals, laying out and editing the Communique, or managing a department like Membership Processing or the Quartermaster, requires a singular focus from a dedicated individual if they are to succeed. When it becomes just another duty among many, the work can become slipshod, even put aside or abandoned altogether - a mistake I've personally made over the years when I took on too many responsibilities at once.

The concept of "stewardship" is something we don't normally talk about much in organized fandom. It's usually a concept reserved for service organizations such as churches, where the emphasis for members of the organization is serving others, whereas STARFLEET membership is about being a fan. But if you're working on the chapter, regional or Fleet level of SFI, you are serving others, even if it's just creating a chapter newsletter, running a regional conference, or managing a web site. You're creating something that other people will find useful – the only difference between chapter and Fleet level is the number of people to which your work will be useful.



The fundamentals of stewardship are very relevant to SFI: so often, we have understaffed departments, and it falls to one person to handle all the duties of that department. And as volunteers, the only compensation for work is really, just taking personal pride in that work. So very often, the work that we do fits perfectly within the definition of stewardship – the idea of having a specific role to fill, making it not only your personal responsibility, but a part of your identity. When you fulfill the role's requirements, you take pride in it. When you're falling behind, you feel the urgent need to get back up and get moving again.

Boothbay on "Star Trek: the Next Generation" was a sterling example of this approach. He performed a very hard, labor-intensive role as groundskeeper of STARFLEET Academy, the kind of work that probably should have been outsourced to technology by the 24th century (although I can safely assume they've got some high-end Roombas mowing the extensive grounds). Boothbay performed his gardening duties the old-fashioned way, and without any apparent assistance, for decades, seeing generations of Starfleet cadets pass through those gardens. When I had the pleasure of visiting the Japanese Gardens in Los Angeles a few years ago, one of the first thoughts I had was "My god, Boothbay had to keep all of this up him-

When I came home from L.A., I re-watched all the Boothby episodes of TNG and Voyager, and sure enough he never handed off flowerbed weeding duty to a junior groundskeeper. That job was HIS, and he treated those grounds like an extension of himself. Boothbay took to task a young Jean-Luc Picard for carving a girl's name into his prized elm. He shooed away cadets who were sitting in his flowerbeds. And you never saw him on the grounds where he wasn't fussing over his beloved plantings.

place And this was all taking place in a fictional time and where (ostensibly) there is no money and you don't have to work for a living. Boothbay was doing all of this for fulfillment, for pride -- just like us.

Stewardship is at the heart of so many of STAR-FLEET's best volunteers. Notice a chapter's beautiful new Web site? Some volunteer is meticulously creating and maintaining it (that's how I got my start, building small Web sites on the chapter and regional levels.) Love those new STARFLEET ID badge? CompOps' own Greg Mortensen performed every step of the creation process, from designing them to mailing them out. Our Pinterest site (one of our most robust social media channels) is run by just one dedicated volunteer – Michael Lewis of the Heimdal. And two of our members, Daniel Proulx and Phillip Gilfus, host a podcast called "Earl Grey" on Trek.fm.

So if you want to make your mark in Fleet, the best advice I can give is: just find a job, and become the person who does it. Especially when it's a job no one else wants: building a newsletter, redesigning an obsolete Web site, working on membership processing, quartermaster, or any other job that requires a lot of thankless work. If can you build a reputation as the one person that can get that job done, then your fellow members will recognize you as someone who takes pride in their work, and can be trusted taking on bigger and bigger responsibilities in the future

So, what are you doing to foster stewardship, in yourself, your chapter, and your fellow members? Ask yourselves these questions:

- What resources, talents, and abilities do I possess? Do I use them to help my chapter, my region, for STARFLEET and for other organizations?
- If I am to work to be an effective volunteer, what will it cost me in terms of time and effort? What other roles am I willing to put aside in order to accomplish this goal?
- How can I be of help to others in recognizing and using their strengths and talents?

