

**Ian Brooks**  
(217) 333-6080  
ianb@illinois.edu

## **Education**

University of York, England	B.Sc.	Biophysics	1987
Cornell University	M.S.	Applied and Engineering Physics	1990
Bryn Mawr College	Ph.D.	Biochemistry	1996

## **Professional Experience**

2019 – Present	Director–WHO Collaborating Center for Information Systems for Health
2017 – Present	Director–Center for Health Informatics, University of Illinois
2015 – Present	Affiliate Associate Professor–College of Public Health, University of South Florida
2013 – Present	Research Scientist–School of Information Sciences, University of Illinois
2011 – 2016	Adjunct Professor–College of Nursing, University of Saskatchewan
2005 – 2015	Founding Director, Health Sciences Group–National Center for Supercomputing Applications (NCSA), University of Illinois
2007 – 2010	Co-Director/Associate Director, Biomedical Informatics Core–Center for Clinical and Translational Sciences/University of Illinois at Chicago
2002 – 2005	High Performance Computing Consultant–NCSA
1997 – 2002	Life Sciences and Statistics Technical Lead–Wolfram Research, Inc.
1989 – 1996	Associate Scientist / Scientist, Macromolecular Sciences–SmithKline Beecham

## **Service and Awards**

2019	Ad hoc reviewer: Information Technology for Development
2018	WHO/PAHO Technical Advisory Group Evidence and Intelligence for Action in Health
2018	NIH: Study Section–Health Services and Health Informatics
2017	International WHO/PAHO Consultant–Information Systems for Health
2017	Chair, NIDDK/NIH: Bioinformatics and Diabetes, Obesity and Metabolic Disease T32
2016 – Present	Chair, NIH SBIR: Computational, Modeling, and Biodata Management
2016	NIH Development of Software Tools and Methods for Biomedical Big Data
2016	Mentor–Mandela Washington Fellowship for Young African Leaders
2016 – Present	Ad hoc reviewer: Public Health Reports
2009 – Present	CDC–High Performance Computing External Advisory Committee
2008 – 2015	International Society for Disease Surveillance – Research Committee
2014 – 2015	NIH SBIR Cell, Computational, and Molecular Biology Study Section
2014	NSF Panel–Information and Intelligent Systems Division
2011	NIAID/NIH: Special Emphasis Panel–Tropical Medicine Research
2010	NIAID/NIH: Special Emphasis Panel–Malaria Research
2009	NIH Challenge Grant Reviewer
2009	CII Fellow–Graduate School of Library and Information Science

2008	PTA District 10 Distinguished Service Award (for services to K-8 education)
2002-2005	Member National Computational Science Alliance Education Committee
1991	Macromolecular Sciences Impact Award

## **Publications**

### *Book Chapters*

1. R. J. Novak, P. Burgess, and **I. Brooks**, "Integrated Malaria Management," in *Vector Biology, Ecology and Control*, P. W. Atkinson, Ed. Dordrecht: Springer Netherlands, 2010, pp. 221-258.
2. **I. Brooks** ANOVA in *Mathematica 4.2 Standard Add-ons Guide* Wolfram Research, 2002
3. M. L. Doyle, M. Brigham-Burke, M. N. Blackburn, **I. Brooks**, T. M. Smith, R. Newman, M. Reff, W. F. Stafford III, R. W. Sweet, A. Truneh, P. Hensley, and D. J. O'Shannessy, "Measurement of Protein Interaction Bioenergetics: Application to Structural Variants of anti-sCD4 Antibody," *Methods in Enzymology*, vol. 323, pp. 207-230, 2000.
4. D. J. O'Shannessy, M. Brigham-Burke, K. K. Soneson, P. Hensley, and **I. Brooks**, "Determination of Rate and Equilibrium Binding Constants for Macromolecular Interactions by Surface Plasmon Resonance," *Methods in Enzymology*, vol. 240, pp. 323-349, 1994.
5. **I. Brooks**, R. Wetzel, W. Chan, G. Lee, D. Watts, K. Soneson, and P. Hensley, "Association of REI Immunoglobulin Light Chain VL Domains : The Functional Linearity of Parameters in Equilibrium Analytical Ultracentrifuge Models for Self-associating System," in *Modern Analytical Ultracentrifugation: Acquisition and Interpretation of Data for Biological and Synthetic Polymer Systems (Emerging Biochemical & Biophysical Techniques)* Edited by Todd Schuster and Thomas Laue, Birkhauser Verlag AG, 1994, pp. 15-35.
6. **I. Brooks**, D. G. Watts, K. K. Soneson, and P. Hensley, "Determining Confidence Intervals for Parameters Derived from Analysis of Equilibrium Analytical Ultracentrifugation Data," *Methods in Enzymology*, vol. 240, pp. 459-478, 1994.

