Editorial

A Digital Journal for a Digital Era

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“New directions in science are launched by new tools much more often than by new concepts. The effect of a concept-driven revolution is to explain old things in new ways. The effect of a tool-driven revolution is to discover new things that have to be explained.”

Freeman Dyson [1]

In the early 21st century, we have tools that can fundamentally advance our understanding of health in ways that we can barely imagine. Just as imaging and genetics have revolutionized our understanding of health, altered our definition of diseases, revealed our ignorance, and changed therapeutic development, these new digital biomarkers – objective, quantifiable measures of biology or health collected and measured through digital devices – can do the same. Fundamental questions, such as where do asthma attacks occur, when does someone with Parkinson disease have tremor, and how does bipolar disorder affect socialization, can now be assessed in novel ways objectively.

Many of these tools, including portables (e.g., smartphones), wearables, digestibles, and implantables, were introduced earlier this century and usually for purposes other than measuring and improving health. However, the interest and desire to use these tools for health are immense as was demonstrated with Apple’s release of ResearchKit, an open source platform for building smartphone applications for research purposes, in March 2015. In the first 24 h after its release, over 10,000 individuals signed up to participate in a heart health study [2] and in the first 7 months after the release, over 70,000 individuals signed up to participate in the first 5 research applications [3].

This new field of digital biomarkers needs a digital journal. The mission of *Digital Biomarkers* is to foster this emerging field to enhance health by (1) disseminating the best ideas, (2) advancing research, (3) supporting a community that spans disciplines and industries, and (4) developing novel ways to advance the field. Currently, the best papers and ideas in the field are often not well received by current journals and are scattered in journals of

Table 1. Characteristics of *Digital Biomarkers*

Characteristic	Traditional journals	<i>Digital Biomarkers</i>
Disclosure of conflicts of interest	Yes	Yes
Rigorous peer review	Yes	Yes
Timely peer review	Rarely	Yes
Jargon	Yes	No
Abbreviations	Ubiquitous	Rare
Visuals	Limited	Desired
Repository beyond articles	No	Yes
Multidisciplinary	Rare	Inherent
Inclusive of industry	Rarely	Yes
Foster community	Rarely	Absolutely
Open access	Sometimes	Always
Article processing charges	Expensive	Free (for at least the first year)

various disciplines and specialties. Now, this field will have a multidisciplinary community of its own that by design spans multiple industries (Table 1).

Digital Biomarkers will be electronic, open access, and for at least the first year article processing charges will be waived. We will also bring the content to you through a periodic news update delivered to you electronically. In addition to providing you with the top research findings in the field, we will with time bring you interviews with the leading thinkers, curated content, and other information to keep you abreast of developments of the field.

Like traditional journals, *Digital Biomarkers* will have rigorous peer review to ensure that the best articles are brought to you. To assist us with this effort, we have assembled an outstanding Editorial Board with expertise in computer science, bioinformatics, regulatory science, drug development, and medicine from around the world. We value their time and that of authors. As such, we will be rigorous in our selection of papers that are sent for peer review so that reviewers do not have their time wasted on papers that are not likely suitable for this journal and so that authors can quickly find a more suitable journal.

Given the multidisciplinary nature and intended broad audience of the journal, we will want articles to be clear [4, 5] and to minimize jargon, including abbreviations. If a concept is complicated, make it simple. Teach the reader, give examples, draw analogies, and be visual. Unlike many journals, we want value, and would love to feature creative visuals (figures, tables, drawings, and videos) that help explain and demonstrate the findings of your work. In addition, as a digital journal, we seek to serve as a repository for data, algorithms, and applications that can be a resource for all. We also want your help and suggestions for how to make *Digital Biomarkers* valuable. If you know someone (including yourself) who would be excellent addition to our Advisory or Editorial Board, tell us (dib@karger.com). If you have a suggestion for an important topic or author, let us know. If you think we should use the journal to house data, catalog digital biomarkers, follow clinical trials using them, track regulatory approvals of digital biomarkers, cover a conference, interview leaders in the field, contact us and, even better, help lead that effort. We welcome new ideas and will support the ones consistent with our mission.

The launching of *Digital Biomarkers* is the culmination of contributions from many including our outstanding Advisory Board of luminaries in the field who have provided guidance on the structure and priorities of the journal, foster the development of relationships within the community, and suggested our distinguished Editorial Board members. The Editorial Board serves as the resource for intellectual content for the journal and community,

will provide critical, constructive, and thoughtful peer review, and suggest topics for investigation. We are also in the process of establishing a close partnership with 2 large member societies that will embed us from the start in this new community. We are also very thankful to Karger – Medical and Scientific Publishers, a family-owned and -operated publisher of scientific and medical journals for more than 125 years, for initiating this effort and providing an outstanding production team for this effort and are especially thankful to Laurenz Baltzer at Karger who interviewed many key individuals from all mentioned disciplines and across industries all over the world over the past year to make this journal a reality.

The potential of digital biomarkers is great. We hope that *Digital Biomarkers* will help us all realize that potential. Together we are embarking on a new journey. We will make mistakes (and not be afraid to do so) along the way, and we will learn from them. Notwithstanding these failures and our shortcomings, we hope to make *Digital Biomarkers* a valuable resource for all of you and importantly, a catalyst for improving the health of all.

Conflict of Interest Statement

E. Ray Dorsey is a consultant to MC10, a wearable device company.

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