STARFLEET Financial Report

GEN Linda Olson, Chief Financial Officer



	October	November	December
STARFLEET Main Checking Accoun	nt		
Opening	\$31,945.61	\$31,935.24	\$37,390.94
Credits	\$330.00	\$12,090.96	\$165.00
Debits	\$340.37	\$6,635.26	\$224.33
Closing	\$31,935.24	\$37,390.94	\$37,331.61
IC Even Account			
Opening	\$1398.53	\$1398.53	\$1398.53
Credits	\$0.00	\$500.00	\$500.00
Debits	\$0.00	\$0.00	\$0.00
Closing	\$1398.53	\$1898.53	\$1898.53
IC Odd Account			
Opening	\$3144.37	\$3144.37	\$545.47
Credits	\$0.00	\$0.00	\$2598.90
Debits	\$0.00	\$2,209.00	\$29.95
Closing	\$3144.37	\$935.37	\$3,144.37
-			, ,
SFMC Checking Account	ć7 2F0 44	¢7252.60	ć7 492 42
Opening Credits	\$7,359.44 \$0.00	\$7353.69 \$180.23	\$7,483.43 \$0.00
Debits	\$0.00 \$5.75	\$180.23 \$50.49	\$0.00 \$17.38
Closing	\$5.75 \$7,353.69	\$50.49 \$7,483.43	\$17.36 \$7,466.05
Closing	77,333.03	77,403.43	\$7,400.03
STARFLEET Scholarships Savings A	Account		
Opening	\$6947.75	\$7,202.93	\$5,000.13
Credits/Interest	\$0.18	\$797.20	\$0.13
Debits	\$0.00	\$3,000.00	\$0.00
Closing	\$6947.75	\$5,000.13	\$5,000.26
SFMC Scholarship Savings Accoun	nt		
Opening	\$2,729.71	\$2729.76	\$2729.80
Credits/Interest	\$0.05	\$0.04	\$0.05
Debits	\$0.00	\$0.00	\$0.00
Closing	\$2,729.62	\$2729.80	\$2729.85
STARFLEET Scholarship CD			
Current Balance	\$1,117.47	\$1117.49	\$1117.52
Rate	0.03%	0.03%	0.03%
Matures On	2015-08-15	2015-08-15	2015-08-15
STARFLEET Savings CD			
Current Balance	\$14,041.74	\$14,042.22	\$14,042.68
Rate	0.04%	0.04%	0.08%
Matures On	2016-03-30	2016-03-30	2016-03-30

CADET CORNER

How Salty Does the Sea Have to Be for an Egg to Float?

Objective:

Determine what salt concentration will float an egg.

Did you know that if you put an egg in a cup of tap water, it will sink to the bottom? But, if you add enough salt, the egg will float back up to the surface! Why? Because the density of the egg is higher than the density of tap water, so it sinks. With enough added salt, the saltwater solution density is higher than the egg's, and the egg will then float, as shown in the picture. The ability of something, like the egg, to float in water or some other liquid is known as buoyancy.

Materials and Equipment

- Eggs (5)
- Permanent marker
- Table salt (1 cup)
- Water
- Measuring cup, liquid
- Large container, such as a large bowl or cooking pot. Must be able to hold at least five cups.
- Spoon for stirring
- Bag of clear 16-oz. plastic cups
- Soup spoon for egg transfer
- Lab notebook

Experimental Procedure

Note: For convenience of doing this science project using household measuring tools, volumes are given in terms

of United States measuring spoons and cups. However, science is done in metric units and students may need to convert when writing up their procedure. To convert units, you can use the following website:

Science Made Simple, Inc. (n.d.). Metric conversions & US customary unit conversion calculator. Retrieved April 15, 2013, fromhttp://www.sciencemadesimple.com/

Take five eggs out of the refrigerator, use a permanent marker to label them 1-5, and allow them to warm to room temperature.

Make a stock solution of 1 cup of salt dissolved in 5 cups of water, as follows:

Pour 3 cups of water into your large container.

Add 1 cup of salt.

conversions.html

Stir to dissolve some of the salt. It will not all dissolve yet.

Add 2 more cups of water.

Stir to dissolve the rest of the salt. The salt should be completely dissolved before you go on to the next step.

This may take several (5 to 10) minutes of stirring, so you may need to be patient.

Make a two-fold serial dilution of the stock solution, as follows:

Label five of the plastic cups 1-5. Cup 1 will be for the stock solution, cups 2-4 will be for the dilutions, and cup 5 will

be plain tap water.

