



# GAZETTE

The APGI has a new  
website  
*(see page 9)*

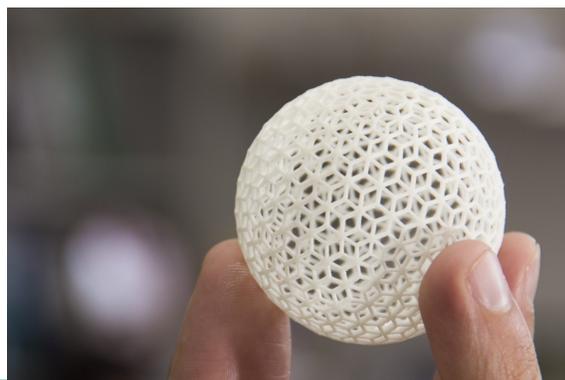
Young Investigator  
Award 2020  
*(see page 13)*

Maurice-Marie Janot  
Award 2020  
*(see page 16)*

**The 12th World Meeting on  
Pharmaceutics, Biopharmaceutics and  
Pharmaceutical Technologies has been  
postponed to  
8-11 February 2021  
Vienna, Austria**



**Hot Topic Day  
« 3D Printing in Pharmaceutics »  
27 November 2020  
Lille, France**



**April 2020  
N°35**

**[www.apgi.org](http://www.apgi.org)**



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Mrs Laurence Houzé

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# Editorial



Dear colleagues,

We hope that you, your families and your friends are doing fine.

The spreading of the corona virus affects all our lives fundamentally, irrespective of where we are in the world. It is a global challenge. The performance of our health care systems and availability of efficient medicines and appropriate medical devices is obviously of crucial importance. Hopefully this will be considered more carefully by the executive bodies of our societies in the future. As a pharmaceutical scientific society we can contribute to improving medical treatments in the future.

Unfortunately, due to the corona virus, we had to postpone the 12<sup>th</sup> World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology to 2021. It was initially foreseen to be held in March this year, but this was not possible. Together with our Italian and German friends (the ADRITELF and APV) we decided to keep the location of the event (the lovely town of Vienna), and move the meeting dates 8-11 February 2021. We are very sorry for the inconveniences this has caused. Please see the article on the event in this Gazette for more details.

But there are also some good news:

We have a new website, offering more functionalities and decided to introduce a new type of events: "Hot Topic Days". The idea is to address a "hot topic" in our field and to give an overview on the current state of the art during 1 day. Academic and industrial speakers cover a broad range of aspects in a rapidly evolving domain. In addition, an industrial exhibition will offer the opportunity to get into contact with companies which are active in the field. The First "Hot Topic Day" will be held in Lille on 27<sup>th</sup> November, and will be dedicated to "3D Printing in Pharmaceutics". You will find more details in this Gazette.

Please take care of you and we are very much looking forward to meeting you in person at one of our future events!

A handwritten signature in black ink, which appears to be "Juergen Siepmann". The signature is written in a cursive, flowing style.

Prof. Juergen Siepmann  
President of APGI

# International Conferences and Events



## 12<sup>th</sup> World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology postponed to 2021

Due to the spreading of the corona virus, the ADRITELF, APGI and APV decided to postpone the 12<sup>th</sup> World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology to 8-11 February 2021. It was initially foreseen to be held in March this year.

We sincerely regret this and very much hope that it does not cause too much inconvenience for you.

Importantly, the location of the event (the lovely town of Vienna) remains.

Unfortunately, the conference center had no capacity to host our 3.5 days meeting before February 2021. Consequently, we also jointly decided (together with our Italian and German friends) to postpone the 4<sup>th</sup> European Conference on Pharmaceutics from 2021 to 2023. Otherwise, there would have been a World Meeting and a European Conference in February/March of the same year. As soon as possible, we will announce the new dates of the 4<sup>th</sup> European Conference on Pharmaceutics, which will be held in Marseille, France.

