Supplementary Material

# Appendices

[Appendix A]

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| **Digital Scientist 2035 – An Outlook on Innovation and Education**  **Survey Questions** |
| 1. Age 2. Sex 3. OVGU Faculty 4. Academic position 5. Covid-19 pandemic forced the need to switch toward home-working. How impactful was this event on your research work? Rate your answer (1 = not at all impactful, 3 = neutral, 5 = very  impactful) 6. How likely would you continue your research at home-office? Rate your answer (1 = very unlikely, 3 = neutral, 5 = very likely) 7. How would you imagine to be the future of scientists and the way of conducting scientific research? Think ahead in 2035… (Select the most 3 meaningful options) 8. Which innovative technology would you integrate in your current research work to embrace the era of "digital science"? Think ahead in 2035… (Select the most 3 meaningful options) 9. How likely will ethics and regulatory procedures change due to the increasing implementation of technologies (e.g., AI, robots, avatars)? Rate your answer (1 = very unlikely, 3 = neutral, 5 = very likely) 10. How likely will technologies improve the execution of experiments (e.g., precision, time, quality, quantity, replicability)? Rate your answer (1 = very unlikely, 3 = neutral, 5 = very likely) 11. How likely would you be willing to share your research work with worldwide teams throughout the use of channel-based messaging/meeting platforms? Rate your answer (1 = very unlikely, 3 = neutral, 5 = very likely) 12. Which are the most relevant advantages of "digital science"? (Select the most 3 relevant options) 13. Ideally, how likely would you think that human/animal experiments will be replaced by high precision simulation with AI? Think ahead in 2035… Rate your answer (1 = very unlikely, 3 = neutral, 5 = very likely) 14. How likely will education be influenced by digitalization and the adoption of technologies? Rate your answer (1 = very unlikely, 3 = neutral, 5 = very likely) 15. Describe in one word your opinion/feeling about "Digital Science". |

[Appendix B]

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| **Digital Scientist 2035 – An Outlook on Innovation and Education**  **Survey Answers** |
| ●      18-24  ●      25-34  ●      35-50  ●      >50 |
| * Male * Female * Diverse |
|  Medicine   Mechanical Engineering   Process & Systems Engineering   Electrical Engineering & Inf. Technology   Computer Science   Mathematics   Natural Sciences   * Humanities, Social Sc. & Education * Economics & Management |
| * B.Sc. / M.Sc. Student * Research Assistant * Ph.D. Student * PostDoc Researcher * Principal Investigator * Professor |
| 5-points Likert scale |
| 5-points Likert scale |
| * Artificial Intelligence (AI) manages massive datasets (i.e., several data analysis done in parallel) * Robots run experiments * Global collaborations using channel-based messaging platforms * Lectures, workshops, courses, and meetings happening entirely online * Change in ethical regulations and regulatory approvals * Revision of "Good Scientific Practice" procedures * Different management of research funds/different research costs * Easy replication of experimental procedures among Labs (e.g., using AI or robots) * No more laboratory experiments on humans/animals (i.e., ideally, precise simulations with AI) * Revised education (e.g., more digital and technology skills, interdisciplinary education) * Virtual Labs * Other |
| * Digital Healthcare * Virtual Reality / Augmented Reality * Artificial Intelligence (or Machine Learning, Deep Learning) * 3D or 4D Printing * Robotics * Brain-Computer Interfaces * (Health) Wearables * Voice Assistant or Avatars * New Touch Interfaces * Minimal / Non- Invasive Therapy Systems * Environmental Protection and Sustainability * Data Management / Cybersecurity * Electronic and Sensors * Other |
| 5-points Likert scale |
| 5-points Likert scale |
| 5-points Likert scale |
| * Adoption of "Open Science" principles * Scientist acquires/develops more digital and technological skills * Research articles are written with AI technologies * Cloud computing * Big data is easy to manage * Democratization of technologies * Innovative technologies will enable advanced data analysis * "Smart" laboratories (virtual and cloud-based labs, co-working facilities, DIY spaces, real-time collaborations) * High precision in predicting scientific results using technologies * Less (or ideally no more) human/animal experiments due to high precision simulations with AI * Interdisciplinary education * Increased networking |
| 5-points Likert scale |
| 5-points Likert scale |
| Short-answer text |