Add 3/4 cup of your stock salt solution to cup 1.

Add 3/4 cup plain tap water to cups 2-5.

Measure out 3/4 cup stock solution, and add it to cup 2. Mix.

Measure out 3/4 cup of the solution from cup 2 and add it to cup 3. Mix.

Measure out 3/4 cup of the solution from cup 3 and add it to cup 4. Mix.

What are the relative salt concentrations of cups 1-4? Example: Cup 2 is made up of half stock solution and half tap water, which is a 50 percent relative salt concentration.

What are the absolute salt concentrations of cups 1-4? (If you want to convert to metric units, 1 cup of salt is about 292 grams [g], and 1 cup of water is 237 milliliters [mL].) Write these concentrations down in your lab notebook.

Now, starting with cup 5 and working your way up, test an egg in each solution to see if it will float. Use a soup spoon to lift the egg in and out of the cups.

In which cup did the egg first float? (Save this solution for step 7.) If the egg floated in more than one cup, did you notice any difference in how it floated?

Be sure to record your results and observations in your lab notebook, including the egg's number.

Repeat steps 5-6 with four other eggs.

Now you know, within a factor of 2, how much salt it takes to float an egg. How can you narrow down the range

further to get a more precise estimate? By doing another serial dilution, of course.

This time you will start your dilution with the salt concentration in which the egg first floated, the one you selected in step 6.

Figure out a new serial dilution with smaller steps. For example, you could try diluting the solution by 25 percent with each step. That means with each step, the new concentration should be 75 percent of the original concentration.

What amounts of stock solution and water do you need to use?

Remember that you will need enough solution to more than cover the egg, which will probably be around 3/4 cup, and you probably cannot fit more than 2 cups of solution in each 16-oz. cup.

Hint: You may only be able to test the first few cups in a dilution series at a time unless you use larger cups.

Tip: If you need additional help for making serial dilutions, check out the serial dilutions resource in the Bibliography in the Background section.

Write up your new dilution procedure in your lab notebook, including the calculated relative and absolute salt concentrations for each cup.

Make the new dilution series. Remember to start with salt concentration where the egg first floated. (If you do not have enough solution from the original serial dilution, make some more by starting from the stock solution.)

As before, test an egg in each cup,

starting with the lowest salt concentration. In which cup did the egg float first?

Be sure to record your results and observations in your lab notebook, including the egg's number.

Repeat this step with the four other eggs.

If you want, make another dilution series, with even smaller steps, to improve the precision of your estimate.

Be sure to record your results and observations in your lab notebook, including the egg's number.

Repeat this step with the four other eggs.

When you are done handling the eggs, wash your hands with soap and warm water. It is important to wash your hands after handling uncooked eggs because they may carry Salmonella.

Determine the densities for all five eggs and record this in your lab notebook.

Hint: If the density of the saltwater is less than the egg's density, the egg

will sink, and if the density of the saltwater is greater than the egg's density, the egg will float. So the density of the egg would be between these two absolute salt densities.

Plot the densities for all five eggs on a chart, putting the egg's number on the x-axis and its density on the y-axis.

What is the density of the eggs? How much variation in density is there from egg to egg?

WHERE IN THE WORLD IS CAPTAIN KIRK?



20151001-20151231

CAPTIAN KIRK IS LOST SOMEWHERE IN THIS CROWD SEE IF YOU CAN FIND HIM.



ATTENTION ON DECK!

OCTOBER - DECEMBER 2015

State of the STARFLEET Marine Corps

GENERAL Michael J McGowan, Commandant SFMC

Hello Marines,

As I write this, I'm sitting at a table ready to wrap gifts as part of the 225th MSG's charity wrapping project. This being the case, I am mindful that the kickoff of the Holiday Season is also start of a great many community service projects around the Corps. It gives me great pride that so many members of the SFMC give so freely of their time and talents to benefit those less fortunate than themselves. Keep up the great work and be sure that these activities are reported both in your SFMC unit reports as well as your CO's STARFLEET MSR. Both are vital.

