Topics for Autonomic Communication and Knowledge Plane

1. Architectures for Autonomic Communications

An Architecture for Coordinating Multiple Self-Management Systems
An automated policy-based management framework for differentiated communication systems
A Framework for Self-Management of Hybrid Wireless Networks Using Autonomic Computing Principles
An Extensible Framework for Autonomic Analysis and Improvement of Distributed Deployment Architectures
Towards a Model-Driven Architecture for Autonomic Systems
Autonomic WWW Server Management with Distributed Resources
Self-aware management of IP networks with QoS guarantees
Rainbow: Architecture-Based Self-Adaptation with Reusable Infrastructure
Hierarchical Model-based Autonomic Control of Software Systems
AUTONOMIA: An Autonomic Computing Environment
The C-Cube Framework: Developing Autonomic Applications through Web Services
Autonomic system for mobility support in 4G networks

2. Conceptual Models of Autonomic Communications

An Approach to Monitor Application States for Self-Managing (Autonomic) System
A System Perspective on Cognition for Autonomic Computing and Communication
A Proposal for Multi-Agent System based Modeling and Validation of Self-organization
Ontology-based Correlation Engines
Distributed Knowledge Management for Autonomous Access Control in Computer Networks
Topology Based Automation of Distributed Applications Management
Assessment of the Autonomic Control of Heart Rate Variability in Healthy and Spinal-Cord Injured Subjects: Contribution of Different Complexity-Based Estimators
Monitoring the autonomic nervous system in the ICU through cardiovascular variability signals
Heart rate variability during sleep and the development of PTSD following traumatic injury

3. (Re)-configurability issues

Autonomic Service Configuration for Telecommunication MASs with Extended Role-Based GAIA and JADEx
Autonomic network configuration for networkable digital appliances
An Open Framework for Dynamic Reconfiguration
Dynamic reconfiguration: Basic building blocks for autonomic computing on IBM pSeries servers
Navigating in the Storm: Using Astrolabe for Distributed Self-Configuration, Monitoring and Adaptation
Towards an Autonomic Framework: Self-Configuring Network Services and Developing Autonomic Applications
Towards Self-Configuring Hardware for Distributed Computer Systems
Context-Driven Self-Configuration of Mobile Ad Hoc Networks
Management of Reconfigurability

4. Resiliency and self-healing

Reinforcement Learning for Autonomic Network Repair
Approaches to Building Self Healing Systems using Dependency Analysis
Towards Autonomic Web Services: Achieving Self-Healing Using Web Services
Connector-based self-healing mechanism for components of a reliable system
Reflection, Self-Awareness and Self-Healing in OpenORB
Measuring the Effectiveness of Self-Healing Autonomic Systems
Personal Autonomic Computing Self-Healing Tool
Ensembles of Models for Automated Diagnosis of System Performance Problems

5. Resource Management in Autonomic Communication

Autonomic resource management for extensible control planes
Probability routing algorithm for mobile ad hoc networks' resources management
Self-organizing resource allocation for autonomic network

6. Security issues

An autonomic approach to denial of service defence
Attack-resistant cooperation stimulation in autonomous ad hoc networks
Towards a Framework for Autonomic Security Protocols
Security in an autonomic computing environment
Autonomic 802.11 wireless LAN security auditing
Secured remote tracking of critical autonomic computing applications
Feedback control applied to survivability: a host-based autonomic defense system
Autonomic Communication Security in Sensor Networks
Multipath Routing Protocol for Mobile Ad-hoc Networks: Security Issues and Performance Evaluation

7. Autonomic communication QoS (fixed and/or next generation networks)

QoS and Routing in the Cognitive Packet network
An Autonomic Group Communication
Adaptive Scheduling in Wireless Sensor Networks
Incentive Schemes in Memory-less P2P Systems
Towards Service Awareness and Autonomic Features in a SIP-enabled Network
Autonomous smart routing for network QoS
Self-aware networks and QoS
“SelfService” - A Theoretical Protocol for Autonomic Distribution of Services in P2P Communities
PeerWindow: an efficient, heterogeneous, and autonomic node collection protocol
A Self-Managed Scheme for Free Citywide Wi-Fi

