

June 2010

CURRICULUM VITAE

PERSONAL INFORMATION

Name: Rajani S. Sadasivam, PhD
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Institution: University of Massachusetts Medical School (UMMS)
Department: Quantitative Health Sciences
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APPOINTMENTS

Assistant Professor, Quantitative Health Sciences, Division of Health Informatics and Implementation, UMMS, 2009-present.

Assistant Professor, Department of Medicine, Division of Preventive Medicine, School of Medicine, University of Alabama at Birmingham (UAB), 2008-present.

Programmer Analyst II, Division of CME, School of Medicine, UAB, 2004-2008.

Programmer Analyst Intern, Academic Computing, IT Department, UAB, 2002-2004.

Research Assistant, Electrical and Computer Engineering, School of Engineering, UAB 2000-2002.

EDUCATION

PhD in Computer Engineering UAB Dec. 2007

- Dissertation topic – An Architecture Framework for Composite Services with Process-Personalization
- Dissertation advisor – Dr. Murat M. Tanik, Electrical and Computer Engineering, UAB School of Engineering

UAB May 2002

MS in Electrical Engineering

- Thesis topic – Design of a Correlation Center for Digital Services
- Thesis advisor – Dr. Murat M. Tanik, Electrical and Computer Engineering, UAB School of Engineering

BS in Electronics and Communication Engineering Univ. of Madras May 1999

AWARDS/HONORS

- SDPS Journal Committee, Society of Design and Process Science
- Web leadership, Software Engineering Society, 2008
- Next Generation Leadership Council (NGLC), 2008, Society of Design and Process Science
- Inductee, 2007, Golden Key International Honor Society
- Service Honorarium, 2006, Society of Design and Process Science
- Outstanding CME Collaboration, 2006, CME Alliance Award
- Inductee, 2005, Tau Beta Pi Engineering Honor Society
- School of Engineering Nominee, 2005, International Student Academic Excellence Award, UAB
- School of Engineering Nominee, 2004, International Student Academic Excellence Award, UAB
- Outstanding Student Engineer of the Year, 2004, School of Engineering, UAB
- Dean's Award, 2004, School of Engineering, UAB
- Outstanding Student Engineer of the Year, 2004, Electrical and Computer Engineering, UAB
- E-team Consolation Prize, CEO Technology Award, 2002, National Collegiate Inventors and Innovators Alliance (NCIIA)

PROFESSIONAL SOCIETIES

- American Medical Informatics Society, 2009
- Golden Key International Honor Society, 2008
- Tau Beta Pi Engineering Honor Society, 2006
- UAB Center for Outcomes and Effectiveness Research and Education (COERE), 2005
- Alabama Academy of Science, 2004
- Society of Design and Process Science, 2001
- Software Engineering Society, 2001
- Institute of Electrical and Electronics Engineering, 2000

COUNCILS AND COMMITTEES

- Medical Technologies and Emerging Technology, AIG.
- Conference Program Co-Chairman, SDPS-2009 Conference, Nov 2-4, Auburn University, Montgomery.
- Program Committee Member, International Symposium on Computer and Information Sciences, Cypress, Turkey, Sept. 14. 2009
- Invited Member, Integrated Collaboration Object Model for Interoperable Collaboration (ICOM) Standardization Committee, OASIS (Organization for the Advancement of Structured Information Standards).
- Director, DOPM Web Services Team, Division of Preventive Medicine, 2009.
- Graduate Faculty (Ad-hoc member), Electrical and Computer Engineering, UAB, 2008-present.

- Web Committee Lead, Virtual Portal Planning, Software Engineering International Society, 2008-Present.
- Next Generative Leadership Council, Society of Design and Process Science, 2008-Present.
- UAB Ethics Committee, 2006.
- Session Organizer and Chair, Software & Application-I session, International Design and Process Technology conference, San Diego, CA, 2006.
- Online Registration Committee - Developed the online registration and conference system for the International Design and Process Technology conference, San Diego, CA, 2006.
- Co-supporter, Transdisciplinary education workshop, International Design and Process Technology, Antalya, Turkey, 2007.

SCHOLARLY ACTIVITIES

- Reviewer for book chapter – Handbook of Research on Practices and Outcomes in E-Learning: Issues and Trends, 2008.
- PhD technical advisor, Component-Based PhD Research Group, Electrical and Computer Engineering, UAB, 2008.
- Judge of high school student poster competition in the Engineering section, UAB CORD's (Community Outreach Development) Central Alabama Regional Science Fair, 2008.
- Judge of high school student poster competition in the section of the UAB CORD's Central Alabama Regional Science Fair, 2007.
- Co-organizer, UAB Discovery session between Oracle Insight program team and UAB life sciences researchers. The session was used to identify and prioritize integration needs of researchers. The session was part of the composite services integration initiative at UAB, 2006.
- Co-developed funded proposal by the UAB Clinical Nutrition Research – Intelligent Information Integration and Retrieval (I3R) System for Scientific Research and Analysis using SOA, 2006.
- Co-organizer, Microsoft bioinformatics division program manager visit with the UAB life sciences and medical informatics researchers. The session was part of the composite services integration initiative at UAB. UAB was selected based on the proposal sent to Microsoft e-science initiative, 2005.
- Reviewer, Computing Reviews, Association of Computing Machinery (www.reviews.com).
- IEEE SouthEastCon Conference Reviewer - Reviewed four conference papers, IEEE SouthEastCon 2006 conference, Memphis, TN.
- Invited talk, IEEE Computer Society Meeting Alabama Section, Feb. 2005. Topic: Research directions in composite services.
- Vice Chair, IEEE student organization, 2004.
- Co-organizer and host, Open house for the Electrical and Computer Engineering Department, 2004.
- Participant, UAB School of Engineering discussions on diversity issues, 2004.
- Presenter and participant, UAB IT Research Day, 2004.