In the following, some practical aspects of the postponement of the 12<sup>th</sup> World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology are described:

### Accepted abstracts:

All abstracts which have been accepted for poster or oral presentation at the 12<sup>th</sup> World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology in 2020 are automatically included in the programme of the postponed conference in 2021. There is no need to re-submit these abstracts.

In case you cannot present your poster/short talk in 2021, please send an email to [info@worldmeeting.org](mailto:info@worldmeeting.org).

# International Conferences and Events

## Submission of new abstracts:

It will be possible to submit new abstracts to the conference. Submissions will be possible online, via the meetings' website: <https://www.worldmeeting.org>. Details will be announced as soon as possible.

## Exhibition:

If you are already an exhibitor at the *ResearchPharm* at the 12<sup>th</sup> World Meeting on Pharmaceuticals, Biopharmaceutics and Pharmaceutical Technology, please contact [info@worldmeeting.org](mailto:info@worldmeeting.org) (if you did not already do so). If you are interested in becoming a **new** exhibitor, please have a look at the following website for the different available options and conditions: <https://www.researchpharm.org>.

## Updates:

The World Meeting's website (<https://www.worldmeeting.org>) will be regularly updated and inform about the latest developments. Please do not hesitate to check for most recent information.

Again, please excuse the inconveniences caused by the postponement of the conference. We are very much looking forward to welcoming you in Vienna in February 2021!



Associazione Docenti Ricercatori Italiani  
di Tecnologie e Legislazione Farmaceutiche





# Hot Topic Day

## Hot Topic Day “3D Printing in Pharmaceutics” University of Lille, College of Pharmacy 27 November 2020

The APGI introduces a new type of event: “**Hot Topic Days**”:

These are 1 day events dedicated to “hot topics”, which are rapidly evolving. The idea is to give a comprehensive overview on the current state of the art in the field and a future outlook on the next developments.

**Leading experts in the field** (from academia and industry) give oral presentations on the underlying basics, the most recent technical achievements and practical applications and address the crucial bottlenecks to be overcome.

The first Hot Topic Day of the APGI will be dedicated to “**3D Printing in Pharmaceutics**”, which is steadily gaining in importance and offers a large variety of improvements for medical treatments, personalized medicines being only one example. Technical aspects will be treated, but also clinical applications and quality control tools. The entire spectrum: from the basic concepts, technical manufacturing features, the portfolio of suitable excipients (especially polymers), quality assurance and treatment of patients will be covered.

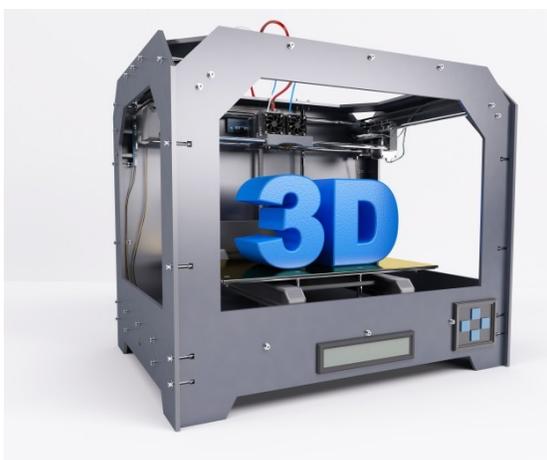
The programme includes the following talks:

- ◆ **Prof. Abdul Basit**, University College London, UK  
3D Printing in Pharmaceutics: Where are we?
- ◆ **Dr. S. Trenfield**, University College London, UK  
Clinical Applications of 3D Printed Medicines
- ◆ **Prof. Andrea Gazzaniga**, University of Milano, Italy  
Towards 4D printing
- ◆ **Dr. Alvaro Goyanes**, FabRx, Ashford, UK  
Novel 3D Printing Technologies in Pharmaceutics
- ◆ **Dr. Mohammad J. Mirzaali**, University of Delft, The Netherlands  
3D Printing from an engineering point of view: What is feasible today?
- ◆ **Dr. Jonathan Goole**, University of Brussels, Belgium  
3D Printing with biodegradable polymers
- ◆ **Prof. Jukka Rantanen**, University of Copenhagen, Denmark  
Analytical aspects of printed oral dosage forms



