BIOVIA Science Council

Introduction and Overview
Dassault Systèmes | The 3DEXPERIENCE Company

a Scientific company
Combining Science, Technology and Art for a sustainable society

17,000 passionate people
• 130 nationalities
• 181 sites
• One global R&D / 64 labs

250,000 customers
• 11 industries in 140 countries
• 25 million users
• Game-changing 3DEXPERIENCE solutions

12,600 partners
• Software, Technology & Architecture
• Content & Online Services
• Sales
• Consulting & System Integrators (C&SI)
• Education
• Research

Long-term driven
• Majority shareholder control
• Revenue: €3,488 million*
• Operating margin: 31.8%*

* Figures as of FY 2018 / Non-IFRS
BIOVIA Mission

BIOVIA provides a **scientific** collaborative environment for advanced biological, chemical and materials experiences. The sophisticated enterprise system of modeling, simulation, laboratory and quality management enables **innovation** for science-based industries.
BIOVIA – A Science-based Brand

“BIOVIA is committed to speeding innovation for science-driven organizations, from product ideation through commercialization.”

BIOVIA aim to be at the scientific forefront in the fields of science relevant to our customers.

The BIOVIA Science Council (BSC) is guiding and coordinating the scientific efforts of BIOVIA.
BIOVIA Science Council – Mission

• Provide **scientific guidelines and directions** for BIOVIA in the domains of Virtual BioSphere and Materials, by covering applied science innovation and strategy, from discovery to commercial production.

• Ensure **scientific excellence & leadership** for all chemical, material and biology based industries.

• Promote **value and prestige** for Dassault Systèmes scientific communities and solutions.
BIOVIA Science Council – Equity Pyramid

**WHO**
3DS and BIOVIA Science Driven Industries Customers R&D, Functional Teams

**WHAT**
Providing Scientific Leadership, Guidelines and Directions for Virtual BioSphere & Materials

**HOW**
Executive and Product Specific Scientific Meetings, Publications, PR, Experiences, Scientific Advisory Board, External Collaborations
**BIOVIA Science Council – Areas of Expertise**

<table>
<thead>
<tr>
<th>Area</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>LifeScience Research</strong></td>
<td>Scientific support for product development in the Life Science Research. Focusing on Virtual screening, Structure based Drug design, Pharmacophore modelling, Protein and anti-body modelling, Force-Field based intelligence, Artificial Intelligence applied to Drug design.</td>
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<tr>
<td><strong>Materials Science</strong></td>
<td>Scientific support for product development in the Materials Science sector. Particular focus on Multiscale modelling of Materials to build a bridge between BIOVIA, SIMULIA and CATIA. This is part of the strategic initiatives on battery design and additive manufacturing at 3DS.</td>
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<tr>
<td><strong>Data Science/ Statistics</strong></td>
<td>Applications of automated data science workflows, research methods, and statistical methods to make meaningful, data-driven business decisions in scientific industries.</td>
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BIOVIA Science Council – Members

Life Sciences Research

Dr. Hugues-Olivier Bertrand
Senior Fellow and Head of BSC

Expertise in
- Protein modeling
- Simulations of macromolecules
- Virtual screening
- Structure-based drug design

Dr. Anne Goupil-Lamy,
Fellow of BSC

Expertise in
- Protein modelling
- Molecular dynamics simulations of macromolecules
- Antibody design
- Structure-based ligand-based design projects.

Dr. Prabhu Raman,
Fellow of BSC

Expertise in
- Computer-Aided Drug Design (CADD)
- Force-field development
- Protein folding and aggregation.
# BIOVIA Science Council – Members

## Materials Science Research

<table>
<thead>
<tr>
<th>Name</th>
<th>Expertise in</th>
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<tr>
<td>Dr. Victor Milman</td>
<td>Senior Fellow of BSC&lt;br&gt;<strong>Expertise in</strong>&lt;br&gt;• Quantum-mechanical modelling of materials</td>
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<tr>
<td>Dr. Marc Meunier</td>
<td>Fellow of BSC&lt;br&gt;<strong>Expertise in</strong>&lt;br&gt;• Nanodielectrics&lt;br&gt;• Simulation of polymeric materials&lt;br&gt;• Materials modelling</td>
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<tr>
<td>Dr. Johan Carlsson</td>
<td>Fellow of BSC&lt;br&gt;<strong>Expertise in</strong>&lt;br&gt;• Electronic structure calculations&lt;br&gt;• Modeling of batteries&lt;br&gt;• Modeling of carbon based materials</td>
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<tr>
<td>Dr. Felix Hanke</td>
<td>Fellow of BSC&lt;br&gt;<strong>Expertise in</strong>&lt;br&gt;• Quantum-mechanical modeling of chemical reactions&lt;br&gt;• Multiscale modeling of batteries</td>
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BIOVIA Science Council – Activities

Guide product development
- Collaborate with Product Management
- Use external experts as advisors

Promote scientific efforts
- Award BIOVIA presentations
- Award portfolio contributions

Scientific Outreach
- Manage external Collaborations
- Contribute to conferences
- Provide access to publications

Scientific Quality Control
- Review of BIOVIA publications before submission

Connect with other brands
- Coordinate collaborations with other Dassault Systèmes brands
- Establishing a Scientific mentoring program for young scientists in the company

Scientific education of the employees
BIOVIA Science Council Programs

Access to Literature for Our Scientists

- Springer
- Elsevier

Coordination of External Scientific Collaborations
- Ambassador program (completely revamped)
- Partner in EU funded projects
- PhD Program (France & UK) and Internship program (France)

A Significant Scientific Asset
- Since 2010: 169 publications / 119 talks & posters at external scientific events
- Since 4 years, scientific production is declining!
- Policy and Incentive
- Do not hesitate to reach out to the BSC

Scientific Promotion of BIOVIA’ Science
- Webinars / ASTS
- CECAM workshops
- BIOVIA User Conferences (US / Europe)
- 3D Experience Lab
- COMPASS magazine