8. Autonomic System Design

A control theory foundation for self-managing computing systems
An Adaptive Clustering Approach for the Management of Dynamic Systems
Architectural Design of a Distributed Application with Autonomic Quality Requirements
Adaptive Runtime Verification for Autonomic Communication Infrastructures
Unity: Experiences with a Prototype Autonomic Computing System
Robust distributed systems achieving self-management through inference
Adding Autonomic Functionality to object-oriented applications
An Architectural Approach to Autonomic Computing
A Software Architecture Approach for Structuring Autonomic Systems
Initiative and Interaction in Autonomic Systems
Towards Requirements-Driven Autonomic Systems Design
Towards a Framework and a Design Methodology for Autonomic SoC
Building Component Families to Support Adaptation
Usable Autonomic Computing Systems: the Administrator's Perspective
Enabling autonomic behavior in systems software with hot swapping
Automated and Adaptive Threshold Setting: Enabling Technology for Autonomy and Self-Management
Support for Feedback and Change in Self-adaptive Systems
A simple metric for ad hoc network adaptation
Cooperative Negotiation in Autonomic Systems using Incremental Utility Elicitation

9. Self-Optimization for networked Applications

Market-based self-optimization for autonomic service overlay networks
Performance Management for Cluster-Based Web Services
Autonomic and Load-Adaptive Optimization of Beacon Exchange Rate for Proactive Configuration in Ubiquitous MANETs
Utility Functions in Autonomic Systems
SLA Based Profit Optimization in Autonomic Computing Systems
Optimizing the beacon exchange rate for proactive autonomic configuration in ubiquitous MANETs
Towards Self-Optimizing Protocol Stack for Autonomic Communication: Initial Experience

10. Dynamic Service Composition and Adaptation

QoS-Aware Service Composition and Adaptation in Autonomic Communication
Semantics-Based Dynamic Service Composition
A framework for dynamic service composition

11. Middleware or simulator for Autonomic Communication

Middleware for Cooperating Objects
Impala: A Middleware System for Managing Autonomic,Parallel Sensor Systems

The Collective: A Common Information Service for Self-Managed Middleware
Adaptive Job Routing and Scheduling

12. Measurement and Evaluation

Assessing the Robustness of Self-Managing Computer Systems under Highly Variable Workloads
Measuring the Effectiveness of Self-Healing Autonomic Systems
Evaluation issues in Autonomic Computing
PC-based noninvasive measurement of the autonomic nervous system, Detecting the onset of diabetic autonomic neuropathy

13. Wireless sensor networks in autonomic environments

Reducing Inter-cluster TDMA Interference by Adaptive MAC Allocation in Sensor Networks
Data dissemination in autonomic wireless sensor networks
A Programmable Routing Framework for Autonomic Sensor Networks
Towards the Design of an Energy-efficient, Location-aware Routing Protocol for Mobile, Ad-hoc Sensor Networks
Autonomic Communication Security in Sensor Networks
Nomadic Wireless Sensor Networks for Autonomic Pervasive Environments

14. Trends and Future challenges in autonomic communications

IP/MPLS OAM: Challenges and Directions A multi-technology, proactive, and autonomic management view
Benchmarking Autonomic Capabilities: Promises and Pitfalls
Autonomic Computing: Emerging Trends and Open Problems
Autonomous Organization of Wireless Network Transport in a Multi-Provider Environment
Research Challenges of Autonomic Computing

15. Knowledge Plane or Context-based management

A Knowledge Plane as a Pricing Mechanism for Aggregate, User-Centric Utility Maximization
Adding new Components to the Knowledge Plane in GMPLS over WDM Networks
A Knowledge Plane for the Internet
Sophia: An Information Plane for Networked Systems
Self-Management in Chaotic Wireless Deployments
Semantic-Enhanced Distribution & Adaptation Networks
Towards a Reliable, Wide-Area Infrastructure for Context-Based Self-Management of Communications
Analysis of configuration: knowledge of context and precedent in architectural design