TRAINING/SEMINARS ATTENDED

- Patient-Centered Computing and eHealth: Transforming Healthcare Quality, Harvard Medical School, Boston, MA, May 1-3, 2009.
- Training, Manuscript Writing Tips Part 1 and 2, UAB, Mar. 2009.
- Training, ACT Center for Tobacco Treatment, Education Brief Treatment of the Tobacco Dependent Individual, Jan. 09, 2009.
- Michigan Tailoring Workshop, Univ. of Michigan, Ann Arbor, Aug 3 – 8, 2008.
- UAB/VA HSR fellows Meeting, The Use of Administrative Databases for Health Services Research, 2008.
- DOM Grand Rounds, What Every Internist Should Know about HIV but was Afraid to Ask, 2008.
- Scientific Writing Seminar Series on Developing Extramural Applications (5 part series), 2008.
- The New Genetics Workshop, sponsored by the CNRC. UAB. Birmingham, AL, 2008.
- Hypertension Genetic Epidemiology (HyperGEN ECHO) meeting, UAB. Birmingham, AL, 2007.
- Programs for Genomic Applications Traveling Tutorials, UAB. Birmingham, AL. 2006.

MAJOR RESEARCH INTERESTS

My overall research interest is to integrate the use of technology to improve health outcomes. I am approaching this as a meta-composite systems problem. I view meta-composite systems development as focused on three inter-related aspects: integrated information (i.e., all relevant information is connected), integrated users (i.e., all users are connected to each other), and providing dynamic and enhanced interaction to users. To this end, meta-composite systems research encompasses technological, social, and behavioral aspects. I research software technologies like service-oriented architecture, business process engineering, web services, semantic-web, social networking, robotic, and mobile technologies. My PhD research focused on developing a user-centered-design and service-oriented framework for developing systems with process-personalized and customized support for human interaction. Currently, I am working with biomedical and behavioral researchers to develop meta-composite systems in the following areas:

- Robotic technologies for older and minority adult care.
- Social networking systems for health promotion and randomized clinical trials.
- Collaborative computing and biomedical information systems for translational science.
- Research integration and automation systems for biomedical research.
- Mobile-decision support systems for HIV dosing.
- Evidence-based research literature search and integration systems.
- Electronic medical, health and personal record integration systems.
- Health games technology systems for health promotion.

TEACHING EXPERIENCE

Served as a teaching assistant to Dr. Murat Tanik, Electrical and Computer Engineering, UAB in the following courses:

- Object Orient Design
- Software Engineering Large Systems I and II
- Special topic: Information Science
- Enterprise Information Architecture
- Software Engineering
- Special topic: Service-Based Biological System
- Special topic: Database Integration courses

Role: Demonstrated software development approaches to class, lectured on component-based and service-oriented architecture topics, and managed class assignments and projects.

MENTOR EXPERIENCE

- PhD Mentorship/Committee Member
 - PhD in Computer Engineering – Varadraj Gurupur**, Vaibhav Gathipande**, *Mark Olive*
 - PhD in Interdisciplinary Engineering – Jerry Higgs**

***I am co-advising the students' research.*

- Master thesis and project mentee
 - Assisted in the mentoring of Master and PhD level students of Dr. Murat Tanik, Electrical and Computer Engineering, UAB.

Past Students:

Masters in Electrical Engineering – Prashanth Sreshta, Vijayender Naini, Guruduta Mohanty, Meena Neelakantan, and Ravikumar Goli

- Role: Assist in the selection and development of case studies, development of implementation plan, and lecture on component-based and service-oriented architecture research topics.
- UAB Community Outreach Development (UAB CORD) Mentor
 - Aureale Vann, 2008
 - Julian Grant, 2007
 - Role: Directed the Birmingham high school student's project that was presented as a poster at the completion of the program.

GRANT SUPPORT: (PAST AND CURRENT)

ACTIVE:	
No Number RR024376-01A1 (PI: Sadasivam)	07/01/09 - 06/30/10
UAB Deep South Resource Center for Minority Aging Research	\$25,000
CARE Resource Extender Robotics (CARE-Bot): Assessing Impact of Home Surveillance	

Robots on Rural Minority Older Adults.

Role: PI.

Surveillance robots are home robots with cameras that can be controlled and maneuvered remotely. They have the potential to increase the efficiency of home-based care by facilitating remote, quality interactions among providers, patients, and caregivers. However, the impacts of surveillance robots on remote care have not been assessed to date, and there is a need to identify the most effective ways of adapting surveillance robots to address the care needs of elders without placing additional burden on providers and caregivers. Thus, in response to “Deep South RCMAR Health Disparities Research Pilot Grant,” we propose a pilot project – CARE Resource Extender Robotics (CARE-Bot) – to assess the impact of using surveillance robots to augment home-based care for rural and minority aging adults.

