

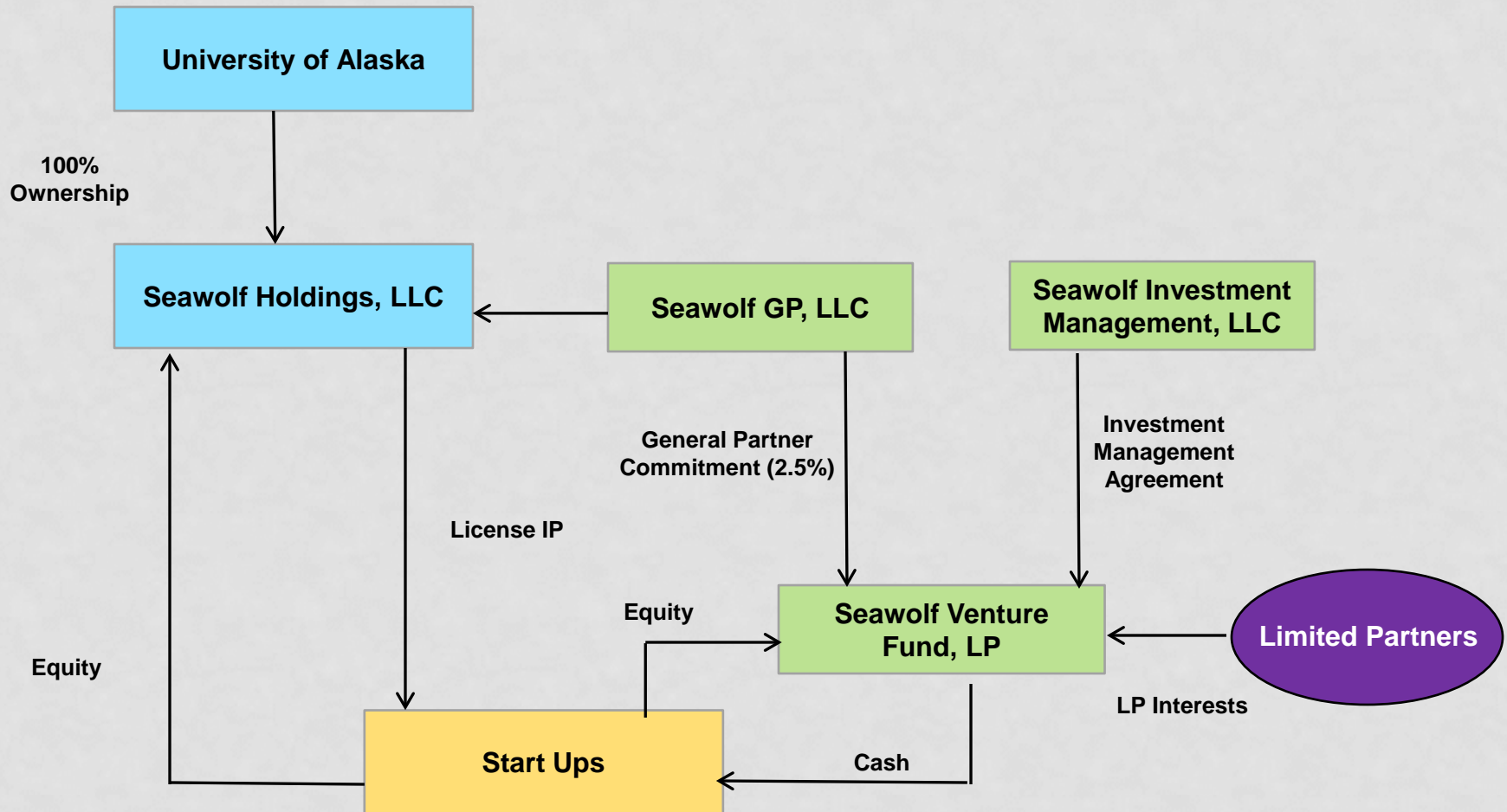
# **INNOVATION AND TECHNOLOGY COMMERCIALIZATION AT UAA**



**February  
21, 2014**

**DR. HELENA S. WISNIEWSKI**  
**Vice Provost for Research and Graduate Studies, UAA**  
**President, Seawolf Holdings, LLC**

# UAA TECHNOLOGY COMMERCIALIZATION AND PRIVATE INVESTMENT STRUCTURE



# SEAWOLF HOLDINGS, LLC

## BOARD OF DIRECTORS

- **Dr. Helena S. Wisniewski, Vice Provost for Research, UAA; President Seawolf Holdings.**

Senior executive experience government, industry, academia. Launched & sold startups.



- **Mr. Thomas Hook, President and CEO, & Board Director of Greatbatch, Inc. (NYSE:GB).**

Implantable medical devices.