# Hot Topic Day

3D Printing has indeed become a “Hot Topic” in Pharmaceuticals: The versatility of this novel production technique offers a **large range of advantages** and will likely enable substantially improved medications in the future. Personalized medicine with individualized dosing adapted to the specific needs of each patient is just one of the many possible breakthroughs that might become reality. It is telling that in our societies we are used to have a broad choice of standard sizes and shapes for our clothes, but generally only a very limited choice of dose strengths of medicines. The manufacturing of our clothes is more personalized than the manufacturing of our drug products.



However, there are numerous **hurdles** that are still to be overcome for 3D printing in pharmaceuticals, and the real potential of this revolutionizing technique has not yet fully been exploited.

In addition to the oral lectures, poster presentations will give the opportunity to learn about the latest research findings in the field of 3D printing in pharmaceuticals. Furthermore, an **industrial exhibition** will allow getting into contact with companies working in this “hot field” and to learn about ongoing international research consortia, e.g. of the Interreg Project “Site-Specific Drug Delivery” (<https://www.interreg2seas.eu/fr/Site-Drug>).



# Hot Topic Day

**Lille** is a lovely town in Northern France and can easily be reached by train (TGV and Eurostar: 30 min from Brussels, 1 h from Paris, 1.2 h from London), by plane (Lille Lesquin Airport, or Paris Charles de Gaulle Airport – 50 min by train) as well as by car.

Details on accommodation, registration, important deadlines and sponsoring possibilities are/ will become available on our website: [www.apgi.org](http://www.apgi.org)

If your company is interested to become a sponsor and or exhibitor of this “Hot Topic Day” to enhance your visibility in the field, please contact our secretary, Mrs. Laurence Houzé at [apgi@apgi.org](mailto:apgi@apgi.org) or by phone: 00 33 (0)6 14 27 45 01

We are looking forward to welcoming you in Lille!

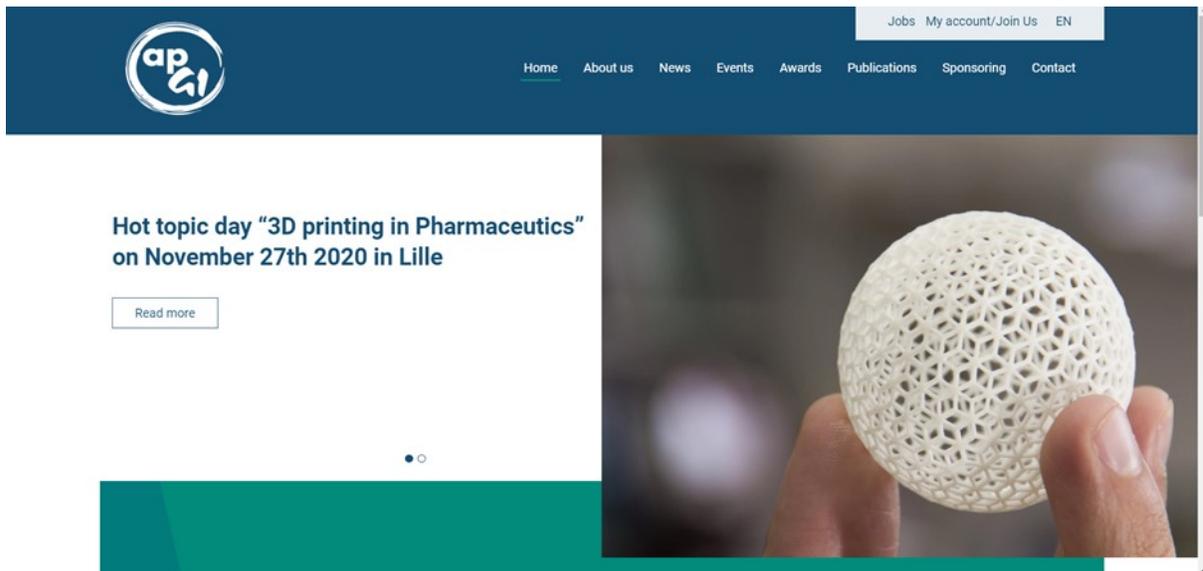


# APGI News

## The APGI has a new website!

We are proud to present our new website.