1R01CA129091-01 (PI: Houston)

07/01/07 - 06/30/12

National Cancer Institute

\$2,328,810

QUIT-PRIMO: Web-Delivered Clinical Microsystems Intervention for Tobacco Control

Role: Associate PI.

In this randomized trial, we propose to test an integrated, patient-centered Internet-delivered intervention to 1) facilitate provider referrals of patients to online smoking cessation self-management system, and 2) facilitate patient requests for treatment and follow-up from providers.

U01DE16747 (PI: Gilbert)

4/01/05 - 3/31/12

NIDCR (NIH)

\$16,407,572

Dental PBRN Network Chair

Role: Investigator, technology integration, software architect, manager, design and development. Translating research needs to software requirements.

In this randomized trial, we propose to test an integrated, patient-centered Internet-delivered intervention to 1) facilitate Dental providers referrals of patients to online smoking cessation self-management system, and 2) facilitate patient requests for treatment and follow-up from providers.

PENDING:

AHRQ

R 18 (Allison)

8/1/10-7/31/13

\$370,149 1.8 calendar months

StoryGuides-Making Comparative Effectiveness Useful for Vulnerable Patients

To culturally adapt the AHRQ Comparative Effectiveness Patient Guides (the Guides) through storytelling (narrative communication), test their use in a randomized trial, and actively promote active, widespread dissemination; with a specific focus on adapting and delivering comparative-effectiveness content to African American patients with hypertension (HTN) and diabetes (DM).

NIH/NIDA R01 (Boyer)

7/1/10-6/30/15

\$605,763 1.8 calendar months

Personalized Veteran-Centric Relapse Prevention Mobile Technologies

To develop a relapse prevention system based on our innovative mobile technology, iHeal, and deliver relapse prevention messages to veterans entering residential treatment for prescription

opioid abuse.

NHLBI (Bailey) 1/1/11-12/31/14
\$122,065 2.4 calendar months

Web-based Smoking Cessation Intervention: Transition from inpatient to outpatient

To create and evaluate a web-based system to support quitting smoking after an inpatient stay, with an e-referral system for providers and delegation function for caregivers and families.

NIH/Ctr for Sci Review (Anderson) 9/1/10-8/31/13
\$2,549,695 4.2 calendar months

The Enhanced Venous Thrombosis Registry (eVTE)

The major goals of this project are to improve the prevention and care of acute venous thromboembolism (VTE) in the inpatient and the ambulatory settings by creating the Enhanced Venous Thromboembolism Registry (eVTE Registry) and developing the infrastructure and improving the methodology for prospectively collecting data from electronic clinical databases in 5 tertiary care and community hospitals and their associated outpatient clinics that provide care for most of the one-half million residents of Central Massachusetts. The eVTE Registry will provide a community-wide platform to support patient-centered VTE comparative effectiveness research (CER).

NIH R21 (Blake) 12/1/2010 – 11/30/2012
PENDING RESUBMISSION \$150,000 2.4 Calendar months

iTETRACS: Edutainment and Social Network Marketing to Promote Chlamydia Screening

To develop an interactive Web-delivered game designed to increase teen awareness about personal Chlamydia infection risk and the availability of screening, with the ultimate goal of motivating Chlamydia screening behavior.

NIH/NCRR U54 (Sullivan) 7/1/10-6/30/2015
\$310,207 2.4 calendar months

**University of Massachusetts Center for Clinical and Translational Sciences
Biomedical Informatics**

The University of Massachusetts Center for Clinical and Translational Science (UMCCTS) will transform the conduct of clinical and translational research by providing an “academic home” for all university clinical investigators. The UMCCTS will provide robust pilot grant programs, comprehensive education and career development programs, and innovative core facilities to support and nurture clinical investigators.

Dr. Houston is the co-director of the Biomedical Informatics component of the UMMS CCTS.

Pres S&T Fund (Houston) 7/1/10-6/30/11
\$ 157,127 1.2 calendar months

Collaborative Tagging of Phenotypic Data for Clinical and Translation Sciences

Much of the information in electronic clinical records is trapped in unstructured free text, and inaccessible. Transforming this information into usable data has great potential to improve personalized healthcare and enhance the scientific enterprise. In this project in response to the 2010 Presidents S&T Initiative Fund announcement, we will develop and test new software tools within the national standard i2b2 clinical data warehouse infrastructure to allow

collaborative, expansive tagging of clinical notes. We seek to create a flexible, reusable platform to allow multiple users from different groups (clinicians, researchers, students, patients, professional coders) to create tags for any clinical condition. The long-term goal would be to collect tags from many individuals to obtain a variety of tags related to each clinical case.

NIH DP4 (Plummer)

9/30/10-9/29/13

\$ 333,395 1.2 yr 1; 0.6yrs 2 & 3

Increasing Faculty Diversity in Biomedical Research

In response to RFA-OD-10-013, The NIH Director's ARRA Funded Pathfinder Award to Promote Diversity in the Scientific Workforce, the University of Massachusetts Medical School (UMMS) seeks funding for a new Chancellor's initiative, the National Center for Diversity Excellence in the Biomedical Sciences. The National Center will focus on career development and advancement for underrepresented groups (URGs) in the biomedical sciences. This innovative program will provide an essential complement to existing post-doctoral programs that do not explicitly focus on developing the career navigation skills of URG postdoctoral fellows.