I also note that this time of year, particularly in regions with increasingly steely skies and precipitously dropping temperatures, can be really difficult for many of us, both physically and mentally. Please keep a close eye on your fellows and do what you can to help them through what difficulties they encounter.



This further reminds me that this time of year, for a great many of us, presents us with added hazards to travel as well as increased need to make such travel. While I look on all the service work done by our marines with great pride, marines are reminded to avoid putting life and limb at risk. We want you all just as healthy and happy come the Spring as you are right now. Please be careful out there.

Finally, I note with great sadness the passing of Marian Murphy. Marian was one of the first people I met at my first region summit and she made quite an impression on me. To say that she added color to the STARFLEET experience is an understatement. Marian was a STARFLEET Ranger through and through, but I carry with me a smile for the memory of one happy weekend in May when Marian Murphy was a STARFLEET Marine.

Vaya con Dios, Marian. We are richer for having known you and poorer for your passing.

20151001

Office of the Deputy Commandant

GEN Jim Monroe, DEPDANT, SFMC



NO REPORT SUBMITTED

State of FORCECOM

BGN Jari James, COFORCECOM, 503rd MSG, 5th Brigade

Good Evening, Marines.

The message of this month's report is 'PRTM'.

'PRTM' stands for 'Please Read The Manual' [which is the polite variant of that other acronym we all know and love].

'PRTM' comes into play in all sorts of things that happen in SFI in general and the SFMC in particular. Little things like 'How do I wear this?' or 'What does that color of shoulder cord mean?' up to larger things like 'How do I get promoted?'. SFI has it's 'Members Handbook' which we all fall under. The SFMC equivalent is the 'Marine Force Manual'.

The MFM is chock full of tasty little bits of information. Anything and everything from the steps you need to take to create a new unit up to 'who qualifies for what awards'. The MFM is the last and final authority for SFMC Policies and Procedures. If you run into a conflict in another manual, you follow what the MFM says.

Also, 'PRTM' can be extended to other things such as reports, etc. With paperwork currently coming across my desk the major problem I'm running into are things coming to me incomplete. Little things like submitting an award nomination with a name misspelled or without an SCC# can literally make the difference between an easy submission and spending a lot of time and hair pulling just trying to figure out who everyone is talking about. So long as we up here in the Records Center have the SCC# we're still good. But without some-



thing, it's a long hard data base haul. Now multiply that by all the members of the SFMC.

Not a pleasant situation.

Also, just because you call yourself a Marine [which along with being a paid member of SFI, are the only real requirements for membership in the SFMC], that doesn't always mean we upstream know that. Take a moment to visit the SFI database and make sure your affiliation is listed correctly. It's simple. Log in using your ID and password [if you haven't gotten your password yet, contact the very helpful folks at the SFI Member Services Helpdesk - http:// helpdesk.sfi.org/]. Once in, look down the left column and click on 'Member'. You'll get a new list of options. Click on the one that says 'Affiliations'. You are now given three options: 'Active', 'Reserve' and 'None'. If you want to be a Marine your choices are 'Active' or 'Reserve'.

If you have questions about the difference, just ask anyone in your
Chain of Command or check the MFM. If you check either of the first two
[A or R], we here at the SFMC Personnel

Office [otherwise known as FORCECOM] can find you and add things like awards, etc. If you check 'None', it's a lot harder for FORCECOM to find you. A little quirk of the database information access system limits the records we can access to Marine affiliated members only.

Finding you and your information isn't impossible, but it then becomes a harder.

If for some reason you're having problems making these changes yourself, just let myself or BDR Liam Smith, the DCO of FORCECOM, know and we can fix that for you.

Now some of your are probably thinking [or saying out loud] 'Hey! It's not my job to keep track of things. That's what my Unit OIC is supposed to do.' Well yes, to a certain extent it is. But why make it a lot harder for them and every single person up the Chain of Command who gets those reports? A few moments on your part can smooth the way for future entries and also give you the chance to review your records and see if everything is correct.

And as any Mud Marine who has been around the Corps for any length of time will tell you 'If you don't keep up with what's happening to your own records, no one else will.'

And as always, when in doubt, use your Chain of Command, folks. It's just easier to keep track of things that way.