### *Journal Articles*

1. Jueng J, Dupis L, Su A, Kunadia A, Dellavalle R, **Brooks I**, Sinha R, Maner B, Siddiqui F, Burton V, Seyffert J, Solomon JA, Using Artificial Intelligence to Understand Patient Perspectives Towards Treatment of Dermatologic Diseases. *Journal of Investigative Dermatology*, Fall 2020. (In press)
2. Q Rao, L Bai, Y Lv, AS Abdullah, **I Brooks**, Y Xie, Y Zhao, and X Hou. Goal-Framing and Temporal-Framing: Effects on the Acceptance of Childhood Simple Obesity Prevention Messages among Preschool Children's Caregivers in China. *International journal of environmental research and public health* 2020 17 (3), 770
3. B. Urso, K. M. Updyke, R. Domozych, J. A. Solomon, **I. Brooks**, V. Burton, and R.P. Dellavalle. Acne Treatment: Analysis of Acne-Related Social Media Posts and the Impact on Patient Care, *Cutis*, 102 2018, 41–43
4. M. D'Agostino, N. Samuel, M.J. Sarol, G. de Cosio, M. Marti, T. Luo, **I. Brooks**, M. Espinal. Open Data and Public Health. *Pan American Journal of Public Health*. 2018;41:e134. doi: doi.org/10.26633/RPSP.2018.66
5. M. D'Agostino, F. Mejía, **I. Brooks**, M. Marti, D. Novillo-Ortiz, G. de Cosio. Fear on the networks: analyzing the 2014 Ebola outbreak. *Pan American Journal of Public Health*. 2017;41:e134. doi: 10.26633/RPSP.2017.134

6. K.M. Updyke, B. Urso, H. Ali, **I. Brooks**, V. Burton, R.P. Dellavalle, J.A. Solomon. Following Autoimmune Diseases Through Patient Interactive Diaries: Continuous Quality Improvement. *Practical Dermatology* 2017; 14 (12) 48-54.
7. W. Chen; F. Sun; A. Ornob; H. Yu; R. Brisbin; A. Ganguli; V. Vemuri; P. Strzebonski; G. Cui; K Allen; S. Desai; D.M. Nash; D. Hirschberg; **I. Brooks**; R. Bashir; and B.T. Cunningham. Mobile platform for multiplexed detection and differentiation of disease-specific nucleic acid sequences, using microfluidic loop-mediated isothermal amplification and smartphone detection. *Analytical chemistry* 89 (21), 11219-11226 2017 doi: 10.1021/acs.analchem.7b02478
8. J. A. Solomon; B. Ramshaw; S. Lewis; M. Stines; R. Domozych; A. Iarrobino; C. Caldwell; S. A. Bég; **I. Brooks** "Complex Adaptive Systems Approach to Continuous Quality Improvement Assessments Applied to Dermatology Part II- Applied to Systemic Lupus Erythematosus" *Practical Dermatology* 12(10) pp 39-48 Oct. 2015
9. F. Liao, BY Liao, IM Rice, J. Elliott, **I. Brooks**, and YK Jan. "Using local scale exponent to characterize heart rate variability in response to postural changes in people with spinal cord injury." *Frontiers in Physiology*, vol 6, pp 142-149 2015
10. S. Belknap, H. Moore, S. Lanzotti, P. Yarnold, M. Getz, D. Deitrick, A. Peterson, J. Akeson, T. Maurer, R. Soltysik, G. Storm, and **I. Brooks**, "Application of Software Design Principles and Debugging Methods to an Analgesia Prescription Reduces Risk of Severe Injury from Medical Use of Opioids," *Clinical Pharmacology & Therapeutics*, vol. 84, pp. 385-392, Mar. 2008.
11. L. Valenta, **I. Brooks**, R. A. Laureto, and A. Ramaprasad, "Breaking the Silo. Using Informatics to Support Clinical and Translational Science," *Journal of Healthcare Information Management: JHIM*, vol. 21, no. 4, pp. 15-17, 2007.
12. W. Chan, L. R. Helms, **I. Brooks**, G. Lee, S. Ngola, D. McNulty, B. Maleeff, P. Hensley, and R. Wetzel, "Mutational Effects on Inclusion Body Formation in the Periplasmic Expression of the Immunoglobulin VL Domain REI," *Folding & Design*, vol. 1, no. 2, pp. 77-89, 1996.
13. S. D. Burrows, S. G. Franklin, M. R. Brigham-Burke, **I. Brooks**, D. E. McNulty, J. A. Feild, K. R. Anumula, and D. J. O'Shannessy, "Biological and Biophysical Characterization of Recombinant Soluble Human E-selectin Purified at Large Scale by Reversed-phase High-performance Liquid Chromatography," *Journal of Chromatography. B, Biomedical Applications*, vol. 668, no. 2, pp. 219-231, June 1995.
14. Johanson, E. Appelbaum, M. Doyle, P. Hensley, B. Zhao, S. S. Abdel-Meguid, P. Young, R. Cook, S. Carr, R. Matico, D. Cusimano, E. Dul, M. Angelichio, **I. Brooks**, E. Winborne, P. McDonnell, T. Morton, D. Bennett, T. Sokoloski, D. McNulty, et al., "Binding Interactions of Human Interleukin 5 with Its Receptor  $\alpha$  Subunit," *Journal of Biological Chemistry*, vol. 270, no. 16, pp. 9459 -9471, Apr. 1995.
15. P. Digard, K. P. Williams, P. Hensley, **I. Brooks**, C. E. Dahl, and D. M. Coen, "Specific Inhibition of Herpes Simplex Virus DNA Polymerase by Helical Peptides Corresponding to the Subunit Interface," *Proceedings of the National Academy of Sciences of the United States of America*, vol. 92, no. 5, pp. 1456-1460, Feb. 1995.
16. S. D. Burrows, M. L. Doyle, K. P. Murphy, S. G. Franklin, J. R. White, **I. Brooks**, D. E. McNulty, M. O. Scott, J. R. Knutson, and D. Porter, "Determination of the Monomer-dimer Equilibrium of Interleukin-8 Reveals It Is a Monomer at Physiological Concentrations," *Biochemistry*, vol. 33, no. 43, pp. 12741-12745, Nov. 1994.
17. P. Hensley, P. J. McDevitt, **I. Brooks**, J. J. Trill, J. A. Feild, D. E. McNulty, J. R. Connor, D. E. Griswold, N. V. Kumar, and K. D. Kopple, "The Soluble Form of E-selectin Is an Asymmetric Monomer. Expression, Purification, and Characterization of the Recombinant Protein," *The Journal of Biological Chemistry*, vol. 269, no. 39, pp. 23949-23958, Sep. 1994.
18. D. J. O'Shannessy, M. Brigham-Burke, K. K. Soneson, P. Hensley, and **I. Brooks**, "Determination of Rate and Equilibrium Binding Constants for Macromolecular Interactions Using Surface Plasmon

Resonance: Use of Nonlinear Least Squares Analysis Methods," *Analytical Biochemistry*, vol. 212, no. 2, pp. 457-468, Aug. 1993.