NIH R34 (Kalman)

4/1/11-3/31/13

PENDING RESUBMISSION

\$225,000 2.4 calendar months

Enhancing Smoking Cessation Treatment with Just-in-Time Interventions for Smokers in Alcohol Recovery

UAB Sub / Gates (Sadasivam)

11/1/10-10/31/11

\$16,927 1.44 calendar months

Mobile pediatric acute febrile illness application (PAFI-Care)

Determining the underlying cause and managing a PAFI episode is complex and requires skilled clinicians, diagnostic laboratory support, accurate and timely delivery of diagnostic data to the point of care. Thus, we propose "PAFI-CARE," (Pediatric Acute Febrile Illness - Computerized Algorithm Reaching Excellence in care) in response to the grand challenges topic Low-Cost Cell Phone-Based Applications for Priority Global Health Conditions. We will develop and test a mobile toolset that will support front line clinical decision making by 1) structuring documentation of initial symptoms, 2) recommending initial diagnostic work-up and empiric therapy based on initial symptoms, and 3) providing access to test results on follow-up visit(s). PAFI-CARE will be linked to larger NIH and Doris Duke funded initiatives to expand clinical care and diagnostic testing capabilities in a developing world setting.

NIH R21 (Sadasivam)

4/1/11-3/31/13

\$150,000 3.6 calendar months

Share2Quit: Web-based peer-driven referrals for smoking cessation

While cessation efforts have achieved some success, the decline in smoking has slowed, especially among younger smokers. Easily disseminated interventions like Quitlines and smoking cessation websites can potentially reach much greater numbers of smokers. Unfortunately, these interventions are under-utilized. Peer-driven chain referrals are quickly becoming the method of choice for recruiting hard-to-reach persons and their social networks. However, use of web-based chain referrals to recruit patients to online health interventions has not been extensively studied.

Thus, in Share2Quit we will test a suite of electronic chain referral approaches to increase access to smoking cessation self-management interventions online.

PRIOR:

- R18 DK0650001 (PI: Allison)** 5/01/05 - 4/30/09
NIH/NIDDK \$ 1,989,875
An Internet Intervention for Improving Rural Diabetes Care
Role: Software Design and Development. Translating research needs to software requirements.
- U54 RR024376-01A1 (PI: Guay-Woodford)** 07/01/08 - 06/30/13
NIH (NCRR) \$53,998,838
UAB Clinical Translation Science Award
Role: Investigator, software architect, technology integration, manager, design and development. Translating research needs to software requirements.
- U50/CCU023256 (PI: Marrazzo)** 9/15/03 - 9/29/07
VHET \$175,000/year
To Develop, Implement and Evaluate Viral Hepatitis Education and Training (VHET)
Role: Software Design, and Development.
- No number (PI: Tanik)** 7/1/06 - 7/1/07
UAB Clinical Nutrition Research Center \$25,000/year
Intelligent Information Integration and Retrieval system for Scientific Research and Analysis
Role: Coauthor of proposal. Managed and planned the research activities.
- ANI-0330543 (PI: Gemmill)** 9/15/03 - 8/31/05
National Science Foundation (NSF) \$305,742
NMI Enabled Open Source Collaboration Tools for Virtual Organizations
Role: Investigated use of National Middleware Initiative collaboration tools to support virtual organizations with an emphasis on authentication and authorization functionality.
- ANI-0222710 (PI: Gemmill)** 6/02 - 5/04
National Science Foundation (NSF) \$550,000
ViDe.Net: Middleware for Scalable Video Services for Research and Higher Education
Role: Investigated technologies for novel integration of video conferencing clients and services with NMI Middleware standards, functions and services.

SOFTWARE DEVELOPMENT

NIH Clinical Intervention Software

Developing Web-based collaborative and tailored learning management systems for NIH clinical intervention studies.

List of software

- **Webwalk** – (<http://www.webwalk.cme.uab.edu>)
- **Quit PRIMO** – (<http://www.referasmoker.org>)
- **Rural Diabetes Online Care** – (<http://www.ruraldoc.org>)
- **Oral Cancer Prevention** – (<http://www.oralcancerprevention.org>)
- **Decide2Quit** – (<http://www.decide2quit.org>)
- **Dental Practice-Based Research Network** – (<http://www.dentalpbrn.org>)
- **Hepatitis Web study** – (CME section of <http://depts.washington.edu/hepstudy/>)
- **HIV Web study** – (CME section of <http://depts.washington.edu/hiv aids/>)

Selected features:

- Provider and patient centered technology
- Online registration and randomization system
- Secure messaging system between provider and patient
- Tailored and interactive case-based discussion
- Provider and patient referral system
- Ask a question type discussions between provider and patients
- Online discussion forums and listserv
- “Wiki” type content creation and modification
- Updatable literature watch and news sections
- Email creation, messaging, and advertising system
- Data monitoring and analysis
- Collaborative content and courses development

Mobile HIV Provider Decision Support System – Google Android Based Application

Designing and developing Google Android based mobile application for providing dosing recommendation to providers at the point of care..

