

Pierre LEBRETON, PhD Dir, R&D Fillers, Prod Dev Fillers Pr

1. Relevant information

Postal address: 16, rue Guillaume Fichet 74000 Annecy (France)

Email: Lebreton_Pierre@Allergan.com

Phone : +33 (0)4 50 10 71 70

Languages: French, English

50 years old.

Professional Address

- **Allergan Industrie**

Route de Promery, Zone Artisanale de Pré Mairy

Pringy 74370 Annecy

France

2. Academic achievements

1994-1998 Ph.D. in Chemistry & Physico-Chemistry of Polymers,
University of Montpellier - France
Title: « *Synthesis, Characterization and Associative Properties of Perfluoroalkyl Polyacrylamide* » with Honor of the Jury

1993 - 1994 Master of Science in Polymer Material
National Chemistry School of Montpellier - France

1989-1991: Post Graduated in Chemistry & Engineering Science
National Chemistry School of Mulhouse - France

3. Skills

Management Skills

- Occupied Positions:
 - Exec. Director (R&D) 2017- Company : Allergan
 - Director (R&D) 2011- 2017 Company : Allergan
 - Sr Manager (R&D) 2007- 2011 Company : Allergan
 - Manager (R&D) 2005-2007 Company : Corneal
 - Project Leader (R&D) 2002-2005 Company : Corneal
 - Engineer (R&D) 2001-2002 Company : Corneal
 - Engineer (Research) 1993-2001 Company : Atofina
- Team size : 30 people (Managers, Engineers, Pharmacist, Toxicologist, Technicians)
- Cross-functional Management: Marketing (filler strategic team), Clinical, Operations, Quality, Logistic, Medical Team & Regulatory Affairs

- Member of the board of director of the center of excellence for Juvéderm
- Annual Budget: > 5 M€ - Annual Investment: up to 10M€
- Methodology: Operational Excellence – Design of Experiment (DOE), Design For Six Sigma (DFSS), Systematic Inventive Thinking (SIT), Project Management Tools, Risk Analysis ISO 14971; Lean Six Sigma; benchmarks; situational management, coaching;

Technical Expertise

Formulation

Free Radical Polymerization / Grafting & Cross linking / Aqueous Formulation / Polycondensation/ Organic Synthesis/ HA raw material

Characterization

Spectroscopic Analysis / Rheological Characterization / Analytical Characterization / Validation per ISO / USP / Pharmacopeia and IQ/OQ/PQ methodology / Competitor Product Analysis

Process & Engineering

Purification Validation of Raw material and finished Product
 Process Validation per ISO9001: 2000 and 21CFR820
 Validation Master Plan

Field of expertise

- **Formulations:** 25+ years of R&D in formulation area for various application such as: Medical Esthetic, Ophthalmic, Rheumatology, industrial foams & polymers additives for oil recovery systems.
- **Medical Devices (injectables)** : Dermal Filler, Cataract Surgery , Arthritis treatment, Urology
 - **Design File** (ISO13485, 21CFR820) including Validation Reports and Risk Analysis per **ISO14971**,
 - **Marketing Support and product positioning**,
 - **Regulatory and Operation** Support,
 - **Manufacturing Transfer** from R&D to Launch.
 - **Clinical Evaluation Report** (reviewer)
 - **Biocompatibility studies (ISO 10993)**
 - **Filler performance and competitor testing**
- Materials : **Hyaluronic Acid** (15 years of R&D activities on HA based medical devices), **Hydro-soluble Polymers** (10 additional years of research activities on polysaccharides, poly(acrylamide), polyethylene oxide, polyvinyl alcohol, polyacrylates, poly(butadienes), & cellulosic material used as additives in aqueous formulations for any kind of industrial purposes other than medical esthetic).
- **Organic additives** (lidocaine, mannitol, vitamin C)& other API

4. Achievements

Development of 23 formulations of Hyaluronic Acid Based Products (CE Mark) including accessories:

- Juvéderm Brand (Dermal Filler) including Juvéderm with lidocaine
- Surgiderm Brand (Dermal Filler)
- Juvéderm Voluma (Volumizing ; Dermal Filler) including Juvéderm Voluma with lidocaine
- Juvéderm Hydrate (Rejuvenation)
- Juvéderm Volite (next gen skin quality product)
- Juvéderm Volux (volume creation)
- Juvartil (Arthritis)
- Neovisc (Cataract Surgery and eye drop)
- Juvederm Vycross technology (Volift & Volbella)
- Accessories: Syringe, Needle, Canulas

5. Publications

CORE PATENTS (7)

Dermal Filler: 5 ; Viscoelastic formulation for cataract Surgery : 1; Aqueous foams : 1

1 MX2011001321 (A) HYALURONIC ACID-BASED GELS INCLUDING ANESTHETIC AGENTS

Inventors: Lebreton Pierre Applicant : Allergan

Publication : 25 March 2011 – Priority : 04 August 2008

2 US20111892 DERMAL FILLERS COMPRISING SILK FIBROIN HYDROGELS AND USE THEREOF

Inventors : LEBRETON PIERRE F [FR]; PIERRE SEBASTIEN [FR]; COLLETTE ADAM L [US]; HORAN REBECCA L [US]; CHEN JINGSONG [US]; ALTMAN GREGORY H [US] ±