- **Mr. Stephen Socolof, Founder and Managing Partner, New Venture Partners**

A global VC firm over \$700 million under management.



- **Dr. John Bischoff, Managing Partner of Half Moon Ventures LLC**

Former Vice President of Finance & Operations, America Online, (AOL).



- **Dr. Elisha Baker, Vice Chancellor and Provost, UAA**

Former Dean, College of Business & Public Policy; senior corporate executive.



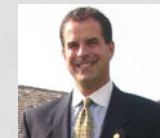
- **Dr. John Sibert, Founding Chairman, National Assoc. of Seed & Venture Funds**

Founding Director, Alaska Science & Technology Foundation.



- **Mr. John Wanamaker, Alaska Venture Partners –**

Angel investment practice investing in companies in & out of Alaska.



# GENERAL PARTNER

## FOR THE SEAWOLF VENTURE FUND, LP



- **Springwell Capital Partners, LLC** – located in Stamford, CT — a private commercial entity.
- **The partners are successful executive careers at:**
  - GE Capital, AT&T, Hughes Electronics, and Bain & Company.
- **Principals have \$100B in transactions under belt**
  - Successful investment, acquisitions, start-ups and restructuring.
- **Principals**



**Mufit Cinali**



**Gardner L. Grant, Jr.**



**Kun Lee**

# PATENTS

SIGNIFICANT GROWTH IN INTELLECTUAL PROPERTY  
ACTIVITIES SINCE FY11:

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**TEN-FOLD INCREASE IN INVENTION DISCLOSURES**

**32 UP FROM 3 IN FY11**

**TEN-FOLD INCREASE IN PATENTS PENDING**

**12 UP FROM 1 IN FY11**

**THE NUMBER OF PATENTS ISSUED HAS QUADRUPLED**

**4 UP FROM 1 IN FY11**

**FIRST 2 START-UP COMPANIES WERE FORMED IN 2013**



# CFT SOLUTIONS: PROVIDING A SNOW & ICE-FREE PATHWAY



**CFT SOLUTIONS**  
Alaska Tested

CFT SOLUTIONS™ IS PART OF  
THE SEAWOLF HOLDINGS, LLC  
PORTFOLIO OF COMPANIES.





# CFT SOLUTIONS, LLC

FORMED MAY 2013

- **Product:** innovative, cost-effective approach to snow removal and deicing using carbon fiber tapes embedded under the surface. **Patent Pending#61/699,372.**

## Advantages

- **Easy installation at lower costs** 40% the cost of a hydronic system.
- **Significantly less expensive** to operate than hydronic systems - 50% less - \$0.02/ft<sup>2</sup>/day.
- **Self-monitoring** – sensors control the on/off power based on the surface temperature and moisture.
- **Durable** – carbon fiber tapes have high strength and long term stability.
- **Versatile** – easily customized.
- **Safe** – Operates with 24 V AC.
- **Alaska tested** – successfully in Anchorage during a record snowfall in 2011-12.

## Applications include

- High pedestrian traffic
- Road intersections; parking lots
- Domestically in driveways/walkways
- Bridges, roofs

## Installations & Potential Customers

- **Currently a walkway at UAA**
- **UL Site Certified**
- **Commercial bid submitted.**
- **Other installations planned this spring.**

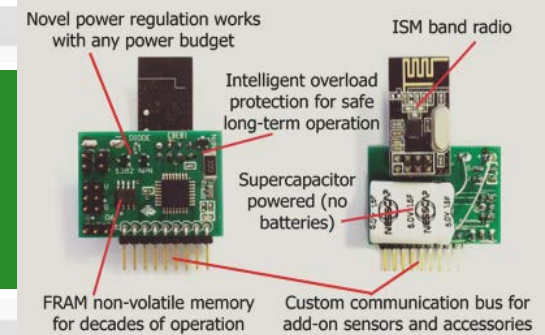






## ZENSOR, LLC

### FORMED APRIL 2013



- **Product:** a *new generation* of wireless sensors yielding significant improvement for use in remote monitoring, system management (SCADA), surveillance and security.  
*Patent Pending 13/891,894.*

#### ***Market Trend***

- **Global wireless sensor market** expected to increase at 43.1% annually to reach \$4.7 billion by 2016. Ref. research firms such as BCC.

#### ***Zensor™ meets market needs***

- **Industrial installations:** early warning data for various infrastructures; SCADA systems (for pipelines & other structures).
- **Surveillance and security:** border activity sensors detect vibrations - movement of persons; submarine and surface vessels.
- **Climate Change and Ecology:** remote sites expanses of difficult-to-reach geographic areas. Environmental changes - ice flow/melt; data collection from animal herds.