19. **I. Brooks**, K. K. Sonesson, and P. Hensley, "Development and Use of a Mac-based Data-analysis Package for Equilibrium Sedimentation Data from the Analytical Ultracentrifuge," *Biophysical Journal*, vol. 64, no. 2, p. A244, 1993.
20. S. K. Grant, I. C. Deckman, J. S. Culp, M. D. Minnich, **I. Brooks**, P. Hensley, C. Debouck, and T. D. Meek, "Use of Protein Unfolding Studies to Determine the Conformational and Dimeric Stabilities of HIV-1 and SIV Proteases," *Biochemistry*, vol. 31, no. 39, pp. 9491-9501, Oct. 1992.
21. **I. Brooks** and K. Moffat, "Laue Diffraction from Protein Crystals Using a Sealed-tube X-ray Source," *Journal of Applied Crystallography*, vol. 24, pp. 146-148, Apr. 1991.

### Conference Proceedings

1. Su A, Dupis L, Jueng J, Kunadia A, **Brooks I**, Sinha R, Siddiqui F, Harding TP, Burton V, Dellavalle R, Seyffort J, Solomon JA. Use of Artificial Intelligence for Analyzing Emotion vs Patient Global Impression of Change of Melanoma Treatments. American Society of Clinical Oncology Scientific Program Publication, Washington, DC, May, 2020.
2. F. Sun; W. Chen; H. Yu; A. Ornob; R. Brisbin; A. Ganguli; V. Vemuri; P. Strzebonski; G. Cui; K Allen; S. Desai; W. Lin; D. Nash; D. Hirschberg; **I. Brooks**; R. Bashir; and B.T. Cunningham. Multiplexed Detection of Infectious Diseases with Microfluidic Loop-Mediated Isothermal Amplification and a Smartphone. IEEE-NIH 2017 Special Topics Conference on Healthcare Innovations and Point-of-Care Technologies.
3. F. Liao, **I. Brooks**, CW Hsieh, IM Rice, MM Jankowska, and YK Jan. "Assessing complexity of heart rate variability in people with spinal cord injury using local scale exponents." Proceeding of IEEE International Conference on Engineering in Medicine and Biology Society, 2014, pp 6381-6384. (PMID: 25571456)
4. P. L. Petrucka, S. Bassendowski, H. Roberts, **I. Brooks**, and G. Daniel, "From Improbable to Inevitable: Dispelling the Myths of mHealth," in *Proceedings of the 2nd International conference on M4D Mobile Communication Technology for Development M4D 2010*, Kampala, Uganda, 2010, pp. 319-323.
5. W. Edwards, A. Vaid, and **I. Brooks**, "INDICATOR: An Open-source Cyberenvironment for Biosurveillance," in *Defining Crisis Management 3.0*, Seattle, WA, 2010.
6. Ramaprasad, A. L. Valenta, and **I. Brooks**, "Clinical and Translational Science Informatics: Translating Information to Transform Health Care," in *Proceedings of HEALTHINF 2009 - Second International Conference on Health Informatics*, L. Azevedo & A. R. Londral, eds., Porto, Portugal, 2009, pp. 135-141.
7. Ramaprasad, A. L. Valenta, and **I. Brooks**, "Clinical and Translational Science Informatics Infrastructure: A Framework and Case Study," in *Proceedings of HEALTHINF – First International Conference on Health*, Madeira, Portugal, 2008, pp. 213-218.
8. Ramaprasad, A. L. Valenta, and **I. Brooks**, "Biomedical Informatics Infrastructure," in *Proceedings of the International Symposium on Information Systems*, Hyderabad, India, 2007.
9. **I. Brooks** and W. Edwards, "INDICATOR: A Comprehensive Cyberenvironment for Infectious Disease Surveillance, Modeling, and Response," in *Kuhn, Klaus A (Editor); Warren, James R (Editor); Leong, Tze-Yun (Editor). Medinfo 2007: Proceedings of the 12th World Congress on Health (Medical Informatics; Building Sustainable Health Systems.*, Brisbane, Australia, 2007, pp. 2454-2458.