Software Developed:

- **Google Android based system connecting to Google Health patient health record system**

Selected features:

- Developing user-friendly mobile form for providers to input patient. System will use the information to provide a dosing recommendation.
- Developing service-oriented infrastructure to load patient information and recommended dosing into a research EMR application at the 1917 HIV clinic.
- Developing service-oriented infrastructure to load patient information into an external PHR platform such as Google Health or Microsoft HealthVault.

Gene RECQuest - Life Sciences Research Integration Software

Designing and developing meta-composite services software to integrate the research workflow of gene linkage and association studies.

Software Developed:

- **Gene Region Characterization Quest (Gene RECQuest) software** – (<http://www.ncbiresearch.cme.uab.edu>)

Selected features:

- Integration with the National Center of Biotechnology Information MapViewer tool – a tool that provides a wide variety of genome mapping and sequencing data
- Integration with the NCBI Gene, PubMed, and Online Mendelian Inheritance in Man (OMIM) databases. Gene is a searchable database of genes, from RefSeq genomes, and defined by sequence and/or located in the NCBI Map Viewer. OMIM is a database is a catalog of human genes and genetic disorders. PubMed is a catalog that includes over 18 million citations from MEDLINE and other life science journals for biomedical articles.
- Search applications to search through the NCBI PubMed and OMIM databases with keywords or patterns. Search results include the genes, PubMed and OMIM articles in which the search keywords were found.
- Developing semantic-web extension for enhance search.

Center of Clinical and Translation Science Collaboration System

Developing a collaborative system to support the research activities of clinical and translation sciences at UAB.

Software Developed:

- **CCTS Website** – (<http://www.ccts.uab.edu>)

Selected features:

- Developing SharePoint system to serve as a collaborative infrastructure for secure research activities
- Customizing SharePoint system to serve as an information repository and administrative infrastructure to manage an Internet website. SharePoint Web services will be used to enable information flow between the Internet and SharePoint system.

Online Learning Management Software

Developed an online learning and content management software for the UAB Division website.

Software Developed:

- **Continuing Medical Education** – (<http://www.cme.uab.edu>)

Selected features:

- CME tracking system to allow users track and print CME certificates obtained at the UAB Division of CME website
- “Wiki” type content creation and modification - All pages on the website can be updated through the web interface
- Collaborative content and courses development - Administrative interfaces allow users to upload CME courses through web forms. The interfaces also allow users to categorize the courses and add course evaluation to the courses. Once uploaded, the courses are dynamically listed on the website. Ajax features are used to present the courses in a user friendly fashion.

Other Clinical Intervention Software

I developed software for easy upload and management of clinical data for analysis.

Software Developed:

- **Obesity Quality of Care** – (<http://www.qualityofcare.cme.uab.edu/>)
- **Diabetes Quality of Care** – (<http://www.qualityofcare.cme.uab.edu/obesity/login.aspx>)

E-business Application Software

I developed component-based software for online editing and proofreading e-business application.

Software Developed:

- **English-Text-Doctor** – (<http://www.englishtextdoctor.com>)

Selected features:

- Intelligent agent for matching of authors to reviewers based on paper category, author’s needs, and reviewer’s expertise
- Integration with credit card service for handling payments
- Administrator interface for managing the proofreading and editing process
- Upload function for authors and editors to upload papers

UAB Infrastructure Software

I participated in the development of infrastructure software for UAB.

Software Developed:

- **UABGrid** – Campus infrastructure for computation and collaboration in the Grid environment. It is a collection of resources the makes high performance computing and collaboration environments available to everyone (<http://uabgrid.uab.edu/>).
- **UAB Software Download** application – Web-based system to allow users to download licensed UAB software. System integrated with blazerID authentication system to ensure seamless interoperation with other UAB resources. Administrators can add new software for download through administrative interface.

