



Pulse Biosciences

(Nasdaq : PLSE)

2019 Annual Meeting





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A **novel bioelectric medicine** company bringing to market their **proprietary** CellFX™ System, utilizing groundbreaking Nano-Pulse Stimulation™ (NPS™) technology



Forward-looking statements

This presentation and accompanying oral presentation by Pulse Biosciences, Inc., contain estimates and forward-looking statements as of May 16, 2019 including, among others, statements regarding Pulse Biosciences' future business plans, products, commercial applications, clinical trials, regulatory processes and pathways, markets for its technologies, and other future events.

You should not place undue reliance on forward-looking statements, as they involve known and unknown risks and uncertainties that are, in some cases, beyond the Company's control and could cause actual results to differ materially from the information expressed or implied. Factors that could materially affect actual results are described in detail in the Company's recent Securities and Exchange Commission filings.

Pulse Biosciences undertakes no obligation to revise or update forward-looking statements to reflect future events or circumstances.



Our Mission

To build a viable company that designs, produces, and commercializes nano-pulse technology to improve and extend the lives of patients.

2016



2017



2018



2019



Applications



Seborrheic
Keratosis



Sebaceous
Hyperplasia



Warts
Feasibility



Basal Cell
Carcinoma
Feasibility



Acne
Feasibility



A Year of Great Progress

● Clinical milestones

● KOL presentations

● Intro to CellFX

● Corporate milestones

2018

April 12

Positive Results of SK Study Announced

April 13

Pulse Biosciences A Dose-Response Study of a Novel Non-Thermal Method of Selectively Modifying Cellular Structures in Skin with Low Energy Nanosecond Electrical Stimulation.

Awarded Best of Basic Science and Translational Research Award by ASLMS

First Clinical Use of Non-Thermal Nano-Pulse Stimulation to Eliminate Seborrheic Keratosis Lesions by Tom Rohrer at ASLMS

July 10

SH Study Commences

July 30

BCC Study Commences

June 18

Reincorporation in Delaware

Oct 12

Seborrheic Keratoses Data by George Hruza at ASDS

Oct 11

Interim SH data provided

Cutaneous Warts Study Commences

Oct 15

First Clinical Use of CellFX System



2019

Jan 7

Positive Results of SH Study Announced

Dec 14

Successful \$45M Rights Offering

Feb 7

Acne Study Commences

Jan 21

Histology of Cellular Sebaceous Glands after Nano-Pulse Stimulation Demonstrates High Sebaceous Hyperplasia Clearance Rate in Clinical Use by investigator Suzanne Kilmer at Maui Derm

Mar 2

Safety and Efficacy of Nano-Pulse Stimulation in the Treatment of Patients with Sebaceous Hyperplasia by Gilly Munavalli at AAD

Feb 28

Pulse Biosciences Announces 510(k) Submission

Mar 31

First Clinical Use of Non-Thermal Nano-Pulse Stimulation Procedure to Eliminate Sebaceous Hyperplasia Lesions by Suzanne Kilmer at ASLMS

Mar 30

High Amplitude, Nanosecond Electrical Pulsing for Warts by E. Victor Ross at ASLMS

Mar 19

Mitch Levinson Appointed to the Board and Audit Committee



Proprietary Platform

NPS™ has a **broadly applicable cell targeting mechanism** that induces a unique cell death process



Excellent Clinical Data

Initial clinical studies have demonstrated **excellent safety and efficacy** in difficult-to-treat dermatologic skin lesions



Near-term Commercial

Preparing for a **commercial launch** in aesthetic dermatology — **a significant commercial opportunity**



Future Applications

Preclinical models have demonstrated a unique ability to induce **immunogenic cell death**, expanding potential for the platform in skin cancer and other cancers

