8:00 P.M. LAWN CONCERT

Princeton University Orchestra
Ruth Ochs *18, Conductor

Featuring: Selections from Capriccio Espanol (Rimsky-Korsakov), Gypsy Airs (de Sarasate), Clarinet Concerto (Shaw), Concert Piece for Four Horns (Schumann), plus music by John Philip Sousa.

9:15 P.M. FIREWORKS

By the Santore Brothers of Garden State Fireworks
Choreography by Chris Santore

A PDF of this program is available on the Princeton Events app. Fireworks soundtrack simulcast at www.wprb.com.
CONCERT PROGRAM

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“The Star-Spangled Banner”                Francis Scott Key

Capriccio Espagnol, Op. 34             Nikolai Rimsky-Korsakov
  Alborada
  Variations
  Alborada
  Scene and Gypsy Song
  Fandango asturiano

Zigeunerweisen (Gypsy Airs), Op. 20     Pablo de Sarasate
  Jeffrey Kuan ‘18, violin

Konzertstück in F Major for Four Horns and Orchestra, Op. 86     Robert Schumann
  III. Sehr Lebhaft
  Nivanthi Karunaratne ‘18, Allison Halter ‘18, Peter DeLong’18, Linus Wang ‘21, horns

Concerto for Clarinet                  Artie Shaw
  Nicolas Chae ‘21, clarinet

“The Washington Post March”             John Philip Sousa

“The Stars and Stripes Forever”         John Phillip Sousa

“Old Nassau”                            Karl Langlotz

PRINCETON UNIVERSITY ORCHESTRA

The Princeton University Orchestra began with a group of professional musicians from the New York Symphony and Philharmonic Societies who performed a series of concerts at Alexander Hall in 1896. The proceeds were “devoted to the funds for the establishment of a School of Music for the Study of Musical Composition, Theory, and History at Princeton University.” Over the ensuing century, the Orchestra has become an almost exclusively student organization. Some 100 undergraduate and graduate musicians, representing a broad spectrum of academic departments, come together for concerts in Richardson Auditorium in Alexander Hall.

Participation in the Orchestra is voluntary and extracurricular; students commit many hours to rehearsal over and above the time required for academic coursework. But the commitment is about the passion for the music, not necessarily the perfection of technique, which distinguishes Princeton’s Program in Musical Performance from conservatory studies. Graduates of the Orchestra have gone onto be performers, music teachers, and arts administrators, but the comprehensive list of occupations is vast. Tonight under the baton of Associate Conductor Ruth Ochs, PUO typically performs from 10 to 16 times each year both on campus and on tour. Last fall the spectacular Lewis Arts Complex opened. There, the Music Department’s Program in Musical Performance now enjoys the acoustically exquisite Lee Music Performance and Rehearsal Room. In March the Orchestra joined with the Glee Club to perform Britten’s War Requiem to packed houses in Richardson Auditorium.

The Orchestra serves an important role in Princeton’s Department of Music by both reading and performing new works by graduate students in composition. It periodically engages in special collaborations across campus with other performance-oriented groups and departments, and is also typically called on to perform at special University functions.

The Orchestra has represented Princeton in New York concert halls and on tour across Europe, from Edinburgh to Lisbon, and from London to Budapest. In January 2017, the Orchestra toured Central Europe: Prague, Vienna, Bratislava (Slovakia), and Budapest.

GARDEN STATE FIREWORKS

In 1890, more than 25 years after apprenticing to the Italian king’s master fireworker, Augustine Santore opened his first fireworks plant in New Jersey. The Santore family continues to supervise fireworks construction at their company, Garden State Fireworks (GSF).

The Santore brothers are renowned for their Italian style, multi-break “exhibition” shells. They are now also major producers of stage pyrotechnics, quick-match fuses, exhibition candles, and set piece materials. They are major suppliers to many other display firms, including the Disney organization, today the world’s largest consumer of fireworks. In 1985 the Santores added a new dimension to the fireworks world: a pyrotechnics display perfectly choreographed to a musical score, which soon became a cornerstone of the Santores’ world-class productions. In 2006 computer-based synchronization arrived. Most recently GSF has become known for close-proximity effects used in stadiums and on concert stages.