That's all for now. Keep it safe out there and be nice to each other.

Stand Easy, Marines.

State of INFOCOM

BGEN Mark Anderson, COINFOCOM, SFMC



Greetings Marines,

Because I missed last month's report this month is a double report.

We have just a few days left this year and this will be my final report for this year. Once again it seems this year has flown by. Feels like I was just at IC in Niagara Falls a couple of weeks ago and now it almost New Year's day. Where does the time go?

I was just reminded about my Region summit coming up in March of 2016 and that means awards season. I was contacted and issued a few Communications service Awards last year. So if you have or know of a Marine that you think is deserving of this award please submit them for this award. I will review their work and issue the award if they have meet the criteria. Here are the requirements for the award. Just a remember, you can't win if you don't enter.

Communications Service Award
Issuing Authority: COINFOCOM
Frequency: As Needed
SFMC Ribbon Name: Dyar Ribbon
This award is given at the discretion
of the COINFOCOM to those Ma-

rines who have demonstrated their communications skills in service to the Corps in general, or INFOCOM in particular. Such skills may be demonstrated through contributing to SFMC, BDE, or unit publications; creation of superior quality SFMC-oriented websites; or other similar activities.

I hope everyone has had a great holiday season so far and I wish you all a happy New Year.

In closing here's the pingdom stats for October and November 2015.

October

Uptime: 99.97% Outages: 1 Downtime: 15 minutes Response time: 290 ms

November Uptime: 100% Outages: 0 Downtime: 0

Response time: 338 ms Mark "Slayer" Anderson Major General, SFMC COINFOCOM Team Delta

infocom@sfi-sfmc.org

State of FINCOM

MGEN Barry Jackson, COFINCOM, SFMC

Opening balance for the month of November \$7353.69

Credit - \$180.23 breakdown of credits PayPal transfer ? \$180.23

Debits total - \$50.49 breakdown of debits USPS -\$50.49 QM postage

Closing balance for the account was \$7483.43

There were 6 orders in the month of November

SFMC Savings Account (scholarship payments)

Opened with \$2,729.76

Credits - Interest earned \$0.04

Debits - 0

Current balance on account \$2,729.80

State of the NCO Corps

MGSGT Jerome A. Stoddard, SGTMAJSFMC, 503rd MSG, 5th Brigade

Greetings Marines!

Stamp the snow off your boots and come on over to the booth in the back in the corner in the dark of my local NCO club, where the coffee may occasionally taste like burnt hydraulic fluid, but at least it's always hot, and the stockings are hung by the chimney with care in hopes that they'll dry out before we have to return to our duty stations.

It's been noted that I often answer questions by simply citing "chapter and verse" from the MFM, SFMC Policy Manual, or, occasionally, simply quoting appropriate official SFMC communications, such as posts from the Dant. It's not that I don't have opinions of my own, but one of those strongly held opinions is the best way to answer a question is to take the time to check and see if it's something already officially addressed. If it has been, then there's really not much more that needs to be said.

Or, to put it another way, and at a one hundred percent risk of repeating myself ... Marines ... every time you ask a question whose answer is clearly in The Book, or answer a question without looking in The Book to be sure you're right, some reasonably omnipotent being somewhere in the universe takes a completely innocent little adorable puppy, fluffy bunny, or playful kitten, or their alien equivalent, and cruelly promotes them to "butter bar". Please, Marines ... think of the puppies, bunnies, and kittens (and alien equivalents)! Check the current Marine Force Manual (MFM) FIRST ...

As the year winds down, I'd like to remind you all to be sure that your unit OIC passes information on your participation in the Commandant's Campaign up the line. "If you don't report it, we can't reward it" comes to mind. And, as a note touching a bit closer to my own office, remember that the March for the Disabled was extended to cover the entire year by action of the Dant. If you're not sure if something you've done qualifies for recognition under that campaign, get in touch with me ASAP and ask..

At least in this neck of the woods, winter weather has officially reported for duty, and that brings up two points as far as community service is concerned. The first is something I've been endorsing for years now, namely seeing what you can do in your own community about helping out those who may need warmer clothing to deal with the cold. It's often not just a matter of being more comfortable, it could literally help someone survive. Remember HUGS: Hats, Underwear, Gloves, Socks. These are often in short supply, and sorely needed.