### Technical Papers

1. WHO/PAHO COVID-19 Factsheet: COVID-19 and the role of information systems and technologies at the first level of care. 2020

2. WHO/PAHO COVID-19 Factsheet: COVID-19 and the importance of strengthening Information Systems. 2020
3. WHO/PAHO COVID-19 Factsheet: Understanding the Infodemic and Misinformation in the fight against COVID-19. 2020
4. WHO/PAHO COVID-19 Factsheet: Information technologies: the main means of social interaction during the pandemic. 2020
5. WHO/PAHO COVID-19 Factsheet: Why Data Disaggregation is key during a pandemic 2020
6. WHO/PAHO COVID-19 Factsheet: Why are Electronic Health Records (EHRs) key during a pandemic? 2020
7. WHO/PAHO COVID-19 Factsheet: Teleconsultations during a pandemic. 2020
8. WHO/PAHO Information Systems for Health Knowledge Capsule: Predictive Analytics. 2019
9. Plan of Action for Strengthening Information Systems for Health 2019-2023
10. Strategy and Plan of Action on eHealth: Final Report 2018
11. WHO/PAHO Information Systems for Health Maturity Model. 2018

#### *Invited Presentations and Editorials*

1. I Brooks, M. D'Agostino, S. Saiso. Analysis of Social Media Data about COVID-19 in the Americas. WHO Global Consultancy on the COVID-19 Pandemic. Virtual, Apr 2020.
2. Building Information Systems to Detect Disease Outbreaks and Support Public Health, Clemson University, Clemson, SC, Mar 2020
3. The Potential of Unstructured and Big Data for Public Health, International Telecommunications Union Kaleidoscope, Atlanta, GA, Dec 2019
4. "State of the Art in Information and Communication Technologies for Health Data and Information Management" *Celebrating 25 Years of the Core Health Indicators @ 57th Session of the Pan-American Health Organization (PAHO) Directing Council*, Washington D.C. Sep 2019
5. "Ian Brooks" *Campus Insights*, Urbana, IL Sep. 2014
6. "Health Informatics in Africa" *Inspire in Africa*, Urbana, IL, Sep. 2014
7. "Improving the Practice of Public Health with Advanced Computing" *Pan American Health Organization*, Washington D.C., Jul. 2014
8. "One Health Monitoring with INDICATOR" *Brown Dog Workshop*, Urbana, IL, Jul. 2014
9. "INDICATOR: One Health Monitoring" *Carle One Health Symposium*, Urbana, IL, Feb. 2014
10. "INDICATOR: Integrating Common Data Sources for Community Health Monitoring" *Share the Vision 2013*, Champaign, IL, Oct. 2013
11. "Insect Bytes: Using Computers to Support Vector Control" *Sixth International Society for Vector Ecology Congress*, La Quinta, CA, Sep. 2013
12. "INDICATOR: From Disease Surveillance to One Health Monitoring" *One Health Summit*, Champaign, IL, Aug. 2013
13. "Ripples in the Blue Waters: Harnessing Supercomputers for Public Health" Guest Editorial, Pan-American Health Organization eHealth Newsletter. vol 2, no 7 pp 1, Jul 2013
14. "An Overview of the US National Center for Supercomputing Applications" *BIREME*, São Paulo, Brazil, Jun. 2013.
15. "Mosquito Bytes and Flu Bugs: Supercomputers for Health" Bioinformatics Seminar, *Centers for Disease Control and Prevention*, Atlanta GA, Apr 2013

16. "Experiences with INDICATOR: A Platform for Multi-source Monitoring, Modeling, and Responding to Changes in the Health of a Community" *CODATA 12*, Taipei, Taiwan, Oct. 2012.
17. "Using Computers to Help Control Vector Borne Diseases" *Lincoln Park Zoo*, Chicago, Oct. 2011.
18. "A Cyberenvironment for Endemic Disease Control" *American Medical Informatics Association*, Washington D.C., Oct. 2011.
19. "Combined Human and Animal Disease Surveillance" *Tools for Integrated One Health Surveillance*, Urbana, IL, Aug. 2011.
20. "Using Information to Help Control Endemic Disease" *Public Health Summit*, Champaign, IL, Jul. 2011.
21. "Biomedical and Health Informatics at the U.S. National Center for Supercomputing Applications" *Shanghai Institute of Biological Sciences*, Shanghai, China, Jun. 2011.
22. "Advanced Information Systems: Bringing Multi-disciplinary Science into Focus" *International Development Research Center*, Ottawa, Canada, Sep. 2010.
23. "INDICATOR: An Advanced Information System for Infectious Disease Surveillance, Modeling, and Response." *IPHA Illinois Public Health Emergency Preparedness Summit: From Preparedness to Recovery: Collaborating for Resiliency*, Oak Brook, IL, Jun. 2010.
24. "Advanced Information Systems in Public Health" *China CDC*, Beijing, China, Oct. 2010.
25. "Computing, Data, and Advanced Information Systems for Healthcare" *ENACQKT: Enhancing Nurses Access for Care Quality and Knowledge through Technology*, St. Lucia, Apr. 2010.
26. "INDICATOR update" *93rd Annual Fall Conference for Veterinarians*, Champaign, Sep. 2012.
27. "An Advanced Information System for Disease Management" *TEPHINET 5 Workshop on Epidemiological Modeling*, San José, Costa Rica, Nov. 2009.
28. "Cyberenvironments" *Veterans Administration Information Resource Center*, Chicago, IL, Oct. 2009.
29. "INDICATOR: An Advanced Information System for Infectious Disease Surveillance, Modeling, and Response" *Second Annual Champaign County Preparedness Summit*, Champaign, IL, Sep. 2009.
30. "An Advanced Information System for Disease Management." *Centre for Infectious Disease Research in Zambia*, Lusaka, Zambia, Aug. 2009.
31. "Computing, Data, and Advanced Information Systems for Biomedical Sciences" *Communicable Diseases in Latin America and the Caribbean (CD LAC) Workshop II*, Lima, Peru, Aug. 2009.
32. "Computing, Data, and Advanced Information Systems for the 21st Century" *Costa Rica Social Security Administration*, San José, Costa Rica, Aug. 2009.
33. W. Edwards and **I. Brooks**, "Cyberinfrastructure R&D for Infectious Disease Research at NCSA" *IDRiC*, Daejeon, South Korea, Mar. 2009.
34. "A Cyberenvironment for Endemic Disease Informatics" *American Society for Tropical Medicine and Hygiene*, New Orleans, LA, Dec. 2008.
35. "Endemic Disease Control" *ARCTA 2008*, Petropolis, Brazil, Aug. 2008.
36. "Scientific Collaboratories" *US-China Workshop on Tobacco Control*, Beijing, China, Mar. 2008.
37. "Medical and Petascale Computing at NCSA" *iBio*, Urbana, IL, Nov. 2007.
38. "A Package for Experimental Data Analysis with Mathematica" *Joint Statistics Meeting*, Indianapolis, IN, Aug. 2000.
39. "Mathematica in the Life Sciences" *World Congress on Medical Physics and Biomedical Engineering*, Chicago, IL, Aug. 2000.