Our new homepage: [www.apgi.org](http://www.apgi.org)



# APGI News

We explain who we are and what we do:

## About us

### Who we are

APGI – “Association de Pharmacie Galénique Industrielle” or  
“International Society for Drug Delivery Sciences and Technology”

The APGI was founded in 1964 to promote activities and facilitate professional exchanges in Pharmaceutics, Biopharmaceutics, Pharmaceutical Technology and related fields. Everybody (students, academics, industrials, regulators, etc.) who is working in these areas is warmly welcome.

While we are a French association, we are proud to have members from all over the world (e.g., more than 50% are living outside France).

### What we do

The APGI organizes a variety of events, including Information Days, Workshops, Hot Topic Days as well as different national and international scientific conferences.

- ✓ An *Information Day* is a 1 day event, which is jointly organised with industrial partners on a specific topic, with speakers from academia and industry.
- ✓ A *Workshop* is a 1 day event, being a mixture of invited lectures, practical demonstration sessions and an industrial exhibition.
- ✓ A *Hot Topic Day* is a 1 day event, addressing a specific topic: Invited lectures from academia and industry give an overview on the current state of the art and report on latest research findings in a rapidly evolving field.

International scientific conferences include:

The *World Meetings on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology* (3.5 day events), which are jointly

We inform about the latest news:

## News



APGI organizes a Hot Topic Day “3D printing” on 27 November 2020 in Lille.



is granted this year to Eline Terlinck for the thesis “Laser-induced vapor nanobubbles: the golden ticket to the biofilm center”. Supervisor: Prof. Dr. Kevin Braeckmans and Prof. Dr. Tom Coenye



Professor Robert Langer at the MIT receives the “2020 Maurice-Marie-Janot Award”.

We give detailed information on our past and upcoming events:

## Events

The APGI organizes a variety of events, including Information Days, Workshops, Hot Topic Days as well as different national and international scientific conferences.

- ✓ 27 November 2020: Hot topic day "3D printing" in Lille France. Discover partial program [here](#)

[Detailed program](#)

- ✓ 8-11 February 2021: 12th World Meeting on Pharmaceuticals, Biopharmaceutics and Pharmaceutical Technology, in Vienna Austria, with our partners ADRIELF and APV
- ✓ 1st June 2021: Information day "Functional solid oral dosage forms: Superior formulation approaches and novel manufacturing technologies to meet industrial needs" in Paris France, with our partner EVONIK

You can download our newsletter, and APGI members can download the slides of oral presentations from Information Days, if the speakers agreed:

## Publications

The APGI publishes publishes the newsletter "Gazette" and presentations from the Information Days.

### The "Gazette"

Regularly, the APGI newsletter "Gazette" gives an update on the latest developments and news in the field and informs about upcoming conferences and other events. It is free of charge, sent to all APGI members and can also be downloaded from our website.



Latest "Gazette"

[Download](#)



Gazette n° 33

[Download](#)



Gazette n° 32

[Download](#)

### Further publications.

If the speakers of APGI Information Days agree, their presentations are made available free of charge to all APGI members (upon login).

Here is an example from one of our Information Days:

You can renew your membership or become a new APGI member, directly on the website  
... and you can find a lot of more interesting information.



# APGI News

**The APGI has a new mailing address and new e-mail!**

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Université de Lille  
3 rue du Professeur Laguesse  
59000 LILLE  
Phone: +33-6-14 27 45 01  
E-mail: [apgi@apgi.org](mailto:apgi@apgi.org)  
[www.apgi.org](http://www.apgi.org)

# APGI Young Investigator Award

## Eline Teirlinck Laureate of the APGI Young Investigator Award 2020

**Eline Teirlinck** receives the “2020 APGI Young Investigator Award” for her PhD thesis entitled “**Laser-induced vapor nanobubbles: the golden ticket to the biofilm center**”.

