

# Sylvain de Margerie (BSc, MSc)

## overview

### CURRENT INTEREST:

I am interested in the efficient deployment of my own and other's cognitive capacity to the betterment of society in particular assuring food security for all. Leveraging of cognitive surplus and open-book management are of academic interest.

### POSITIONS HELD:

Executive (CEO, CTO, Director), Officer (President, VP), Director, Senior Manager, Consultant, Advisor

### MANAGEMENT EXPERTISE

**Project, portfolio and program:** Over 100 projects as well as portfolios in various public and private sectors with management responsibility for finance, HR, scope, schedule, communication, risk and deliverables.

**Contract:** Successful bid preparation, negotiation, execution, procurement and closure.

**Business:** Entrepreneur, partnerships, joint ventures, mergers and acquisitions, financial planning, business plan preparation, market studies

**Corporate:** Dynamic leadership, structuring, planning and operations.

**International:** US, China, Indonesia, South America, Europe, UN

**R&D:** Ocean sciences, telecommunications, data management

### DOMAINS OF EXPERTISE:

Data Management

Security

Business Continuity and Recovery

Numerical Analysis and Statistics

Super Computers (CRAY, NEC)

Ocean Sciences

Multiple patents and technical papers

Information Technology

Telecommunications

Computer Simulations

Operational Research

Research and Development

Environmental Sciences

Emergency response

### CLIENTS

DND, Canadian Coast Guard (CCG), Natural Resources Canada, Environment Canada, Fisheries and Oceans, mineral and energy exploration, governments at the national provincial and municipal levels, public utilities and a multiple technology sector firms.

### EDUCATION:

MSc and BSc from McGill University, Montreal.

### CERTIFICATIONS:

Language proficiency in English and French (EEE) reading comprehension of Spanish.

Secret Security Clearance

Safe Food Handling

Past certifications:

Project Management Professional (**PMP**)

Certified Information Systems Security Professional (**CISSP**),

### AWARDS:

Exceptional Project Management and Execution (C. Coast Guard);

Multiple Top Performer awards (Nortel);

TrailBlazer Award by CBC;

3 Patents.

**PROFESSIONAL WORK HISTORY**

**March 2010-2014 Director of Oceanography and Integrated Science Data Management (ISDM)**, Ocean Science Sector, Fisheries and Oceans Canada (DFO), Ottawa, Ontario

M. de Margerie leads ISDM and DFO for developing and implementing science data management policies, as well as in partnering with key players at national and international levels to foster coherent science data strategies and stewardship. ISDM manages many national marine data sets and plays an international role as a Data Acquisition Center (DAC) and Global Data Assembly Center (GDAC) for programs such as ARGO (a global array of autonomous ocean drifting profilers) and DBCP (Data Buoy Cooperation Panel).

Mr. de Margerie chairs, ex-officio, the National Science Data Management Committee (NSDMC) to coordinate scientific data management across the department; the DFO High Power Computing (HPC) Steering Committee reports to NSDMC. Mr. de Margerie is also an ex-officio member of the Senior Management Committee of the Canadian Hydrographic Service (SMC-CHS) where he provides direction regarding data management and geomatics. He sat on the DFO Informatics Steering Committee and the Information Management Program Management Committee (IMPMC) where he played a leading role in delivering the DFO Data Policy consistent with Treasury Board policies and directives.

Mr. de Margerie represents Canada at the International Ocean Data and information Exchange committee (IODE), under UN/UNESCO/IOC, and has been assistant delegate to the Joint Commission on Oceanography and Marine Meteorology (JCOMM) under UN/WMO-IOC. He participates actively on the Expert Team on Marine Climatology (ETMC) under JCOMM, and his staff are involved in many other international working groups and expert team.

During his three years as Director of ISDM, Mr. de Margerie had to manage the impacts reorganizations, DFO's internal Strategic Review (SR), and then the Canadian Government's Deficit Reduction Action Plan (DRAP). These drove revisions of scope, vision and structure within ISDM in the context DFO's Program Activity Architecture, Departmental Report on Plans and Priorities and overall government priorities. In these he worked closely with multiple DGs and the ADM regarding strategic plans and developments. Mr. de Margerie was tasked by and reported directly to the ADM regarding IM/IT and the implementation of the Federal Geomatics Platform (FGP).