#### ***Advantages***

- **No batteries** required
- **Ultra long life**
- **Low Cost**—Less than \$40 per sensor
- **Distributed Wireless Networked** system- data receipt, transmission and storage
- **Each sensor stores information about every other sensor in network**
- **Multiple Capabilities - data on:** vibrations, tilt, humidity, light intensity, temperature, sound, thermal images. Additional criteria can be added.
- **Arctic Testing** - reliability under extremes.

***Featured in Alaska Business Monthly – July 2013.***



# IN THE PIPELINE

## LICENSING, STARTUPS, JOINT VENTURES

### From UAA

- **Water remediation for challenging waters** – ceramic membrane with ultraviolet light. **Patent Pend # US 61/884,864.**
- **Traumatic Head Injury –Instrumented Mouthguard** with wireless capabilities measures acceleration of the skull upon impact and effects of such blows. **Patent pending # 61/747, 411.**
- **Contactless Multi-modal biometric authentication** - for online access. **US Patent 7,986,816.**
- **Eye Gazing/Tracking for Music Skill Assessment** - **patent in process.**
- **Therapeutic pharmaceuticals.** For example, Alaskan blueberry: in animal testing phase- received statistically significant results in aged rats and younger rats. **Patent pending #61/770,764.**

### From Community and Lower 48

- **Medical device** – can pinpoint exact muscle generating back pain - joint with methodology inventor Dr. Marcus (NYC) – UAA building new device using his methodology - **patent in process.**
- **Cognitive radio** – Dynamic Spectrum, LLC – current LLC in NJ received SBIR funds, **patent pending.**
- **Traumatic head Injury:** Non-invasive invention for assessing extent of traumatic head injury due to brain swelling, **Chief Medical Officer – Alaska Native Medical Center.**
- **Medical device:** A new technology to help conduct telehealth – a video otoscope - in discussion **with ANTHC to jointly develop.**
- **CalIDr** – Alaskan startup – a business/tech collaboration – MOA.

About 50% of the invention disclosures have evolved into the following Patents pending.

# PATENTS

## UAA PATENTS ISSUED

Methods and Systems for Multiple Factor Authentication Using Gaze Tracking and Iris Scanning US 7,986,816 B1	Kenrick Mock Bogdan Hoanca
pH-Sensitive Immunoliposomes and Method of Gene Delivery to the Mammalian Central Nervous System US 5,786,214	Eric G. Holmberg
Data Hiding Based Messages and Advertisements US 8,555,052 B2	Helena S. Wisniewski Rajarathnam Chandramouli Koduvayur P. Subbalakshmi
Process for Demineralization of Bone Matrix with Preservation of Natural Growth Factors US 8,574,825 B2	Nancy J. Shelby Steven M. Scott Benjamin P. Luchsinger Gregory A. Juda Kelly R. Kirker Jesus Hernandez Darrel L. Holmes

## UAA PATENTS PENDING

Light-Assisted Membrane Treatment and Cleaning	Aaron Dotson
*Long Lifespan Wireless Sensor and Sensor Networks	John Lund Todd Petersen
Compositions Comprising Citric Acid and Malic Acid and Methods and Uses Thereof	Colin McGill
*Vehicle Accessory Engagement Tracking	Tim Menard Jeffrey Miller John Lund
*Mineral Isotopes in Water, Methods and Uses Thereof	Lee Ann Munk Ryan Mathur
*Devices, Systems, and Methods of Determining Linear and Angular Accelerations of the Head	Anthony Paris Jens Munk
*Mouth Guard for Determining Physiological Conditions of a Subject and Systems and Methods for Using Same	Anthony Paris Jennifer Brock John Lund
*Surgical Rod Bender	Anthony Paris
Student Learning Progress Model	Gary Rice
Surgical Cutting Device and Methods of Using Same	Samuel Werner
*Fish Carcass Disposal System	Alexandra West
*Systems and Methods for Heating Concrete Structures	Joey Yang, et al.
*Utility Patent	

In process - 3 filings being prepared; additional invention disclosures being evaluated.

# INCENTIVES FOR RESEARCH AND INNOVATION

## ❖ Innovate Awards

- **Purpose:** to inspire faculty research, entrepreneurship and creative works.
  - Funding \$200,000 in 2012, 2013; and \$160,000 - 2014.
  - Total of 113 proposals received and 41 funded.
- **Accomplishments**
  - A 3:1 ROI provided from external research awards for 2012.
  - Projected ROI of 10:1 for external research funding for 2013.
  - **Publications** in Peer Review journals.
  - **Invention** disclosures and patents pending.
  - **Presentations** at international conferences and scholar in residence.

## ❖ Patent wall of Fame

- **Provides recognition** for faculty who have patents issued.
- Faculty inducted at Innovate presentation ceremony.
- Resides in the Administration Building.

❖ ***These awards and recognition, together with the commercialization infrastructure have helped to contribute to Innovation Successes.***