The second is a little less obvious, and concerns the "community" that we are all a part of: STARFLEET in



general and the STARFLEET Marines in particular. Bitterly cold weather can affect all of us, and there's often not a lot we can do about it. One thing we CAN do is check up on each other, or simply let folks know we're doing ok. It may not earn you another star on your Community Service ribbon, but it may just set some of your fellow STARFLEET Marines' minds at ease. If we can't help each other, I'm not sure how much real help we are to others.

Remember, community service doesn't have to be any part of any organized charity effort. Just giving of your time and energy to someone who needs a hand is the spirit of community service. Whatever you do, make sure that whoever is filing the report for your unit knows the details, and sends it up the Chain of Command in their official report so you can be given the recognition your efforts deserve. Again ... "If you don't report it, we can't reward it."

As always, the SFMC General Staff needs your input and ideas in order to properly do our jobs. Don't hesitate to contact the appropriate GS member with your questions, comments and ideas. You can find all the email addresses at the SFMC website, and, of course, we monitor the Corps-I list, and the SFMC Facebook group.

Now it's time for Top's History Lesson. I've told this one before, and odds are I'll tell it again. To me, it is not only one of the bright spots in history, but it's a little beacon of hope for the future. And, I guess it's become sort of a tradition for me for my December report, and tradition is important to Marines of any country or era

By November of 1914, trenches stretched from the North Sea to the Swiss frontier, As December came around, heads of state on both sides of World War One, and even the power of the Vatican had proven unable to negotiate some sort of cease fire for Christmas. But, on Christmas Eve 1914, for a time,

the guns fell silent in many areas along the Western Front in a spontaneous mass act of human decency by roughly a hundred thousand soldiers on both sides of the trenches that has become known as the Christmas Truce. The generals and leaders on both sides had no part in it- it was driven by the actions of common soldiers in the front lines- who gave their enemies leave to search for and bury their dead without fear, and even shared precious small luxuries from home.

They discovered that they knew many of the same Christmas songs - just with different words, and they sang them together. They shared pictures of their families, and despite the language barrier, they managed to get along. In at least one spot along the lines, they even improvised a soccer field and played a spirited game.

In the middle of a terrible war, they found time for "Peace on Earth - Good Will to Men" ... and perhaps saw the soldiers on the other side as people not much different from themselves.

It wasn't universal, of course, and the "Good Will" was sometimes just restricted to recovering their dead without being shot at by the other side. But, even then, it was a bit of a respite from a bad situation that would come to grow even worse as the war went on.

Needless to say, the high commands of both sides were a bit concerned about all this "fraternizing with the enemy", and stern orders were passed down the Chain of Command. Soon, everybody was back in their own trenches, and the "War to End All Wars" resumed. To give credit where credit is due, the politicians and generals tried to arrange a similar truce in 1915, but the war had gotten even uglier and nothing came of it. The unlikely series of events that led to the Christmas Truce never happened again.

If the Christmas Truce of 1914 teaches us anything, it's perhaps that the person best able to treat those around us well is staring back at us every time we look in the mirror.

Please accept my best wishes for the season, and my hopes for a good 2016.

