



**Cover image:** Pictured is a visualization of scientific research and innovation collaboration networks in and around Atlanta, circa 2008–2010. Articles in the Sackler Colloquium on Creativity and Collaboration: Revisiting Cybernetic Serendipity examine how connections between creative disciplines, such as art and design, and scientific disciplines can catalyze innovation and discovery and how emerging technologies may facilitate such collaborations. See the Introduction to the Sackler Colloquium by Ben Shneiderman on pages 1837–1843. Image courtesy of C. Scott Dempwolf (University of Maryland, College Park, MD), and was produced using NodeXL, an easy-to-use Excel-based tool for network analysis and visualization (<https://www.smfoundation.org/nodexl/>).

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*Sara Diamond*
- 1857 **Data visualization literacy: Definitions, conceptual frameworks, exercises, and assessments**  
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- 1870 **Scaling up analogical innovation with crowds and AI**  
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- 1878 **Enabling creative collaboration for all levels of learning**  
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- 1886 **Interaction design of community-driven environmental projects (CDEPs): A case study from the Anacostia Watershed**  
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- 1894 **Hoping for optimality or designing for inclusion: Persistence, learning, and the social network of citizen science**  
*Julia K. Parrish, Timothy Jones, Hillary K. Burgess, Yurong He, Lucy Fortson, and Darlene Cavalier*
- 1902 **Citizen science frontiers: Efficiency, engagement, and serendipitous discovery with human-machine systems**  
*Laura Trouille, Chris J. Lintott, and Lucy F. Fortson*
- 1910 **Correlation between tools for thinking; arts, crafts, and design avocations; and scientific achievement among STEMM professionals**  
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*Enrico Fonda, Katepalli R. Sreenivasan, and Daniel P. Lathrop*
- 1929 **Spectral dynamics of shift current in ferroelectric semiconductor SbSI**  
*M. Sotome, M. Nakamura, J. Fujioka, M. Ogino, Y. Kaneko, T. Morimoto, Y. Zhang, M. Kawasaki, N. Nagaosa, Y. Tokura, and N. Ogawa*

- 1934 **Accelerating changes in ice mass within Greenland, and the ice sheet's sensitivity to atmospheric forcing**  
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- 1940 **Modulation of tissue growth heterogeneity by responses to mechanical stress**  
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- 1946 **Nonequilibrium correlations in minimal dynamical models of polymer copying**  
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*Laura Trouille, Chris J. Lintott, and Lucy F. Fortson*

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*Tetsuto Miyashita, Michael I. Coates, Robert Farrar, Peter Larson, Phillip L. Manning, Roy A. Wogelius, Nicholas P. Edwards, Jennifer Anné, Uwe Bergmann, A. Richard Palmer, and Philip J. Currie*

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*Youngmoo E. Kim, Brandon G. Morton, Jeff Gregorio, David S. Rosen, Kareem Edouard, and Richard Vallett*
- 1992 **TRPV4-mediated calcium signaling in mesenchymal stem cells regulates aligned collagen matrix formation and vinculin tension**  
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- 1998 **Liquid water is a dynamic polydisperse branched polymer**  
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- 2004 **Higher superconducting transition temperature by breaking the universal pressure relation**  
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- 1910 **Correlation between tools for thinking; arts, crafts, and design avocations; and scientific achievement among STEM professionals**  
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*Jennifer Preece, Daniel Pauw, and Tamara Clegg*
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- 2042 **Soluble matrix protein is a potent modulator of mesenchymal stem cell performance**

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- 1958 **Microbe-focused glycan array screening platform**

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- 2052 **Molecular mechanism for NLRP6 inflammasome assembly and activation**

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- 2058 **Reaction of O<sub>2</sub> with a diiron protein generates a mixed-valent Fe<sup>2+</sup>/Fe<sup>3+</sup> center and peroxide**

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- 2068 **Structure of the heterophilic interaction between the nectin-like 4 and nectin-like 1 molecules**

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- 2086 **Structural basis for substrate binding and specificity of a sodium–alanine symporter AgcS**

*Jinming Ma, Hsiang-Ting Lei, Francis E. Reyes, Silvia Sanchez-Martinez, Maen F. Sarhan, Johan Hattne, and Tamir Gonen*

- 2091 **Thermodynamic phase diagram of amyloid- $\beta$  (16–22) peptide**

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- 2344** **Robust predictions of specialized metabolism genes through machine learning**  
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- 2354** **Phosphoproteomics of *Arabidopsis* Highly ABA-Induced1 identifies AT-Hook-Like10 phosphorylation required for stress growth regulation**  
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- 2364** **Balancing trade-offs between biotic and abiotic stress responses through leaf age-dependent variation in stress hormone cross-talk**

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- 2021** **Influence of young adult cognitive ability and additional education on later-life cognition**  
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- 2386** **Activity-dependent bulk endocytosis proteome reveals a key presynaptic role for the monomeric GTPase Rab11**  
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