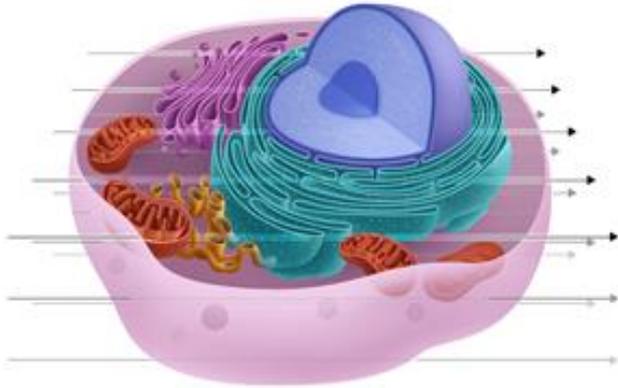


Strong Team

Proven management team and board of directors, experienced in building **viable companies with significant shareholder returns**

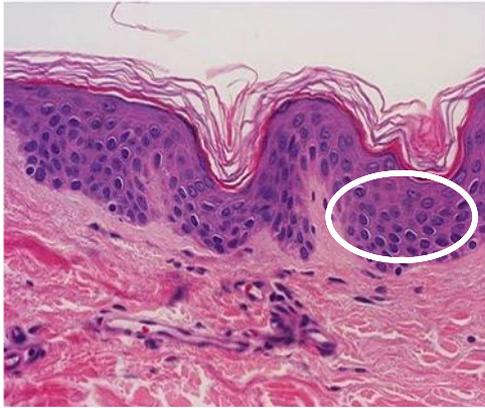


NPS™—unique mechanism of
action creates opportunity in
multiple applications



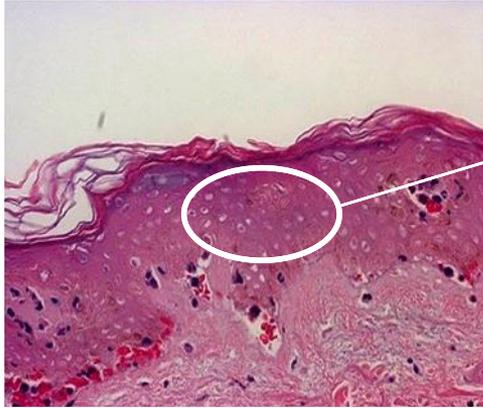
- **Non-thermal** modality that delivers nano-second duration pulses of electrical energy
- Energy pulses penetrate the cell membrane and **disrupt internal cellular function**, leading to cell death
- **Eliminates targeted cells** while sparing adjacent non-cellular tissue

Safe, Precise Targeting & Elimination of Treated Cells



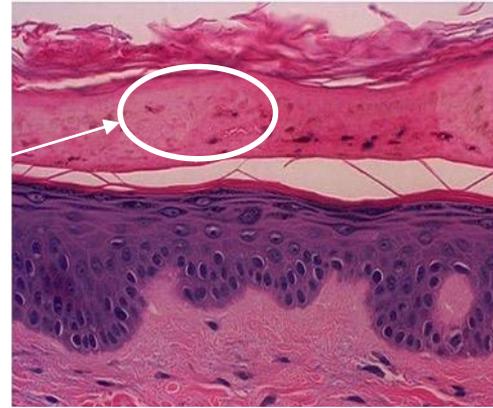
Healthy Skin

- Healthy epidermal cells with dark nuclei



One (1) day post-treatment

- Cells in treated epidermis are nonviable (ghost cells)
- Cell membranes and surrounding non-cellular tissue are intact