40. "A Mac-based Data Analysis Package for Sedimentation Equilibrium Data" *Beckman Instruments*, Palo Alto, CA, Feb. 1991.

### Peer Reviewed Abstracts

1. Dupis L, Jueng J, Su A, Kunadia A, Siddiqui F, Harding TP, **Brooks, I**, Solomon JA, Burton V, Dellavalle, R, Seyffert J. Comparing Patient Perspectives of Melanoma to Non-Oncologic Dermatological Disease (Non- Oncologic) via Social Media Data Mining. Poster presentation, The Autoimmunity Conference, Athens, Greece, 2020. (In press)
2. Kanadia A, **Brooks I**, Solomon JA, Burton V, Dellavalle R, Seyffert J, Harding TP. Combining Social Media Mining and Patient Interactive Diaries for Population-Based Care. E-Poster Exhibit, American Academy of Dermatology Virtual Meeting Experience event, Denver, CO, 2020. (In press)
3. Kanadia A, **Brooks I**, Solomon JA, Burton V, Dellavalle R, Seyffert J, Harding TP. Utilization of Patient Interactive Diaries to Establish a Database of Patient Reported Outcomes Generating a Cycle of Continuous Quality Improvement. E-Poster Exhibit, American Academy of Dermatology Virtual Meeting Experience event, Denver, CO, 2020. (In press)
4. Dupuis L, Su A, Jueng J, Kunadia A, Dellavalle R, **Brooks I**, Sinha R, Capturing Patient Perspectives: Natural Language Processing of Social Media to Evaluate Patient Global Impression of Change in Dermatological Treatments. Poster presentation, Cochrane Skin Conference, Denver, CO, 2020.
5. K.M. Updyke, F. Siddiqui, B. Urso, R. Domozych, **I. Brooks**, J. Solomon. Social media "listening" used to compare patient views on Enbrel to other treatments for psoriasis: *J Am Acad Dermatol* 2017, 76 (6) AB239
6. K.M. Updyke, B. Urso, J. Nergard, R. Domozych, **I. Brooks**, and J.A.Solomon. Utilization of a new IT platform promoted globally through social media to apply continuous quality assessments to deliver patient-centered care in those with autoimmune diseases. *J Am Acad Dermatol.* 2017
7. B. Urso; K. Updyke; R. Domozych; J. A. Solomon; **I. Brooks**; V. Burton and R. Dellavalle. Acne treatment utilization among patients on social media platforms. *Journal of Investigative Dermatology* vol 137, no 5 p S66 2017 <doi:10.1016/j.jid.2017.02.404>
8. K. Updyke, B. Urso, J. Solomon, **I. Brooks**, V. Burton, and R.P. Dellavalle. Identifying the most influential social media networks utilized by different populations of patients with autoimmune diseases. *Journal of Investigative Dermatology* vol 137, no 5 p S17 2017 <doi:10.1016/j.jid.2017.02.090>
9. K. Updyke, B. Urso, J. Solomon, **I. Brooks**, V. Burton, and R.P. Dellavalle. An overview of social media posts related to psoriasis patients' perspectives towards Humira. *Journal of Investigative Dermatology* vol 137, no 5 p S17 2017 <doi:10.1016/j.jid.2017.02.089>
10. B. Holliday and **I. Brooks** "An Exploration of Mass-gathering Events and Alcohol Related Incidents 2011-2014" *Online Journal of Public Health Informatics* vol. 8, no. 1 <doi:10.5210/ojphi.v8i1.6536>
11. C. Komisarz and **I. Brooks** "An Exploration of the H1N1 Outbreak in Champaign and Urbana Elementary Schools" *Online Journal of Public Health Informatics*, vol. 7, no. 1 2015 <doi:10.5210/ojphi.v7i1.580>
12. **I. Brooks**, B. A'cs, and M. Felarca, "Refactoring INDICATOR into an Advanced Information System for One Health Monitoring" *Online Journal of Public Health Informatics*, vol. 5, no. 1 2013 <doi:10.5210/ojphi.v5i1.4434>
13. **I. Brooks**, A. Vaid, and W. Edwards, "Analysis of 5 Years of Multistream Surveillance and Weather Data in Champaign County" *Emerging Health Threats Journal*, 4 Dec. 2011 <doi:10.3402/ehjt.v4i0.11196>
14. A. Wadsworth, W. Edwards, A. Vaid, and **I. Brooks**, "User Interface Design for a Biosurveillance System" *Emerging Health Threats Journal*, 4 Dec. 2011 <doi:10.3402/ehjt.v4i0.11140>.

15. W. Edwards, A. Vaid, and **I. Brooks**, "Applying Classification and Anomaly Detection Techniques to Real-world Data" *Emerging Health Threats Journal*, vol. 4, pp. 77-78, 2011.