Dr. Teirlinck obtained her PhD at the University of Ghent, Belgium, under the supervision of Prof. Dr. Kevin Braeckmans and Prof. Dr. Tom Coenye.



### Abstract PhD thesis

Being listed as one of the top priorities of the World Health Organization for 2019, antimicrobial resistance has become beyond any doubt an important threat to healthcare. An important reason for the decreased sensitivity of bacteria towards antibiotics is their capability to form so-called biofilms. The increased tolerance of biofilms is multifactorial and includes the reduced penetration rate of antibiotics through dense biofilms.

In this thesis, we explored the potential of laser-induced vapour nanobubbles (VNB) formed around plasmonic nanoparticles to locally disturb biofilm integrity and improve antibiotics' diffusion and efficiency. First, we systematically investigated the potential of VNB as an anti-biofilm approach on both Gram-negative as Gram-positive biofilms. Spurred by the promising results of this proof-of-concept study, we aimed to take the first steps towards an actual application, more specifically for the treatment of biofilm related wound infections. In the last part of this thesis, antibiotics were encapsulated inside nanocarriers that were able to generate VNB in order to achieve light-triggered release of antibiotics, thereby providing a complete solution to the biofilm diffusion barrier.

# APGI Young Investigator Award

## Award Ceremony

The laureate will be recognized during the APGI Award Ceremony at the 12<sup>th</sup> World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology. Unfortunately, this meeting had to be postponed to 8-11 February 2021, due to the spreading of the corona virus.

## List of former awardees

- 2014: Amrit Paudel, University of Leuven
- 2015: Anne-Laure Laine, University of Angers
- 2016: Alice Gaudin, University Paris-Sud
- 2017: Stephan Stremersch, Ghent University
- 2018: Ranhua Xiong, Ghent University
- 2019: Karen Peynshaert, Ghent University
- 2020: Eline Teirlinck, Ghent University

## Sponsor

The “APGI Young Investigator Award” is kindly sponsored by Sanofi.



# APGI Young Investigator Award

## Call for Candidates for the APGI Young Investigator Award 2021

Every year, the APGI recognizes the most outstanding doctoral thesis in the field of Pharmaceuticals, Biopharmaceutics and Pharmaceutical Technology with the "APGI Young Investigator Award". The prize is kindly sponsored by Sanofi.

The awardees are recognized at the *World Meetings on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology* or *European Conferences on Pharmaceutics*.

Be a candidate!

If you defended your PhD thesis between 15 November 2019 and 14 October 2020, you can candidate for the 2021 "APGI YOUNG INVESTIGATOR AWARD".

Please send a pdf file of your thesis (in French or English) and a short curriculum vitae, by 30 October 2020, to APGI ([apgi@apgi.org](mailto:apgi@apgi.org)) and Géraldine Piel ([geraldine.piel@ulg.ac.be](mailto:geraldine.piel@ulg.ac.be)). The file can be sent by We Transfer (a compressed version would be appreciated).

Dr. Géraldine Piel at the University of Liège serves as president of the jury.

The price (accompanied by a check) will be officially awarded at the 12<sup>th</sup> World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology (8-11 February 2021) in Vienna.



# Maurice-Marie Janot Award

## Robert Langer Laureate of the Maurice-Marie Janot Award 2020

**Professor Robert Langer at the Massachusetts Institute of Technology** receives the “**2020 Maurice-Marie Janot Award**”. This price recognizes an individual researcher, whose pioneering work has a groundbreaking impact in the fields of Pharmaceuticals, Biopharmaceutics and Pharmaceutical Technology.