Seven (7) days post-treatment

- Healthy epidermis emerges below
- Treated epidermal layer peels away

SK is the most common benign skin lesion

Opportunity

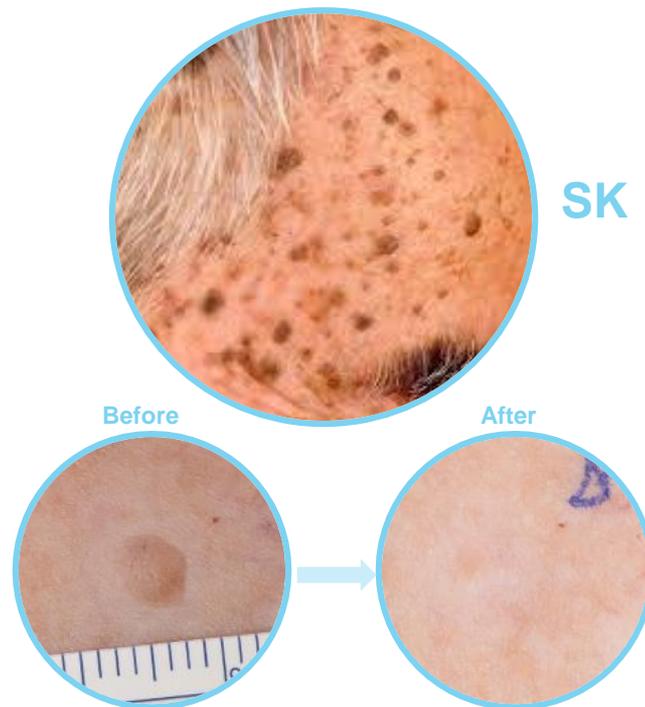
- Immediately Addressable US Market : ~ **6M patients**

NPS SK Clinical Study Data

- Patients: **58** (174 treated lesions)
- Sites: **4**
- Treatment: Single NPS treatment
- Results:
 - **82% of treated SKs rated as clear or mostly clear** by investigators
 - Patients rated **78%** of lesion outcomes as satisfied or mostly satisfied
 - **Zero device or procedure-related adverse events reported**

Current treatment modalities

- Thermal: marginal efficacy, poor cosmesis
- H₂O₂: multiple treatments, lower efficacy



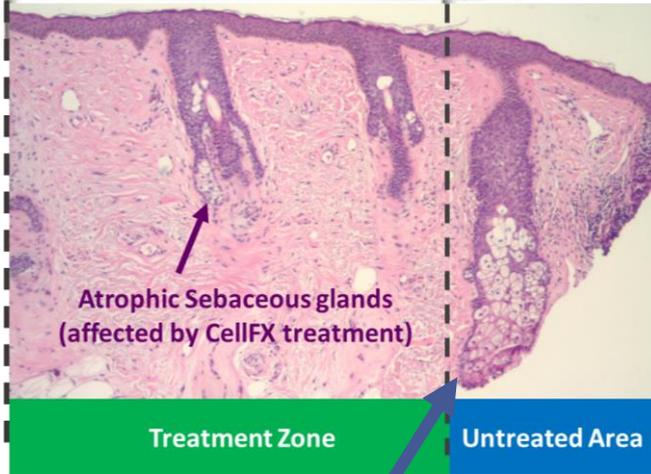
Cleared SK at 106-day follow-up

(1) *J Clin Aesthet Dermatol.* 2017;10(3):16–25

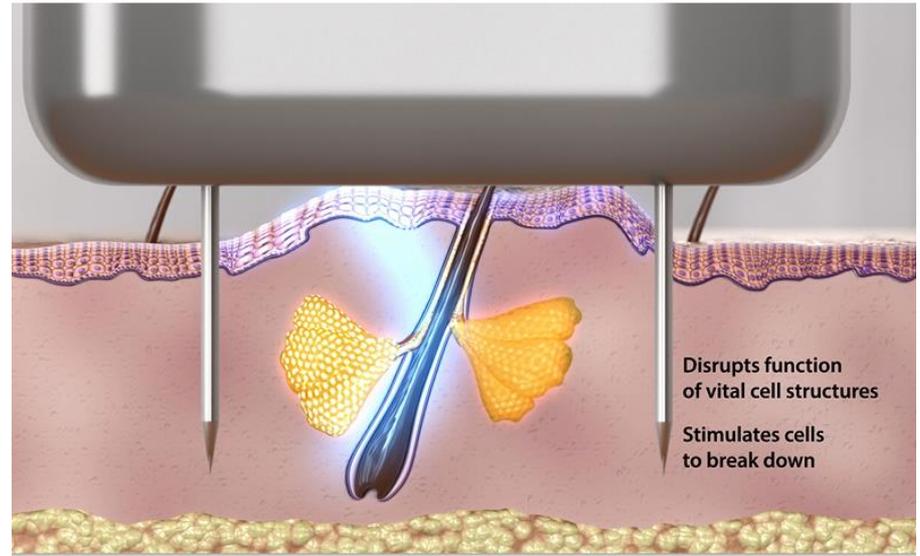
(2) 2018 Clinician Survey conducted by SERMO on behalf of Pulse Biosciences, Inc.