For Princeton, the Garden State Fireworks collaboration began with the Office of the 250th Anniversary in 1996. GSF is legendary in the world of pyrotechnics for having won four International World Fireworks championships in four competitions (two each in San Sebastian, Spain and Monte Carlo, France). Current displays of note include the National Mall in Washington, D.C. (July 4); Mandalay Bay Resort (Las Vegas, July 4); Inn of the Mountain Gods (July 4, largest in New Mexico); the New London, CT, Sailfest (July 14), plus weekly summer time shows in the NY/NJ area at Coney Island Beach, NY (Fridays, June through August). GSF produces many kinds of stadium shows: Major League Soccer games around the nation, plus the MLS All-Star and Cup Championship games; Wrestlemania 33 (Orlando); and stage pyro for rock/pop concert tours.
A MESSAGE FROM THE FIREWORKS PRODUCER AND CHOREOGRAPHER

Welcome to the 2018 Reunions Fireworks. Your veteran fireworks team of Dorothy Bedford ’78, Executive Producer, and Christopher Santore, Choreographer, work closely to create an exciting, custom show. We are ever grateful to the Alumni Association for generous sponsorship of the fireworks display, now in its 23rd year. Some background:

Each winter we consider class reunion themes, and other timely events or anniversaries to find music for our soundtrack. The 2018 Reunions themes range from Princeton’s Top 40th (Class of 1978), and Aloha ’88 to Misch13F Managed (Class of 2013). This year we acknowledge hurricane recovery efforts in Puerto Rico with “Mi Gente” (My People), without overlooking the same in Houston. We did not succeed in finding a cut to honor Tom Petty’s lifetime of song, but “The Boss” is making his debut, along with the fanfare.

As spring approaches, we trade song ideas and build a pool of possible tracks, everything from classical to movie themes to pop hits old and new. Sometimes we agree on a perfect clip of music referencing a reunion theme, but hit a snag. Typically a rejected piece has no choreographic “sizzle”, or can’t find a natural home in the soundtrack sequence. We evaluate each selection’s pacing, length, audience appeal and recognition factor while assuring the integration of the whole into a solid foundation for choreography. A successful soundtrack finds ways to engage viewers ages 5 to 85, with dynamic tone and tempo changes to exploit the vast library of pyrotechnic effects and complex computerized firing systems, and deliver theatrical intensity.

With that, we are pleased to present five songs which honor seven Reunions themes.

Notes on the Fireworks Soundtrack and choreography

I Heroic Fanfare (Paul Murtha). A good fanfare is hard to find, so tonight we are pleased to introduce this veteran composer/arranger. The dramatic piece pays tribute to the heroic men and women of the NYC Fire Department, but tonight it honors Jacob Kaplan ‘18 who lost his battle with a rare cancer in December. Red and blue peony shells accent the opening drum and cymbal hits. As the fanfare gains momentum, silver crossette comets rise triumphantly in the foreground accompanied by more silver crossette shells in the sky. We close with a red, white and blue finale.

II The Orange and the Black (C. Mitchell, Class of 1689, arr. E Carter, 1888, sung by The Roaring Twenty). This traditional Princeton favorite ornaments our custom soundtrack. Orange is a difficult color to produce in fireworks, not often seen, so we use it lavishly. Look for orange peonies and imported Japanese orange strobes.

III Theme from Hawai’i 5-0 (Morton Stevens; performed by The Ventures). Strong drumming salutes the theme of the Class of 1988, “Surf’s Up.” Known for its palm-and-surf-laden B-roll, the 1968 TV show aired 12 seasons, rebooting in 2010. The island color palette is called “Surf’s Up.” Known for its palm-and-surf-laden B-roll, the 1968 TV show aired 12 seasons, rebooting in 2010. The island color palette is called “Surf’s Up.” Known for its palm-and-surf-laden B-roll, the 1968 TV show aired 12 seasons, rebooting in 2010. The island color palette is called “Surf’s Up.” Known for its palm-and-surf-laden B-roll, the 1968 TV show aired 12 seasons, rebooting in 2010. The island color palette is called “Surf’s Up.”