MANUSCRIPTS

Published Manuscripts

- Houston TK, Coley HL, **Sadasivam RS**, et al. Impact of content-specific email reminders on provider participation in an online intervention: a Dental PBRN study. *Stud. Health Technol. Inform.* 2010 (*In press*).
- Willig J, Sinkala M, **Sadasivam RS**, Albert M, Wilson L, Mugavero M, Msidi E, Brande S, Nikisi J, Stringer J, Tami I, Henostroza G, Gathibhande V, Menke J, Tanik M, Reid S. Design and Process Development for Smart Phone Medication Dosing Support System and Educational Platform in HIV/Aids-TB Programs in Zambia. *Society of Design and Process Science (SDPS)*. Montgomery, Alabama 2009.
- R.S. Sadasivam**, M. M. Tanik, and J. Willig, "A conceptual framework for personalized mobile health care," *Transactions of the SDPS: Integrated Design & Process Science Transdisciplinary International Journal*, Invited paper, *Accepted for Publication*.
- R.S. Sadasivam**, G. Sundar, L.K. Vaughan, M.M. Tanik, and D. Arnett, "Genetic Region Characterization (Gene RECQuest) - Software To Assist In Identification And Selection Of Candidate Genes From Genomic Regions," *BMC Research Notes*, *Accepted for Publication*.
- R.S. Sadasivam**, R. Goli, R. Kathiru, A. Krishnan, Y. Tuncer, M.M. Tanik, and S. Thompson, "A service-based entropic model for sensors orchestration," *Int. J. of Distributed Sensor Networks*, 2009.
- J. Willig, **R.S. Sadasivam**, and M.M. Tanik, "A conceptual framework for personalized mobile health care," in *Proc. Int. Design and Process Technology*, Taiwan, 2008.
- V. Naini, **R.S. Sadasivam**, and M.M. Tanik, "Implementation of a web-based student advising system using Java frameworks," *IEEE SouthEastCon*, Huntsville, Al, 2008, pp. 172-177.
- R.S. Sadasivam**, G. Sundar, M.M. Tanik, L. Jololian, and M.N. Tanju, "A process personalization model for enabling biological research," in *Proc. Int. Design and Process Technology*, Antalya, Turkey, 2007, pp. 168-174.
- G. Sundar, **R.S. Sadasivam**, and M.M. Tanik, "Design of a service-oriented composite dashboard," in *Proc. Int. Design and Process Technology*, Antalya, Turkey, 2007, pp. 226-233.
- R.S. Sadasivam**, P. Clark, and L. Casebeer, "Best practices in Internet collaboration for CME," in *Proc. Annual conf. of the Alliance for CME*, San Francisco, CA, 2006.
- R.S. Sadasivam**, G. Sundar, M.M. Tanik, and M.N. Tanju, "Process personalization framework for service-driven enterprises," in *Proc. IEEE SouthEastCon*, Memphis, TN, 2006, pp. 159-164.
- R.S. Sadasivam**, M.M. Tanik, and R. Kristofco, "A service-oriented approach for intelligent information integration and retrieval," in *Proc. Int. Design and Process Technology*, San Diego, CA, 2006, pp. 558-565.
- G. Sundar, **R.S. Sadasivam**, J.L. Hartman, and M.M. Tanik, "Intelligent lab Information management system," in *Proc. Int. Design and Process Technology*, San Diego, CA, 2006.
- A. Mamuwallah, **R.S. Sadasivam**, and M.M. Tanik, "A Simon-Conant based entropic approach to function point analysis," in *Proc. Int. Design and Process Technology*, Beijing, China, 2005, pp. 733-738.
- R.S. Sadasivam**, M.M. Tanik, L. Casebeer, D. Allison, J. Gemmill, J. Lynn, B. Bryant, Y.-F. Wu, M. Bieber, and L. Jololian, "Component-based approach for scientific services for education and research (scientific SEARCH)," in *Proc. 2nd Global Educ. Technology in Sci. Symp. (GETS)*,

Univ. of Arkansas at Little Rock, Little Rock, AR, 2005, pp. 40-48.

- R.S. Sadasivam**, “Dynamic reconfiguration of field-agents to process-agents in distributed systems,” in *Proc. Int. Design and Process Technology*, Turkey, 2004, pp. 220-229.
- R.S. Sadasivam**, L. Jololian, and M.M. Tanik, “Java 2 enterprise edition implementation of a distributed business,” in *Proc. Int. Design and Process Technology*, Austin, TX, 2003, pp. 583-587.
- R.S. Sadasivam**, R. Puljala, J.P. Robinson, and J. Gemmill, “Middleware: Single Sign On Authentication and Authorization for Groups,” in *Proc. ACM Southeastern Conference*, Savannah, Georgia, 2003, pp. 452-456.
- R.S. Sadasivam**, M.M. Tanik, J. Gemmill, and T. Jannett, “Cyberinfrastructure development – a component based approach with software agents,” in *Proc. Int. Design and Process Technology*, Austin, TX, 2003, pp. 714-722.
- U.J. Tanik, **R.S. Sadasivam**, R. Giles, and M.M. Tanik, “Building cross-disciplinary partnerships through entropy reduction techniques,” in *Proc. Int. Design and Process Technology*, Austin, Texas, 2003, pp. 596-601.
- R.S. Sadasivam**, U.J. Tanik, and M.M. Tanik, “A test-bed for the correlation center of digital services,” in *Proc. IEEE SouthEastCon*, Columbia, SC, 2002, pp. 381 -386.

Manuscripts in preparation (submitted or preparing)

- V. Gathipande, M.M. Tanik, J. H. Willig, and **R.S. Sadasivam**, “Implementation of a Point-Of-Care HIV/Dosing System with Android,” *Mobile Networks and Applications*, *Under Review*.
- R.S. Sadasivam** and M.M. Tanik, “Meta Composite Systems Development: A Modeling Approach using Service-Agents,” *Information Sciences*, *in preparation*.
- T. K. Houston, D. E. Ford, J. Richman, **R.S. Sadasivam**, M. N. Ray, and J.J. Allison, “The QUIT-PRIMO Provider-Patient Internet-delivered Smoking Cessation Referral Intervention: Outcomes Measurement Challenges in a Cluster-Randomized Implementation Trial,” *Implementation Science*, *in preparation*.
- V. Prabhu, M. M. Tanik, and **R.S. Sadasivam**, “An Integrated Semantic-Web Tool for Biomedical Research Integration,” *IEEE Software*, *in preparation*.