CellFX - Cell Selective Effects Deeper in the Dermis

CellFX Treatment Zone



Normal Sebaceous Glands
Outside Treatment Zone are
Not Affected



CellFX™ in Dermatology—Sebaceous Hyperplasia (SH)

SH occurs when the sebaceous glands become enlarged, creating small, shiny, yellowish lesions or bumps, usually 2-4 millimeters in diameter and typically on the face

Opportunity

- Immediately Addressable US Market : **~3.6 million patients**

NPS SH Clinical Study Data

- Patients: **73** (up to 4 facial lesions per patient)
- Sites: **5**
- Treatment: Up to **two (2)** NPS treatments
- Results:
 - **99.5% (221 of 222) treated SH rated as clear or mostly clear** by investigators
 - **92%** rated clear or mostly clear after a **single NPS treatment**
 - Patients rated **77%** of lesion outcomes as satisfied or mostly satisfied
 - **Excellent safety profile**

Current treatment modalities

- No standard of care; typically electrocautery, cryo, or topical
- Poor efficacy and cosmesis



A detailed 3D illustration of skin cells and structures, rendered in shades of blue and purple. The image shows various cellular components, including nuclei, cytoplasm, and organelles, set against a dark blue background. The structures are arranged in a way that suggests a cross-section or a cluster of cells, with some showing internal organelles like mitochondria and Golgi apparatus. The overall aesthetic is scientific and futuristic.

Significant Initial Opportunity
in **aesthetic dermatology**

CellFX System

Our proprietary platform for delivering
Nano-Pulse Stimulation™ Technology
into the Aesthetic Procedure Market