#### Other Presentations

1. C. Komisarz and **I. Brooks** "An Exploration of the H1N1 Outbreak in Champaign-Urbana Elementary Schools during the 2009-2010 Influenza Season" *Public Engagement Symposium*, Champaign, IL Mar. 2014
2. **I. Brooks**, W. Edwards, S. Rao, M. Vaughan, B. A'cs, and M. Felarca, "INDICATOR: One Health surveillance using primary and secondary data" *IMED*, Vienna, Austria, Feb. 2013
3. **I. Brooks**, "INDICATOR: An Advanced Information System for Infectious Disease Surveillance, Modeling, and Response" *CDC Delivery of Essential Healthcare Services*, Atlanta, GA, Mar. 2010.
4. **I. Brooks**, "Hemispheric Health and Biosciences" *ARTCA: Advanced Research and Technology Collaboratory for the Americas*, Washington D.C., Mar. 2010.
5. **I. Brooks**, A. Vaid, and W. Edwards, "INDICATOR: A Cyberenvironment for Biosurveillance" *Syndromic '09*, Miami, FL, Dec. 2009.
6. **I. Brooks** and A. Ramaprasad, "Ontology of a Cyberenvironment for Malaria Surveillance" *Syndromic '08*, Raleigh, NC, Dec. 2008.
7. **I. Brooks** and W. Edwards, "INDICATOR: A Cyberenvironment for Biosurveillance, Modeling, and Response" *Syndromic '08*, Raleigh, NC, Dec. 2008.
8. **I. Brooks**, "The Health Sciences at NCSA" *Supercomputing'08 Workshop: Supercomputing, Multicore Architectures, and Biomedical Informatics*, Austin, TX, Nov. 2008.
9. **I. Brooks**, "Malaria Map" *Centers for Disease Control and Prevention*, Atlanta, GA, Jun. 2008.
10. S. White, N. Armstrong, **I. Brooks**, H. Li, A. Shillingford, and J. Zarutskie, "The Binding of Yeast Ribosomal Protein L32 to the L32 RNA Transcript: The Importance of a G:U Pair and Protein Stabilization on RNA Binding" *RNA Society*, Madison, WI, 1996.
11. **I. Brooks**, K. Soneson, and P. Hensley, "Development and Use of a Mac-based Data Analysis Package for Equilibrium Sedimentation Data from the Analytical Ultracentrifuge" *Scientific and Engineering Applications of the Macintosh*, Boston, MA, 1993.
12. P. Hensley, P. McDevitt, **I. Brooks**, J. Trill, J. Feild, V. Kumar, K. Kopple, B. Dalton, and K. Johanson, "Purification and Characterization of a Soluble, CHO-expressed, Form of E-Selectin" *37th Annual Meeting of the Biophysical Society*, Washington D.C., 1993.
13. **I. Brooks**, K. Soneson, and P. Hensley, "Acquisition and Numerical Analysis of Analytical Ultracentrifuge Data Using a MAC Ilfx-based System" *37th Annual Meeting of the Biophysical Society*, Washington D.C., 1993.
14. S. Rose, **I. Brooks**, M. Minnich, C. Debouck, and P. Hensley, "Analysis of the Self-association of HIV-1 P24 Gag Capsid Protein by Analytical Ultracentrifugation" *Fifth Symposium of the Protein Society*, Baltimore, MD, 1991.
15. S. Grant, I. Deckman, **I. Brooks**, B. Metcalf, T. Meek, C. Debouck, and P. Hensley, "Conformational Stability and Subunit Interactions of Recombinant HIV Type-1 and Simian Immunodeficiency Virus Proteases" *Fifth Symposium of the Protein Society*, Baltimore, MD, 1991.
16. **I. Brooks**, R. Sweet, J. Culp, B. Hellmig, T. Porter, and P. Hensley, "Solution Structure and Interactions of Soluble CD4, and V1V2 Subdomains of CD4 and HIV Gp120" *The fourth meeting of groups studying the structure of AIDS-related systems and their application to targeted drug design*, Bethesda, MD: NIH, 1990.
17. D. Bilderback, B. Blank, **I. Brooks**, Y. Chen, S. Choe, A. LeGrand, K. Moffat, W. Schildkamp, M. Szebenyi, B. Smith Temple, T.-Y. Teng, and S. Wischusen, "100 PS X-Ray Diffraction Patterns from

Single Crystals Using the CHESS/Argonne Undulator” *Second Annual CHESS Users Group Meeting*, Ithaca, NY, 1988.

### **Production Software**

1. CDC Malaria Map. NCSA 2009-2014.
2. INDICATOR: A cyberinfrastructure for infectious disease surveillance, modeling, and response. NCSA 2008.
3. ANOVA. Wolfram Research 2002.