BOOKS

Books and Book Chapters

- R.S. Sadasivam**, K. Crenshaw, V. Datla, and M. Scheon, “Transforming Continuing Healthcare Education with E-Learning 2.0” in *Handbook of Research on Practices and Outcomes in E-Learning: Issues and Trends*, H. Yang and S. Yuen, Eds. IGI Global 2009, *Accepted for publication*.
- R.S. Sadasivam** and M.M. Tanik, “Composite process-personalization with service-oriented architecture” in *Handbook of Research In Mobile Business: Technical, Methodological And Social Perspectives*, B. Unhelkar, Eds. IGI Global 2008.
- R.S. Sadasivam**, *Architecture Framework for Process-Personalized Composite Services: Service-oriented Architecture, Web Services, Business-Process Engineering, and Human Interaction*

Management. VDM Verlag Dr. Mueller e.K., 2008.

PATENT

R.S. Sadasivam, M.M. Tanik, and L. Jololian, "Drag and drop communication of data via a computer network," World Intellectual Property Organization," WO/2007/008687, 2007, Available: <http://www.wipo.int/pctdb/en/wo.jsp?wo=2007008687>.

POSTER AND BREAKOUT SESSION

Breakout Session

R.S. Sadasivam, P. Clark, and L. Casebeer, "Best practices in Internet collaboration for CME," in *Proc. Annual conf. of the Alliance for CME*, San Francisco, CA, 2006.

Poster

Sobko HJ, Ritchie CS, Houston TK, Taylor BB, **Sadasivam RS**, "Surveillance robots: Augmenting home care of frail elders," Southern Nursing Research Society; Feb. 3-6, 2010; Wheat Ridge, CO.

Coley HL, Williams JH, Ray MN, Kohler CL, Allison JJ, Ford DE, **Sadasivam RS**, Houston TK, "Smokers helping smokers: Development of a message database to help current smokers quit." Society of Behavioral Medicine; Apr. 2010, 2010; Seattle, WA.

H. J. Sobko, **R. S. Sadasivam**, D. E. Ford, and T. K. Houston, "Virtual Patient Archetypes to Enhance Provider Engagement Online: A Pilot Study," SBM Annual Meeting and Scientific Sessions, Apr. 2009.

T. K. Houston, D. E. Ford, **R. S. Sadasivam**, M. N. Ray, J. J. Allison, C. L. Kohler, and C. M. Ashton, "Overcoming limits to tobacco control: Using the Internet to bridge public health and clinical interventions," AMIA Symposium, Aug., 2008.

DISSERTATION AND THESIS

R.S. Sadasivam, "An architecture framework for composite services with process-personalization," Ph.D. dissertation, Dept. Elec. and Comput. Eng., Univ. of Alabama at Birmingham, Birmingham, AL, 2007.

R.S. Sadasivam, "Design of a correlation center for digital services," M.S. thesis, Dept. Elec. and Comput. Eng., Univ. of Alabama at Birmingham, Birmingham, Alabama, 2002.

PRESENTATIONS

R. S. Sadasivam, "Invited talk: Meta-Composite Systems Development – Relevance to DOPM," presented at Division of Preventive Medicine Grand Rounds, Birmingham, Al, Feb. 16, 2009.

R. S. Sadasivam, "Invited talk: Meta-Composite Systems Development – Research Directions,"

- presented at Division of Continuing Medical Education Grand Rounds, Birmingham, Al, Feb. 12, 2009.
- R. S. Sadasivam**, "Invited talk: Meta-Composite Systems Development – Relevance to DOPM," presented at DOPM Grand Rounds, Birmingham, Al, Feb. 16, 2009.
- R. S. Sadasivam**, "Invited talk: Scientific Search and Compile Tool for Evidence-based Research," presented at Section of Statistical Genetics Grant Meeting, Birmingham, Al, Dec. 11, 2008.
- R. S. Sadasivam**, "Invited talk: An Architecture Framework for Composite Services," presented at Cyberinfrastructure Technology Integration Colloquium, Clemson, SC, Feb. 7 2008.
- R. S. Sadasivam**, "Invited talk: An Architecture Framework for Composite Services," presented at Cyberinfrastructure Technology Integration Colloquium, Clemson, SC, Feb. 7 2008.
- R.S. Sadasivam**, P. Clark, and L. Casebeer, "Best practices in Internet collaboration for CME," in *Proc. Annual conf. of the Alliance for CME*, San Francisco, CA, 2006.
- R.S. Sadasivam**, G. Sundar, M.M. Tanik, and M.N. Tanju, "Process personalization framework for service-driven enterprises," in *Proc. IEEE SouthEastCon*, Memphis, TN, 2006, pp. 159-164.
- R.S. Sadasivam**, M.M. Tanik, and R. Kristofco, "A service-oriented approach for intelligent information integration and retrieval," in *Proc. Int. Design and Process Technology*, San Diego, CA, 2006, pp. 558-565.
- R. S. Sadasivam**, "Invited talk: Research directions in composite services," presented at IEEE Computer Society Meeting Alabama Section, Feb. 2005.
- R. S. Sadasivam**, "Intelligent correlation of services agent framework," presented at Graduate Student Day, UAB, Birmingham, Alabama, Apr. 2, 2004.
- R. S. Sadasivam**, "Process engineering agent framework using entropy management," presented at 81st Annual Conference of the Alabama Academy of Science, University of Montevallo, Montevallo, Alabama, Mar. 17-20, 2004.
- R.S. Sadasivam**, L. Jololian, and M.M. Tanik, "Java 2 enterprise edition implementation of a distributed business," in *Proc. Int. Design and Process Technology*, Austin, TX, 2003, pp. 583-587.
- R.S. Sadasivam**, R. Puljala, J.P. Robinson, and J. Gemmill, "Middleware: Single Sign On Authentication and Authorization for Groups," in *Proc. ACM Southeastern Conference*, Savannah, Georgia, 2003, pp. 452-456.
- R.S. Sadasivam**, M.M. Tanik, J. Gemmill, and T. Jannett, "Cyberinfrastructure development – a component based approach with software agents," in *Proc. Int. Design and Process Technology*, Austin, TX, 2003, pp. 714-722.
- R.S. Sadasivam**, U.J. Tanik, and M.M. Tanik, "A test-bed for the correlation center of digital services," in *Proc. IEEE SouthEastCon*, Columbia, SC, 2002, pp. 381 -386.