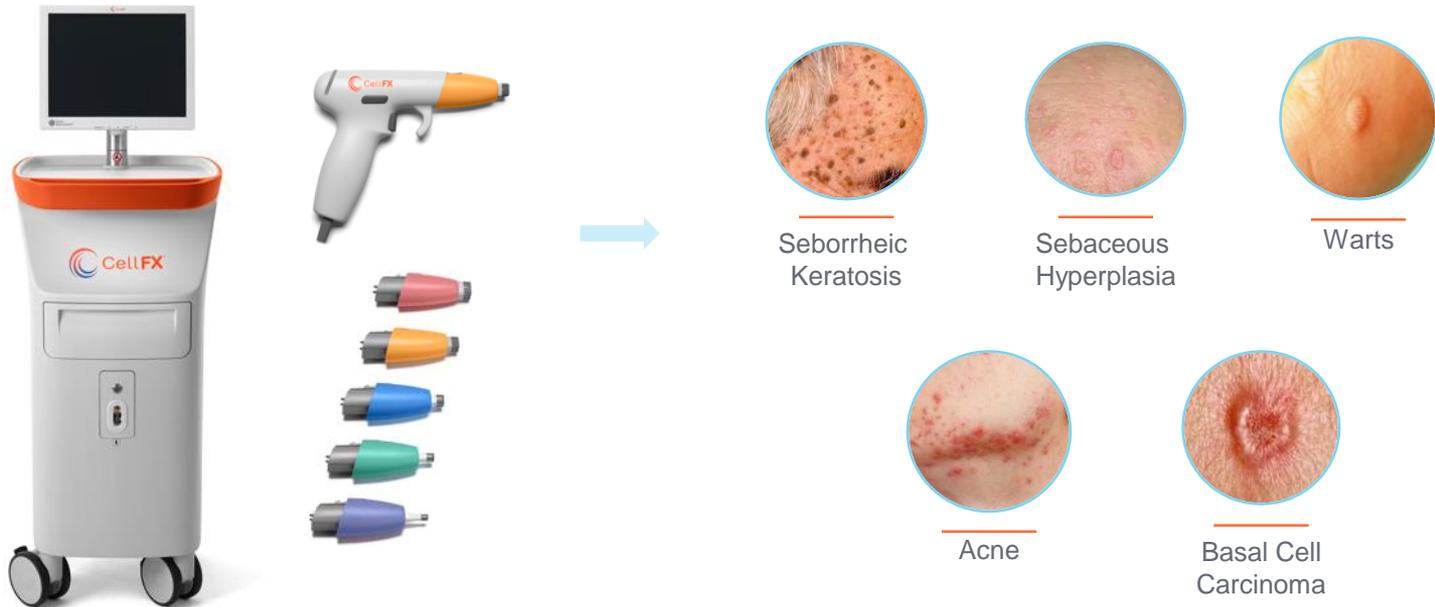




- Simple and intuitive system design for use across many clinical applications
- Single-patient-use applicator with a variety of tip sizes for different applications
- Designed for ease-of-use in a clinic setting
- Utilization-Based revenue model



CellFX System – Delivering Apps and Cycles



Deliver high value applications to improve the lives of patients that generate value-based revenue for physician and Pulse Biosciences

Epidermis

- Seborrheic keratosis
- Warts(*)
- Actinic keratosis
- Cherry angioma
- Common moles
- Macular seborrheic keratosis
- Molluscum contagiosum
- Syringoma

Dermis

- Sebaceous hyperplasia
- Acne (*)
- Intra-dermal nevi
- Keloid scar
- Melasma
- Oily skin
- Tattoo removal
- White/blond hair
- (*) Feasibility Study Underway

Deep Dermis / SQ

- Nodular BCC (*)
- Congenital melanocytic nevi
- Fat subcutaneous
- Hidradenitis suppurativa
- Lipoma
- Sweat glands
- Sebaceous cyst



CellFX™ in Aesthetic Procedures — A Significant Opportunity



- Initial system revenue
- Target market: 3,000-4,000 dermatologists
- Designed for broad application and utilization-based revenue generation
- Initial ASP: \$45,000-50,000



Cycle Based Revenue Model

- Recurring revenue from CellFX utilization
- Value-based pricing tiered by application
- Single patient multi-use treatment tips



Direct to Clinician Sale—US

- Utilize market KOLs
- Target 3,000-4,000 dermatologists
- Focus on early adopter success
- Key markets
- Expand offering of clinical applications

International Opportunity

- 2 to 3 years post US launch

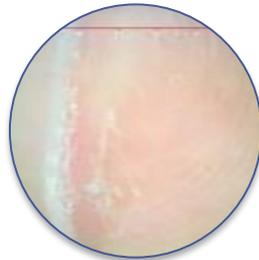


Warts

- Warts are highly benign tissue growths in the epidermis that are caused by the Human Papillomaviruses (HPVs).
- Estimated prevalence: **~22 million patients**

CellFX Wart Feasibility Study

- Safe in treating hands, feet, fingers, toes
- Effective in reducing size of warts
- Complete resolution observed in a number of patients
- Important lessons learned



CellFX Wart Application Study

- In Development
- Study commencement: Q2-2019
- Study Data: YE-2019

Moderate to Severe Acne

- A form of acne that can lead to scarring in outbreak areas
- Acne is the number one condition seen by dermatologists
- Fit to NPS mechanism – destruction of sebaceous glands
- Clinical feasibility study protocol IRB approved – enrollment started during Q1-2019.

CellFX Acne Clinical Feasibility Study

- Enrolling
- Patients: Up to **20**
- Sites: **2**
- Results: H2-2019



NPS in Basal Cell Carcinoma (BCC)

- BCC is the most frequently occurring form of skin cancer
- More than **4** million cases of BCC are diagnosed in the US each year
- Excision is the standard of care