Robert Langer is one of 12 Institute Professors at the Massachusetts Institute of Technology (MIT); being an Institute Professor is the highest honor that can be awarded to a faculty member. He has written **nearly 1,500 articles, which have been cited over 300,000 times; his h-index of 272 is the highest of any engineer in history.** He has more than **1,350 issued and pending patents** worldwide. His patents have been **licensed or sublicensed to over 400 companies.** He served as Chairman of the FDA’s Science Board (its highest advisory board) from 1999-2002. His over 220 awards include both the United States National Medal of Science and the United States National Medal of Technology and Innovation (he is one of 4 living individuals to have received both these honors), the Charles Stark Draper Prize (often called the Engineering Nobel Prize), Albany Medical Center Prize, Breakthrough Prize in Life Sciences, Kyoto Prize, Wolf Prize for Chemistry, Millennium Technology Prize, Priestley Medal (highest award of the American Chemical Society), Gairdner Prize, Dreyfus Prize in Chemical Sciences, Maurice-Marie Janot Award, and the Lemelson-MIT prize, for being “one of history’s most prolific inventors in medicine.” He holds **34 honorary doctorates** and has been elected to the National Academy of Medicine, the National Academy of Engineering, the National Academy of Sciences and the National Academy of Inventors.

# Maurice-Marie Janot Award

## Jury and selection procedure

The Jury is composed of 70 scientists from all over the world, who are known for their relevant contributions to the Pharmaceutical Sciences. Prof. Elias Fattal serves as president of the jury.

In a first round, each jury member nominates three individuals. This allows establishing a short list of five highest ranked candidates. In the second round, the laureate is selected by all jury members from this short list.

The Jury members base their nominations on the researchers' publications and other contributions available in literature, in particular considering their originality, creativity and impact in the field. The laureate's work can cover aspects from the basic sciences to applied pharmaceutical research, devoted to Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology. This includes for instance new drug delivery systems, dosage form manufacturing, strategies for bioavailability enhancement, process optimization & validation, process analytical technologies, new excipients, packaging and various other aspects.

No restrictions are made with respect to nationality, origin (industry, academia or regulatory) or specialization (pharmacy, chemical engineering or other fields) of the nominee.

## Award Ceremony

The laureate will be recognized during the APGI Award Ceremony at the 12<sup>th</sup> World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology. Unfortunately, this meeting had to be postponed to 8-11 February 2021, due to the spreading of the corona virus.

## List of the former Awardees:

1986 Stanley S. (Bob) Davis (UK)  
1989 Joe. Robinson (USA)  
1992 H. Sezaki (Japan)  
1995 Dan J.A. Crommelin (The Netherlands)  
1998 Francis Puisieux (France)  
2000 Hans Junginger (The Netherlands)  
2002 Thomas Kissel (Germany) 2004 Paolo Colombo (Italy)  
2006 Alexander (Sandy) Florence (UK)  
2008 Patrick Couvreur (France)  
2010 Nicholas A. Peppas (USA)  
2012 Robert Gurny (CH)  
2014 Maria-José Alonso (Spain)  
2016 Richard Guy (UK)  
2018 Elias Fattal (France)

## Sponsor

The Maurice-Marie Janot award is kindly sponsored by Sanofi.



# Miscellaneous

## Interreg project “Site-Specific Drug Delivery” (Site Drug)



A new Interreg 2 Seas project has started: “Site-Specific Drug Delivery”.

A consortium of **10 academic and industrial partners in France, Belgium, The Netherlands and the UK** is working on the development of innovative **local** drug treatments.

The **aim of this project** is to develop innovative drug products, which are able to control the resulting drug distribution in the patient’s body:

The drug amount at the site of action is to be optimized, and the amount that is “lost” into the rest of the human body is to be minimized. This is to be achieved by “**site-specific delivery systems**”, which release the drug at a controlled rate at the site of action. Thus, the **therapeutic efficacy will be improved & undesired side effects be reduced**. This will help reducing the current cost burden on our healthcare systems due to adverse drug effects.

Specifically, the project aims at developing innovative site-specific drug delivery systems allowing for:

- **colon targeting**
- controlled local delivery to the **inner ear**
- controlled local delivery in the **peritoneal cavity**
- controlled local delivery from **breast implants**.