STARFLEET Staff Directory



COMMANDER, STARFLEET

Fleet Admiral Wayne L. Killough, Jr. 1-888-SFI-TREK (734-8735) x701 cs@sfi.org

CHIEF OF STAFF TO THE COMMANDER, STARFLEET

Rear Admiral Denine Sanders cs-cos@sfi.org

STARFLEET HISTORIAN

Vice Admiral Chrissy Killian historian@sfi.org

International Conference

LIAISON

Admiral Jerry Tien ic@sfi.org

INSPECTOR GENERAL OF STARFLEET

Vice Admiral Jeffrey Victor ig@sfi.org

JUDGE ADVOCATE GENERAL OF STARFLEET

Colonel Mitch Dunn, SFMC jag@sfi.org

Member Recognition Director

Admiral Linda Kloempken recognition@sfi.org



VICE COMMANDER, STARFLEET

Rear Admiral Hayden Segel 1-888-SFI-TREK (734-8735) x702 vcs@sfi.org

CHIEF OF STAFF TO THE VICE COMMANDER, STARFLEET

Fleet Captain Robin Woodell-Vitasek vcs-cos@sfi.org

MEMBERSHIP PROCESSING

Lieutenant General Bran Stimpson 1-888-SFI-TREK (734-8735) x2 membership@sfi.org

MEMBER SERVICES ADMINISTRATOR

Fleet Captain James Ortega helpdesk@sfi.org

COMMANDANT OF THE STARFLEET MARINE CORPS

General Mike McGowan, SFMC dant@sf-sfmc.org

STARFLEET CHAPLAIN

Vice Admiral Russell Ruhland chaplainservices@sfi.org

PETFLEET COORDINATOR

Commodore Lee Vitasek petfleet@sfi.org

SURGEON GENERAL OF STARFLEET

Colonel Gregory Fant, SFMC medical@sfi.org

DIRECTOR, STARFLEET SPECIAL OPERATIONS

Fleet Captain TJ Allen sfso@sfi.org

ORIENTATION OFFICER

Vice Admiral Peter Lutz orientation@sfi.org



CHIEF OF STARFLEET OPERATIONS

Admiral Robert Westfall 1-888-SFI-TREK (734-8735) x703 ops@sfi.org

VICE-CHIEF OF STARFLEET OPERATIONS

Major General Joe Sare, SFMC ops-vice@sfi.org

CHIEF OF SHAKEDOWN OPERATIONS

Rear Admiral Beau Thacker shoc@sfi.org

CORRESPONDENCE CHAPTERS OPERATIONS

Rear Admiral Beau Thacker ops-correy@sfi.org

MONTHLY STATUS REPORT OFFICER

Captain Ronald Coleman msr-submit@sfi.org

OPERATIONS STATISTICIAN

Captain Eugene Anderson ops-stats@sfi.org

RECRUITING & RETENTION OFFICERS

North America: Vice Admiral James Herring recruiting@sfi.org

International: Lieutenant Colonel Jason Garrett, SFMC recruiting-intl@sfi.org



CHIEF OF STARFLEET COMMUNICATIONS

Commodore Matthew Miller 1-888-SFI-TREK (734-8735) x704 comms@sfi.org

VICE-CHIEF OF STARFLEET COMMUNICATIONS

Vacant comms-vice@sfi.org

Communiqué Staff

Senior Copy Editor: Admiral Mary Kane cq@sfi.org

Layout Editor: Commander Kevin Plummer cq@sfi.org

STARFLEET PUBLIC RELATIONS DIRECTOR

Admiral Brandt Heatherington pr@sfi.org



COMMANDANT OF STARFLEET ACADEMY

Admiral Peg Pellerin 1-888-SFI-TREK (734-8735) x705 academy@sfi.org

VICE-COMMANDANT OF STARFLEET ACADEMY

Vice Admiral Glendon Diebold academy-vice@sfi.org

COORDINATOR, ACADEMIC SERVICES

Admiral Carol Thompson academics@acad.sfi.org

COORDINATOR, SUPPORT SERVICES

Vice Admiral Glendon Diebold support@acad.sfi.org

CHIEF OF ELECTRONIC SERVICES / WEBMASTER

Commander Kevin Plummer webmaster@acad.sfi.org

DIRECTOR, STARFLEET SCHOLARSHIP PROGRAM

Vice Admiral Tammy Willcox scholarships@sfi.org



CHIEF OF STARFLEET COMPUTER OPERATIONS

Admiral Laura Victor 1-888-SFI-TREK (734-8735) x706 compops@sfi.org

VICE-CHIEF OF STARFLEET COMPUTER OPERATIONS

Rear Admiral John Halliday compops-vice@sfi.org

WEBMASTER, SFI.ORG

Fleet Captain Greg Mortensen webmaster@sfi.org



CHIEF FINANCIAL OFFICER

General Linda Olson, SFMC 1-888-SFI-TREK (734-8735) x708 cfo@sfi.org

STARFLEET QUARTERMASTER

General Linda Olson, SFMC qm@sfi.org

20151001 20151231