IV Mi Gente (“My People,” J Balvin and Willy William, original release.) The 3rd fastest video to reach 400 million views on YouTube, this 2017 song by Colombian Balvin and Frenchman William quickly became a global hit. The first line in English: “If the rhythm makes you move your head, We got off on the right foot.” Bee shells open this song, dancing and sliding in the sky to the sensual grind of the rhythm. A wide fan array of hundreds of green strobing comets builds with the “mi gente” vocal loop, yielding to a sharp sequence of mines kicking it up across the foreground at interval angles, as pounding beats close the track.

V Skull & Crossbones from Pirates of the Caribbean (Baddell/Zimmer). Hans Zimmer, titan of film score composers, returns with this piece honoring both APGA’s Reunion theme, “Yo-ho, a Preceptor’s Life for Me” and the Class of 1998 “Sailing towards New Horizons.” The tempo changes abound with opportunities to deliver a variety of effects. Blue aerial comets fill a lull in the music, representing open water, while blue mines splashing upward from the ground depict threatening cannon fire. The piece closes with intense dragon-egg cracking effects in the sky, with arrays of cracking mines and cracking comets in the foreground.

VI Just Like Fire from Alice Through the Looking Glass (written and sung by Pink). This Bucks County, PA native went multi-platinum with multi-grammy wins in 2000 upon her debut. She is regarded as the “most trailblazing artist” of her pop generation, and has been cited as inspiration by artists from Adele to Taylor Swift, Katy Perry and Kesha. Red falling leaf shells drift quietly in the opening. They are the calm before the fire storm. Red and yellow peonies burst like fireballs in the sky. Custom flashing loms pop in random scatter, accentuating the rap-style lyric assault in the breakdown. Large red flame ground mortars blaze in the foreground, “just like fire.”

VII September (Earth, Wind and Fire). This well-known classic 1978 R&B-soul-jam track debuts tonight, honoring the Class of 1978’s “Top 40th” Reunion. One writer said, “I learned my greatest lesson ever in songwriting, which was never let (a silly) lyric get in the way of the groove.” Heart pattern shells echo the lyrics referencing “love.” Multi-color crossettes pace the dance beat. Custom multi-break “shells of shells” create flourishes of mini shell clusters appearing in succession to the swinging tempo. A troupe of zig-zagging comets wave in time to the chorus in the ground display.

VIII Born to Run (Bruce Springsteen and the E Street Band). Hard to believe now, but this 1975 album, his third, was a part of a last-ditch effort by Springsteen to produce a commercially viable record. Now deemed #16 of the Top 100 pop songs of all time by Ultimate Classic Rock, “Born to Run” honors the "Legendary" Class of 1993. Red crossettes bounce to the first verse. Ring pattern shells evoke the wheels of hot-rod burning down the avenue. Comets "run" across the front mirroring the “Born to Run” lyric, in step with the tapping drum line. Silver-whistles scream across the sky during Clarence’s sax solo. The energetic mid-finale closes with a flourish.

IX Praying (Kesha) Best known for her hit “Tik Tok,” “Praying” earned Kesha her first Grammy nomination (2017). It opens with quiet waterfalling narrow trails of gold followed by custom purple-and-gold flutter streamer shells. Bright white comets in the foreground echo aerial white comets paired with white dahila shells. The monochromatic scheme reflects the solemn tone. A majestic deluge of weeping golden willow brocade shells carry home the drama and intensity of Kesha’s lyrics.

X Old Nassau (Peck 1886/Langlotz. Tigertones/Tigerlilies & the Princeton University Band). No Princeton gathering is complete without Princeton’s colors. Pelican-like bomb comets carry home the drama and intensity of Kesha’s lyrics.

XI Roar (Katy Perry) “Roar” (2013) joined our repertory in 2014. This year it celebrates “Roar” Reunions themes for ’73 and ’83. The jungle tone sets up early as dahlias and comets create silvery-green coconut trees spiraling skyward. A violent array of cracking comets rouses the Tiger as the powerful grand finale builds. No doubt: you’re gonna hear us ROAR!

We hope you enjoy the presentation. Please feel free to leave feedback via email to csantore@gardenstatefireworks.com, referencing Princeton.
**Fireworks Glossary**

**Aerial Display Shells:** Aerial display shells range in diameter from 3” to 12”. Their timed fuses dictate when (how high) the shell will explode after ignition. These “rise times” are integral to the basic principle of musically choreographed displays. The shells can be combined in many ways for an endless variation in sound and light effects.

