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EDITORIAL

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In Praise of Collaboration: The INTENANT Success Story

How do we foster innovation and creative thinking? How do we ensure a better likelihood for a successful outcome in scientific research? Questions like these and such concerns as the value of science at large and R&D in particular, industrial as well as academic, and models for ensuring adoption of best practices need to be addressed appropriately. What is absolutely clear is that not only is the way in which specific individuals respond going to vary considerably.It is also clear that the answer will to a large extent rely on the prevailing (mega)trends and thus inevitably will fluctuate over time. This situation is indeed relevant when considering ideas on how to create the most effective and efficient organizational structure in a company. We have seen a strong movement toward scientific collaboration over the past decade or so going from one extreme, where most of the work was conducted in isolation involving, at most, one or a few partners under a great deal of confidentiality, to the other extreme of today's operating principles which occasionally allow wide collaborations with the involvement of numerous participants. It is not surprising to find that under such circumstances the concepts of "Open Innovation" and "Open Access" have been widely embraced and adopted throughout the scientific community, in academia and industry alike. Long gone are the years during which liaisons, especially between academic researchers and industrial enterprises, were not looked upon with a great deal of sympathy.

With this in mind, the European Community (EC), via its Commission, has launched a program called the seventh Framework Program or FP7 that invites institutions based in EC member states to submit research proposals matching certain calls which cover specified areas of science. As a result of this program, in 2007 was spawned the idea to create a consortium that would devote its efforts towards novel synthetic approaches and separation of optical isomers, notably enantiomers—a field of utmost relevance in the life science area and, hence, in the entire pharmaceutical industry (as well as an established and high-profile field in the academic world). Starting from this visionary idea, which for obvious reasons is shared by many scientists across the globe, a first step was to create a team that could function together and, very importantly, deliver on what must appear as an inspiring or even stretched target in the eyes of the funding office. It might seem rather trivial to achieve this, but factors and characteristics of the team such as competence, capabilities, geographical location, age, and gender distribution certainly make this quite a formidable task. Nevertheless, under the diligent leadership of Professor Andreas Seidel-Morgenstern of the Max Planck Institute/University of Magdeburg, Germany, the consortium was successfully inaugurated by gathering a total of 13 institutions of various shapes and forms representing 11 geographical locations in 6 countries. The members of the thus-formed consortium comprise renowned academic groups (including the Magdeburg team) at the Swiss Federal Institute of Technology (Switzerland), Stockholm University (Sweden), Université de Rouen and Paul Sabatier of Toulouse, respectively (France), Manchester University (UK), and Politecnico di Milano (Italy). It is customary to have a relevant industrial participation in this context to ensure a broader, more diversified view of the problems at stake. As a matter of fact, the EC demands this as a prerequisite, and without good involvement from industry, preferably spanning different areas and sizes, the likelihood of gaining approval is close to zero. Enrolling companies such as AstraZeneca (Södertälje, Sweden; pharmaceuticals), Bayer Technology Services (Leverkusen, Germany; chemistry with a focus on consulting in the engineering field), and MOLISA (Magdeburg; organic synthesis in an area belonging to the so-called small-/medium-sized enterprises [SMEs], which are given a very high value by the Commission in the sense that their potential growth might secure a sound development of the European industry and create many new jobs) guaranteed a balanced and competent industrial input. Last, but not least, it is vital to mention the key role played by DECHEMA (Frankfurt, Germany; a central organization participating on behalf of the German chemical industry) to ensure that various administrative tasks are handled appropriately and, more importantly, to play a leading role in the dissemination process aimed at distributing the results of the work to benefit the broad range of stakeholders present throughout the EC member states (one of the principal characteristics of public/private partnerships is to strive for a maximum spread and impact across the affected geographical area).

With the approval of the INTENANT collaboration and its intended goals (as outlined above) a budget of almost €6 million was made available, and from this basis a 3-year-project was kicked-off on the first of June 2008. The inevitable question after reaching the finish line is, of course, Was the effort worthwhile and were the goals achieved as anticipated? Judging from the point of view of how the members interacted scientifically and socially, how well the network responded to the need for seamless communication, how timely the conduction of the reported data into the central repository was made, and how unforeseen challenges were addressed is an obvious and, to some extent, introspective way of assessing how this huge project operated. Another approach, more rewarding to the wider scientific community (and to the funding agency) is to examine the output in a scientific context not by praising each other for great achievements but by letting people outside the consortium examine the quality of what was generated in terms of results. This thinking is behind the initiative for the INTENANT special feature section in this issue of *Organic Process Research & Development*, with hopes of reaching a large audience with this series of papers that have gone through the standard peer review process. Thus, in the following 10 articles written by the participating investigators and occasionally highlighting the cross-functional teamwork that was so essential to this success story, you will be able to enjoy widespread topics such as purely

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biocatalytic syntheses of some key compounds, the design and preparation of novel selectors for chromatographic separations via some aspects of crystallization technologies to produce single enantiomers, investigations targeting the intrinsic subtleties of chromatography, and finally an all-integrated process for a starting material to use in the commercial manufacture of a drug molecule.

I strongly recommend that you read or at least acquaint yourself with these excellent papers that are not only evidence of great science conducted by highly skilled scientists but also testimony to what is achievable by talented people who work across national as well as disciplinary boundaries and are all driven by a shared vision.

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