REVIEWS

- Review of J. Bruijn, D. Fensel, M. Kerrigan, U. Keller, H. Lausen, and J. Scicluna, *Modeling semantic Web Services (1st Ed.): the Web service modeling language*. Springer Publishing Company, 2008, May 8, 2009, ACM Computing Review.
- Review of L. Sun and K. Ousmanou, "Articulation of information requirements for personalised

- knowledge construction," *Requirements Engineering*, vol. 11, no. 4, pp. 279-293, 2006, Jan. 2, 2008, ACM Computing Review.
- Review of D. Ayers, "The shortest path to the future web," *IEEE Internet Comput.*, vol. 10, no. 6, pp. 76-79, 2006, Apr. 20, 2007, ACM Computing Review.
- Review of D. Selly, A.W. Troelsen, and T. Barnaby, *Expert ASP.NET 2.0: advanced application design*. Berkeley, CA: Apress, 2006, Feb. 26, 2007, ACM Computing Review.
- Review of S. Bergamaschi, G. Gelati, F. Guerra, and M. Vincini, "An intelligent data integration approach for collaborative project management in virtual enterprises," *World Wide Web*, vol. 9, no. 1, pp. 35-61, 2006, Oct. 20, 2006, ACM Computing Review.
- Review of J. Chen, Q. Li, and W. Jia, "Automatically generating an e-textbook on the Web," *World Wide Web* vol. 8, no. 4, pp. 377-394, 2005, Aug. 17, 2006, ACM Computing Review.
- Review of M. Thomas, R. Redmond, V. Yoon, and R. Singh, "A semantic approach to monitor business process," *Commun. ACM*, vol. 48, no. 12, pp. 55-59, 2005, Apr. 14, 2006, ACM Computing Review.

REPORTS

- R.S. Sadasivam**, U.J. Tanik, and M.M. Tanik, "A transdisciplinary activity: Building Internet enterprises with components," Dept. Elec. and Comput. Eng., Univ. of Alabama at Birmingham, Birmingham, Al, 2002-09-ECE-008, 2002.
- R.S. Sadasivam**, U.J. Tanik, and M.M. Tanik, "Enterprise engineering - A transdisciplinary activity: Mapping of IT to core competency," University of Alabama at Birmingham, Birmingham, 2002-09-ECE-008, 2002.
- R.S. Sadasivam**, U.J. Tanik, and M.M. Tanik, "A test-bed for the correlation center for digital services," Dept. Elec. and Comput. Eng., Univ. of Alabama at Birmingham, Birmingham, Al, 2001-08-ECE-006, 2001.
- R.S. Sadasivam**, U.J. Tanik, and M.M. Tanik, "A correlation center for digital services," Dept. Elec. and Comput. Eng., Univ. of Alabama at Birmingham, Birmingham, Al, 2001-10-ECE-012, 2001.
- R.S. Sadasivam**, U.J. Tanik, B. Yaldiz, and M.M. Tanik, "Infrastructure and Internet research methodology for component-based software development," Dept. Elec. and Comput. Eng., Univ. of Alabama at Birmingham, Birmingham, 2001-06-ECE-007, 2001.

MISCELLANEOUS

Technical Skills

- .Net C#, ASP.Net, ADO.Net, NHibernate, Castle ActiveRecord, Microsoft patterns and practice, Visual Studio, DSL, NUnit, NDoc, log4Net
- Java J2EE, JSP, Servlets, EJB, Spring, Eclipse, NetBeans, Hibernate
- Web Services XML, SOAP, WSDL, BPEL, and BPMN
- Requirements/Design UML, IEEE-STD-830-1998 requirements and IEEE Std. 1016 documentation, Design Structure Matrix

- Web HTML, XML, CGI, Perl, JavaScript, ASP, PHP, Ajax
- Database/Directory Services SQLServer, MSSql, MySql, Oracle, MS Access, LDAP
- IDE / Development Visual Studio, Eclipse, NetBeans, Dreamweaver
- Application Servers IIS, Apache, Tomcat
- Operating Systems Linux, Windows 98/NT/2000/XP/Vista
- Social Networking Facebook, Elgg, dotNetNuke, Drupal, Joomla, Plone, and Wiki
- Mobile Application .Net, Java Android
- Patient Health Record (PHR) systems Microsoft HealthVault, Google Health