The long-term objective is to improve medical treatments of patients suffering from **Crohn’s disease, ulcerative colitis**, metastases in the peritoneal cavity from **ovarian cancer**, women who underwent **breast resection due to cancer** as well as patients with **hearing loss**.

In addition, a **novel in vitro characterization method facilitating the development of “colon targeting systems”** will be developed: An improved in vitro test method for more realistic drug release measurements in the gastro intestinal tract. In particular the conditions encountered in the stomach, small intestine and colon in healthy subjects as well as patients will be simulated. This new in vitro drug release method will also be highly valuable for adequate quality control during production of advanced colon targeting systems.



# Miscellaneous

A **highly interdisciplinary** and complementary consortium of academic and industrial partners work together:

- University of Lille (Lead partner, Prof. Siepmann)
- Delft University of Technology (Prof. Zadpoor)
- Ghent University (Prof. Vervaet)
- Lattice Medical (Dr. Payen)
- Leiden University (Prof. Jiskoot)
- Lille University Hospital (Mrs. Leal)
- Prodigest (Dr. Marzorati)
- Technological Transfer Office North of France (M. Beitone)
- University College London (Prof. Basit)
- University of Cambridge (Prof. Zeitler).

A **large variety of theoretical and experimental techniques** will be applied for **the preparation and in-depth characterization of the novel pharmaceutical dosage forms in silico, in vitro and in vivo**. This will include compression, film coating (fluid bed and drum), hot melt extrusion, 3D printing, injection molding, extrusion & spheronization, spray drying, in vitro drug release measurements under conditions simulating the environment encountered in vivo (e.g. in the inner ear, stomach, small intestine, colon of patients suffering from Crohn's disease, peritoneal cavity, tissue surrounding breast), terahertz and magnetic resonance techniques, scanning electron microscopy, X-ray diffraction, dielectric spectroscopy, differential scanning calorimetry, Raman spectroscopy, in vivo tests in gerbils (inner ear), rats (Crohn's disease) and zebra fish as well as mathematical modeling using mechanistically realistic theories, considering for example water diffusion, drug dissolution, polymer swelling and degradation, drug diffusion, crack formation in film coatings and polymer dissolution (to mention just a few).

In addition, **observer partners** follow the outcome of the project and interact with the project partners: Addenbrooke's Hospital, Dr. Reddy's, Eurasanté, FabRx, Intract Pharma, Medtronic, Oticon Medical, Pfizer, the Queen Elizabeth The Queen Mother Hospital, and Vesale Pharma. Observer partners are regularly **invited to consortium meetings** to learn about the latest research findings and **make suggestions** for the next steps. Ideally, they will be **partners of follow-up projects** to bring the newly developed technologies to the market.

# Miscellaneous

**In case your company is interested in becoming an observer partner:** Please contact [juergen.siepmann@univ-lille.fr](mailto:juergen.siepmann@univ-lille.fr).

The project started on 1<sup>st</sup> January 2020 and will end on 30<sup>th</sup> September 2022.

The Interreg 2 Seas programme is a European Territorial Cooperation Programme covering England, France, the Netherlands and Belgium (Flanders). The overall objective is to develop an innovative, knowledge and research based, sustainable and inclusive 2 Seas area.

For more detailed information, please visit the project's website at:  
[www.interreg2seas.eu/en/Site-Drug](http://www.interreg2seas.eu/en/Site-Drug).

## Partners :



# Agenda



## APGI events

- **Hot Topic Day “3D Printing in Pharmaceuticals”**  
*27 November 2020, Lille, France*
- **12th Word Meeting on Pharmaceuticals, Biopharmaceutics, and Pharmaceutical Technology**  
*8-11 February 2021, Vienna, Austria*
- **Information Day “Functional solid oral dosage forms: Superior formulation approaches & novel manufacturing technologies to meet industrial needs” jointly organized with Evonik**  
*1st June 2021, Paris, France*  
*For this information day, the programme will soon be announced.*



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