NPS BCC Biomarker Study – ongoing

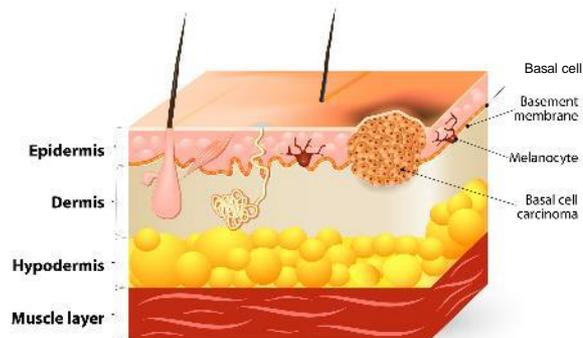
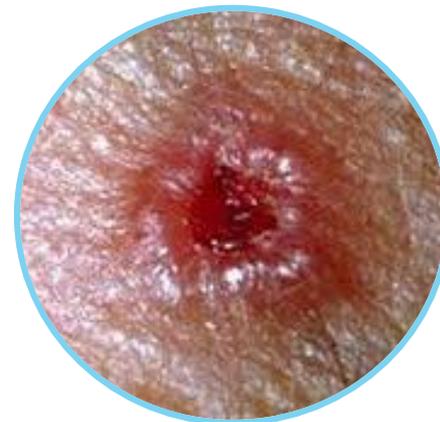
- First set of data analyzed
- Results to date:
 - Treatments are safe and tolerable
 - Observed absence of BCC cells in treated areas
 - Immune cell changes identified in a subset of treated lesions

Study Objective

- Demonstrate the ability of NPS to eliminate BCC cells and investigate the immune cell changes within the BCC

Follow-on Feasibility Study

- Planning underway for next BCC feasibility study
- Treat & resect design with use of an adjuvant



- **510(k) Submission for the CellFX System**
 - Treatment of dermatologic benign lesions *including sebaceous hyperplasia and seborrheic keratosis*
- **Submitted:** February 22, 2019
- **Additional Information (AI) Letter from FDA:** April 30, 2019
- **Current Status:**
 - We remain in the 510(k) review process and believe this is the appropriate regulatory path for the CellFX in dermatology at this time.
 - We are preparing a response to the AI letter and are in direct communication with the FDA to discuss the requirements.
 - Subject to further communication with FDA, we are currently projecting a clearance by the end of 2019.



As of May 2019

**91 issued
patents
globally
owned
& licensed**

94 patents pending worldwide

Pulse—A Robust Intellectual Property Portfolio

Multipronged Patent Strategy

- Pioneering IP for the use of nanosecond pulses in biology
- Covering methods and tools for the application of nanosecond pulses in biology
- Pioneering IP and continued development of IP with focus on skin-based applications
- Continued development and patent filings covering systems, applications, and methods of combining nanosecond pulsing with other biological technologies and agents

Completed Studies

- Seborrheic Keratosis 82% Single Treatment Efficacy
- Sebaceous Hyperplasia 99.5% Efficacy, 92% Single Treatment Efficacy

Feasibility Studies In Process

- Common Warts Enrollment Completed, Positive Initial Data
- Acne (Back) Enrolling
- Basal Cell Carcinoma Enrolling, initial data in review

Future Studies

- Common Warts In Development, Starting Q2-2019, Data YE 2019
- BCC Follow-on In Development
- New Feasibility Studies Throughout 2019

We intend to actively commence additional clinical studies to demonstrate the utility and value of the CellFX System across a large array of applications.

Financial Position

- \$45M rights offering completed December 2018

- No debt

- Quarterly cash use

Q2'18(a) → \$5.9MM

Q3'18(a) → \$6.5MM

Q4'18(a) → \$6.4MM

Q1'19(a) → \$6.8MM

Mar 31, 2019

(in 000's)

Cash, cash equivalents & investments	\$ 52,801
Prepays & other assets	758
Property, plant and equipments	2,056
Goodwill & intangibles	7,837

Total assets \$ 63,452

Accounts payables & Accrued liabilities	\$ 2,719
Lease liability	1,619
Debt	-
Stockholders' equity	59,114

Total liabilities & stockholders' equity \$ 63,452

Shares outstanding 20,710

What to Expect in 2019



✓ Commercialization of the CellFX System

- FDA Clearance
- Buildout Commercial Team and Infrastructure
- Commence CellFX Controlled Launch

✓ Expand Pipeline of Clinical Applications

- Warts Application Study
- BCC Feasibility Study w/Adjuvant
- Additional Dermatology Studies

Thank You