### **Selected Courses/Workshops Organized and Taught**

1. LIS 590 PD Practical Health Data Analysis Spring 2019, 2020
2. LIS 490/590 GH Global Health Informatics Spring 2016, 2017, 2018
3. Transition Workshop from the SGI Origin 2000 to the IBM p690, June & September 2003.
4. Introduction to MPI: Section of Linux Cluster Institute Workshop, March 2003.
5. Introduction to High Performance Computing, October 2002.  
(NCSA courses are taught to both a local audience and a worldwide audience over the Access Grid.)
6. Wrote *Parallel Computing Explained* online course: <http://www.citutor.org/bounce.php?course=45>
7. Co-authored and managed multi-university development of *Parallel Numerical Libraries* online course: <http://www.citutor.org/bounce.php?course=27>
8. Co-authored *Debugging Serial and Parallel Codes*: <http://www.citutor.org/bounce.php?course=23>

### **Grants Received**

#### Extension of INDICATOR for Opioid Surveillance

Funding Agency: Champaign-Urbana Public Health District  
Principal Investigator: Ian Brooks  
Period: Feb 2020 – Jun 2020

#### Smartphone-linked system for diagnosis and epidemiological reporting of pathogens at the point of care

Funding Agency: NIH  
Principal Investigator: Brian Cunningham (Role: Co-I)  
Period: Oct 2019 – Sep 2024

#### Developing Tools for Implementation of Illinois Project for Local Assessment of Needs (IPLAN) for Local Health Departments

Funding Agency: Illinois Department of Public Health  
Principal Investigator: Ian Brooks  
Period: Sep 2017 – Jun 2019

#### Improving Patient Outcomes by Listening to their Social Media Communications

Funding Agency: Homecare Education And Resource Team Support  
Principal Investigator: Ian Brooks  
Period: Jul 2017 – Jul 2018

#### Integrated Malaria Vector Management for Haiti, Zambia, and Cambodia (Planning Grant)

Funding Agency: Bill and Melinda Gates Foundation  
Principal Investigator: Bob Novak (Role: Co-PI)  
Period: Jul 2015 – Dec 2016

Pathtracker: A smartphone-based system for mobile infectious disease detection and epidemiology

Funding Agency: National Science Foundation  
Principal Investigator: Brian Cunningham (Role: Co-PI)  
Period: Sep 2015 – Aug 2018

Development of an Individualized Longitudinal Survey System to adapt Complex Adaptive Systems Methodology Applied to Continuous Quality Improvement Assessments to Identify Subpopulations of Patients whose Lifestyle, Diet, Environment Similarly Affect Disease Outcome States.

Funding Agency: Basal Cell Carcinoma Nevus Syndrome Life Support Network  
Principal Investigator: Ian Brooks  
Period: Apr 2015 – Sep 2015

Health Sciences Advanced Computing Capacity Building in Africa

Funding Agency: US Dept. of Education  
Principal Investigator: Jeffrey Friedman (Role: sub-award)  
Period: Aug 2015 – Aug 2017

Automated Identification and Presentation of Key Community Health Indicators – Pilot Project

Funding Agency: Illinois Department of Public Health  
Principal Investigator: Ian Brooks  
Period: Apr 2015 – Sep 2015

Global Health Technology Design Course

Funding Agency: US Dept. of Education CAS & CGS  
Principal Investigator: Merle Bowen & Jeffrey Friedman (Role: sub-award)  
Period: Aug 2014 – Aug 2015

Use of INDICATOR data to improve business practices of Carle Foundation.

Funding Agency: HITC Fellowship  
Principal Investigator: Ian Brooks  
Period: May 2014 – May 2015

Continued Development of INDICATOR for Disease Surveillance

Funding Agency: Carle Foundation/CDC  
Principal Investigator: Ian Brooks  
Period: March 2014 – June 2014

Malaria Map Hosting

Funding Agency: CDC  
Principal Investigator: Ian Brooks  
Period: February 2013 – January 2018

Continued Development of INDICATOR for Disease Surveillance

Funding Agency: Carle Foundation/CDC  
Principal Investigator: Ian Brooks  
Period: January 2013 – June 2013

Center for One Health Illinois

Funding Agency: USDA  
Principal Investigator: Herb Whitely (Role: sub-award)  
Period: August 2012 – August 2013

Continued Development of INDICATOR for Disease Surveillance

Funding Agency: Carle Foundation/CDC  
Principal Investigator: Ian Brooks  
Period: January 2012 – June 2012

Continued Expansion of INDICATOR to East Central Illinois Healthcare Providers

Funding Agency: Carle Foundation/CDC  
Principal Investigator: Ian Brooks  
Period: March 2011 – July 2011

Center for One Health Illinois  
Funding Agency: USDA  
Principal Investigator: Herb Whitely (Role: sub-award)  
Period: August 2010 – August 2011

Expansion of INDICATOR to East Central Illinois Healthcare Providers  
Funding Agency: Carle Foundation/CDC  
Principal Investigator: Ian Brooks  
Period: June 2010 – June 2011

VIReC Web Site Evaluation  
Funding Agency: Veteran's Administration  
Principal Investigator: Ian Brooks  
Period: September 2009 – December 2009

Culture-Sensitive Interface Design for an Endemic Disease Information System  
Funding Agency: CII Fellowship  
Principal Investigator: Ian Brooks  
Period: July 2009 – July 2010

Revision of the Malaria Map  
Funding Agency: CDC  
Principal Investigator: Ian Brooks  
Period: May 2009 – September 2009

Collaborative Planning for Delivery of Essential Healthcare in Champaign County  
Funding Agency: CUPHD/CDC  
Principal Investigator: Ian Brooks  
Period: January 2009 – December 2009

UIC Center for Clinical and Translational Science  
Funding Agency: NIH  
Principal Investigator: Ted Mazzone (Role: sub-award)  
Period: March 2008 – March 2011

Malaria Risk Map  
Funding Agency: CDC  
Principal Investigator: Ian Brooks  
Period: September 2007 – February 2008

Carle Infectious Disease Surveillance System Evaluation  
Funding Agency: Carle Foundation  
Principal Investigator: Ian Brooks  
Period: January 2007 – December 2007