**Bees:** This shell opens softly; the large-ish stars “swarm” asymmetrically and randomly. See Fish.

**Chrysanthemum:** A spherical shell in all colors, color combinations, and sizes; can be layered. The stars have glowing tails. Compare Peony.

**Comet:** A broad tail of silver or gold. Variations are Palms and Crossettes.

**Crackle Shell:** A golden cracking effect, like a burst of static or Rice Krispies®.

**Crossette:** A silver or gold effect of several large Comets bursting outward toward end points where the comets crack into “x”s (little crosses).

**Dahila:** A spherical shell, similar to a Peony’s tail-less stars, but stars are larger and brighter.

**Fish:** A dense school of tiny stars wriggles asymmetrically but straight.

**Flash Salute (Titanium Salute):** The big noise-maker, fast, compact, and bright with a thunderous boom. Titanium salutes include gold sparks.

**Multi-break Shell:** Contains internal shells producing secondary bursts.

**Palm Tree:** A burst of short-duration aerial Comets in white or gold, resembling palm fronds. Combines with other shells to make tree trunks or flower pistils.

**Pattern Shell:** Specific shapes, such as a ring, heart, or star. Sometimes, the shell burst distorts the pattern. Also, because this shell explodes on a single plane, it is only properly viewed from certain angles.

**Peony:** A spherical shell available in all colors, sizes, combinations and multiple layers. A peony’s stars are tail-less; they explode as points of light, often changing color. See Chrysanthemum.

**S mine:** A sudden explosion of many colored stars.

**Siteen:** A ring of small colored Salutes (maroons), bursting in sequence.

**Strobe:** Cluster bursts of yellow, white, green, or red rapidly blinking on and off.

**Whistles:** Spinners of white or gold that twirl all over the sky and whistle loudly.

**Waterfall:** A soft-breaking, narrow stream of bright white or golden glitter raining down. Compare the broad weeping willow.

**Weeping Willow:** Willows vary, but all share the long-dripping stars of silver or gold falling almost to the ground, AKA brocade. Diadems or Crowns are weeping rings.

**Ground Displays:** A ground display includes two main types: stationary “set pieces” such as a spinning wheel or frames of a specific image in fire; and ground-to-air effects such as traditional Roman candles. Ground displays or “fronts” are crucial to any musically choreographed show, as they allow for dramatic up-close interpretations of the music. The effects are instantaneous and work well to emphasize beats and set a mood.

**Cake:** A repeater sending up multiple effects. The variety of this display is endless, including all effects seen in aerial display shells in smaller versions.

**Comet:** A giant tail leaves a broad trail of gold or silver. Variations include a split comet (splits into pieces at its apex) or the tiger tail (whose narrow spiral gives a striped effect).

**Exhibition candles:** Large Roman candles that send a range of colors or glitters in repeating fashion. Used from multiple locations to create unique tapestries.

**Flame Mortar:** A quick red or green flame

**Gerb:** A larger fountain-style device, often silver.

**Mine:** A sudden explosion of many colored stars.

**Dedication**

For Chris Vanderfilet. For his passion, vision, and appreciation of this art form, and his love of this annual production. C.S.

In Memoriam: Frank Deford ’62. Our understanding of the American sporting life is diminished without him.

And, in honor of the 50th reunion of J.D. Osnot ’68. DB

**Medical Service & Egress Map**

**Medical Service**

Princeton Reunions activities enjoy a large attendance, and medical emergencies both large and small can be expected. If you or a companion need assistance for a bee sting, cardiac symptoms, or anything in between, medical help is available. For the Lawn Concert and Fireworks at Finney Field, emergency aid workers are stationed at the following locations marked by red cross signs: Princeton Stadium (north plaza) and FitzRandolph Road Gate (opposite side of field). If you experience any discomfort during or after the presentation, emergency workers are ready to assist you.

First aid services are provided by Princeton First Aid and Rescue Squad.

**Credits:** Dorothy L. Bedford ’78, event producer; Christopher Santore, fireworks choreographer; Nicole Lynch, associate producer. Soundstage courtesy of Skylands Audio. Printing: Office of University Printing and Mailing, Forrestal Campus. Radio & webcast courtesy WPRB 103.3 FM and WPRB.com

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