Applicant ; Allergan

Publication : 04 August 2011- Priority : 20 April 2009

3 WO2011086458 (A1) STABLE HYDROGEL COMPOSITION INCLUDING ADDITIVES

Inventors:Gousse Cecile, Lebreton Pierre, Prost Nicolas,

Publication : 21 July 2011-08-29 Priority : 13 January 2010

4 WO2010/015901/HYLAURONIC ACID BASED GELS INCLUDING LIDOCAINE

Inventor : P. LEBRETON Compagny : Allergan

Publication date = 2010-02-11

5- EP1817065 /"VISCOELASTIC SOLUTIONS CONTAINING SODIUM HYALURONATE AND HYDROXYPROPYLMETHYLCELLULOSE, PREPARATION AND USES"

Inventors : P.LEBRETON Company = CORNEAL

Publication Date = 2007-08-15

6- WO2004092222 "CROSS-LINKING OF LOW AND HIGH MOLECULAR WEIGHT POLYSACCHARIDES PREPARATION OF INJECTABLE MONOPHASE HYDROGELS AND POLYSACCHARIDES AND HYDROGELS THUS OBTAINED"

Date de publication: 2004-10-28

Inventors : P.LEBRETON Company = CORNEAL

7- FR2746322 « EMULSEURS ANTI-INCENDIE POLYVALENTS COMPRENANT UN POLYSACCHARIDE ET UN POLYMERE FLUORE TRIBLOC »

Date de publication : 1997-10-30

Inventors : GARCIA GILBERT (FR); COLLETTE CHRISTIAN (FR); LEBRETON PIERRE (FR); BOUTEVIN BERNARD (FR) Company = ATOCHEM ELF SA (FR)

SCIENTIFIC PUBLICATIONS (6)

1- P. LEBRETON, B. AMEDURI, B. BOUTEVIN, J.M. CORPART, D. COT, "Radical telomerization of 1,3-butadiene with perfluoroalkyl iodides in the presence of potassium carbonate" J. Polym. Sci. Part A, Polym. Chem., 2002, 40, 3743-3756.

2- P. LEBRETON, B. AMEDURI, B. BOUTEVIN, J.M. CORPART, "Use of original omega-perfluorinated dithioesters for the synthesis of well-controlled polymers by reversible addition-fragmentation chain transfer (RAFT)", Macromol. Chem. Phys., 2002, 203, 522-537

3 P. LEBRETON, B. AMEDURI, B. BOUTEVIN, J.M. CORPART, D. JUHUE, "Radical telomerization of 1,3-butadiene with perfluoroalkyl iodides. Macromol. Chem. Phys., 2000, 201, 1016.

4- P. LEBRETON, B. BOUTEVIN, "Primary radical termination and unimolecular termination in the heterogeneous polymerization of acrylamide initiated by a fluorinated azo-derivative initiator : a kinetic study.", J. Appl. Polym. Sci., 2000, 38, 1834-1843

5- P. LEBRETON, P. GRAMAIN, "A facile synthesis of hydrophobically end-capped poly(oxymethylene-co-polyethylene oxide) by controlled step condensation. Designed Monomers and Polymers", 1999, 2, 3, 209-216.

6- P. LEBRETON, B. BOUTEVIN, P. GRAMAIN, J.M. CORPART, "Synthesis, characterization and associative properties of triblock and diblock perfluorinated poly(acrylamide)s. Polym. Bull., 1999, 43, 59.

CONFERENCES

Communications and/or participation in International Congresses:

- International Conference on Hyaluronan Glycoscience 2003 (Cleveland US), 2007 (Charleston US), 2010 (Kyoto Japan)
- IMCAS International Master Course on Skin Aging, Paris 2003, 2005, 2007, 2009, 2012, 2014 (speaker), 2018 (speaker), 2019(speaker)
- AMWC, Monaco, 2012, 2014 (round table), 2018
- EMAA European Master in Aesthetics and Anti Ageing, Paris, 2010
- French Society of Ophthalmology SFO, Paris, 2002.
- American Society for Metabolic and bariatric Surgery, Orlando US, 2011
- Convention on Pharmaceutical Ingredient CPhI, Milan (2007), Madrid (2009)
- The Aesthetic Academy. Los Angeles, Juin, 2011
- DU injectables, Dr Kestemont, Nice, Mai 2012, Mai 2013, Mai 2014 (speaker)
- DU injectables Dr Asher, Janvier 2014 (speaker)
- Conférence Médecine Régénératives , tissu Adipeux, cellules souches, Dr Mojallal, Dr Brown, Dr Delvecchio, Hôpital La croix Rousse, Lyon, Juin 2012
- International Congress on Aesthetic and Anti-Ageeing Medecin, Warsaw, October 2016 (round table)
- Congress 28 Oct 2017 Lviv "ALCHEMY AND CHEMISTRY IN AESTHETIC MEDICINE", speaker
- DEFEE congress, 2 dec 2017, Lille, speaker
- Sales force meeting, Paris, 16 january 2017, speaker
- Volite launch in Belgrade (speacker on science), Nov 3rd, 2018