## **Student Supervision**

### *Ph.D. Students*

Karen Allen, Informatics, UIUC  
Thierry Guigma, MD, MPH, UIUC

### *Ph.D. Committee*

Weili Chen, Ph.D., Electrical and Computer Engineering, Ph.D. UIUC 2017

Shauna Davies, University of Saskatchewan, Ph.D. 2016 *“Online Social Support in the Saskatchewan Heart Failure Network: An Interpretive Description Approach”*  
Smit Desai, Library and Information Science, UIUC  
Henry Gabb III, Ph.D., Library and Information Science, UIUC, PhD 2019  
Ariel La Paz Lillo, Ph.D. UIC 2009 *“Designing Biomedical Informatics Infrastructure for Clinical and Translational Science”*  
Mikko Tuomela, Informatics, UIUC

### *Master of Public Health Capstone Supervisor*

Caroline Cua, DVM  
Christopher Komisarz, MPH 2013  
Shashank Saxema, MPH 2015

### *Graduate Research Assistants*

Akshay Bafna, MS Information Management 2020  
Bhopesh Bassi, MS Information Management 2017  
Devanshi Bhatt, MS Information Management 2020  
Ushma Bhatt, MS Information Management 2020  
Catherine Coleman, Ph.D. Communications 2009  
Yuan Cheng, MS Information Management 2018  
Smit Desai, MS Information Management 2018  
Ajit Dhobale, MS Information Management 2018  
Anish Gupta, MS Information Management 2020  
Michelle Hinn, Educational Psychology  
Ashwini Joshi, MCS Computer Science 2015  
Sheethal Katta, MA Human Resources/Industrial Relations 2009  
Hemalatha Kamaraj, MBA 2016  
Saumye Kaushik, MS Information Management 2020  
Hoon Kim, MS Computer Science 2009  
Jian Li, MS Statistics 2017  
Shraddha Machchhar, MS Information Management 2018  
Harsh Mangal, MS Information Management 2018  
Deep Modi, MS Information Management 2020  
Marcela Musgrove, Information Science  
Sushmitha Pakanati, Deep Modi, MS Information Management 2020  
Sowmya Podila, MS Technology Management 2016  
Devashish Sahay, MS Information Management 2020  
Shruti Sankolli, MS Information Management 2018  
Robert Sarwark, MS Library and Information Science 2015  
Adarsh Shetty, MS Computer Science 2016  
Pratik Shrivastava, MS Information Management Expected 2018  
Gaurav Sinha, PhD Social Work  
Bharat Thatavarti, MCS Computer Science 2015  
Pallavi Tyagi, MS Information Management 2017  
Rachel Wightman, MS Library and Information Science 2009  
Siti Zhang, MS Information Management 2019

### *Undergraduate Research Assistants*

Ali Alagha, BS Community Health 2017  
Joseph Bajo, BS Statistics 2016  
Maria Bohri, BS Kinesiology and Community Health 2016  
Tirso Gamboa, BFA Graphic Design 2009  
Briana Holliday, BS Kinesiology and Community Health 2015  
Maggie Kent, BS Advertising 2010  
Chen Qian, BS Computer Science 2020

Rachel Rahman, BS Kinesiology and Community Health 2020  
Surabhi Rao, BS Computer Science and Statistics 2014  
Katie Reiter, BA Economics 2016  
Ritika Sinha., BS Computer Science (Expected 2021)  
Piotr Strzebonski, BS Computer Science 2019  
Michal Szymulanski, BS Computer Science 2014  
Rahul Talari, BS Electrical and Computer Engineering 2015  
Matthew Vaughan, General Studies  
Vinay Vemuri, BS Computer Science 2019  
Paul Vijayakumar, BS Computer Science 2016

### *Other Research Assistants*

Zachary Donnini, University High School

### **Other Service**

#### *University of Illinois Faculty Affiliations*

Center for African Studies  
Center for Global Studies  
Center for Health, Aging, and Disability  
Center for Informatics Research in Science and Scholarship  
CyberGIS Center for Advanced Digital and Spatial Studies  
Health Information Technology Center  
Illinois Informatics Institute

#### *Conferences*

Reviewer, Syndromic 2012 - 2016  
Organizer & Convener, HPC Centers for Global Health, Birds of a Feather Session, SC'14 2014  
Organizer & Convener, HPC for Health Session, e14Africa Dar-es-Salaam Tanzania, 2014  
Organizing Committee, International Conference for Smart Health, 2014  
Plenary Chair–Capacity Building, CRICS 9, 2012  
Reviewer, Medical Informatics Europe 2008-2009-2012  
Organizing Committee, Tools for Integrated One Health Surveillance, 2011  
Science Chair, HASTAC 2010  
Reviewer, European Federation for Medical Informatics Special Topics Conference – “Seamless care – safe care. The challenges of interoperability and patient safety in health care.” 2010  
Organizing Committee, Biosecure 2008 & 2009  
Organizing Committee, New and Reemerging Infectious Diseases Conference 2008  
Organizing Committee, Biosurveillance 2007  
Chair Organizing Committee, Infectious Disease Informatics Conference 2007  
Reviewer, 11th World Congress on Internet in Medicine 2006  
Session Chair–Macintosh developer tools, Scientific and Engineering Applications of the Macintosh 1993

#### *Consulting*

Consulting report on the Tennessee Meth Intelligence System for the Illinois Meth Project, Illinois Attorney General's Office  
Data Management Consultant – Communicable Diseases in Latin America and the Caribbean (CD LAC) Workshop, IDRC. Lima, Peru

Established formal partnership between University of Illinois and Dar-es-Salaam Institute of Technology, Tanzania

Establish formal partnership between University of Illinois and Pan American Health Organization