In 2010, ISDM operated its own data center and had a dedicated team for system support and development responsible for life cycle management, requirements analysis, configuration, change control, performance monitoring, incident response, event tracking and cyber security. Under Mr. de Margerie's direction, IT infrastructures were moved to the new corporate data center and subsequently taken-over by Shared Services Canada. In 2012 the application and database development and maintenance staff were transferred to DFO's IM&TS organization, as part of a Strategic Review initiative for consolidation of IT activities. IT systems are of paramount importance in science as computers are an extension of scientific instruments and analysis tools. These changes are profound, affecting how scientists work, what they work on and who they rely on to support their work, Mr. de Margerie led the transition to a common service provider model for all of DFO science activities and programs, in concert with Regional Directors of Science across DFO. Through this period Mr. de Margerie consulted with the CIO (or equivalent) of National Resources Canada, Environment Canada and Agriculture Canada. A Service Transition Understanding (STU) was developed consultatively to

manage this change in DFO and provide clearer understanding of the process and its implications for the client as well as the service provider.

Operational responsibilities of the Marine Environmental Data Service (MEDS) unit of ISDM under the direction of Mr. de Margerie included management of multiple scientific live data each requiring acquisition, QC, various processing (de-duplication, reformatting, analysis, etc.), archival and access/redistribution. The Hydrographic Production System Engineering (HPSE) unit of ISMD supports approximately 150 hydrographers in the use and configuration of specialized tools for data acquisition, transformation, product generation (navigational charts, tide tables, sailing directions, etc) and product distribution. The Science Data Systems Engineering (SDSE) unit was is responsible for system development and web support, with notable accomplishments including: releasing a large system for hydrographic metadata management (CHSDIR2); moving hydrographic production to a Citrix based centrally configured and controlled environment (HPD); delivering CLF and WCAG compliant web sites for the Ecosystems and Oceans Science sector of DFO, creating a new standard based GIS Web Mapping site for DFO, and delivering the Oceans Info portal ([www.oceans.info.gc.ca](http://www.oceans.info.gc.ca)) for the government of Canada. Under Mr. de Margerie's direction the entire ISDM team received training and coaching for using Agile development and project management using the SCRUM methodology.

ISDM while directed by Mr de Margerie counted up to 30 employees with a budget of \$1,400,000. In addition NSDMC under chairmanship of Mr. de Margerie had a budget of up to \$1,300,000. In performance evaluations Mr. de Margerie exceeded expectations (succeeded+).

**Areas of management activities:** Program, Corporate, Human Resources, Financial Resources, International, Information Technology, Science, Change management.

**July 2002 - Feb 2010**     **President and CEO, Ottawa R&D Corp. (ORDC), Ottawa, Ontario**

Offering focused planning, structuring and mentoring services to technology firms. The company has contributed to securing financing for several corporations (up to 1 million dollars per year). ORDC also offered technical consulting services in key areas as well as undertaking a significant amount of internal R&D. Project clients and domains include:

- **Noble Vision Robotics:** Robotics.
- **Moda Solutions:** Secure Internet transaction and banking system.
- **AFORE Solutions:** Telecom system and product development.
- **Ambercore Software:** GIS and geophysics.
- **Symbium Corp.:** Embedded systems management solutions.
- **SeaQuest:** Video-IR-Radar fusion and Integrated Marine Information Infrastructure
- **ERAAM (fr):** Port management, mapping and ISPS.
- **COZIMO:** Cooperative multimedia creation environment.

**Areas of management activities:** Project, Corporate, Human Resources, Financial Resources, International, Information Technology, Oceanography and related fields.

**Nov. 2006 - Apr. 2008.**     **VP Engineering, 434 Wireless Corporation, Ottawa, Ontario**

VP engineering with prime responsibility for the specification, architecture and design of highly security sensitive software for mobile platform and network management. Mr. de Margerie managed Issues included conformance to the Canadian *Privacy Act*, potential

for vulnerability of mobile software agents and the integrity of W-MAN (Municipal scale wireless networks) under a control domain. Secured over 0.5M\$ of R&D grants and financing, managed stake holder relations including investors, founders, government funding agencies and the project team. Directed the development team in Agile software development using SCRUMWORKS with components in various languages (RoR, C++, Java).

**Areas of management activities:** Project, Corporate, Human Resources, Financial Resources, Information Technology, Release Management, Configuration Control.

**Sept. 2004** CTO, Viewnyx Corporation, Ottawa, Ontario  
**- May 2005**

This Corporation developed systems to enhance road safety, security and collision avoidance for truck fleets. As CTO part of Mr. de Margerie's responsibility was to ensure the support and compliance to issues related to security, surveillance, privacy, insurance claims and evidence preservation for forensic analysis. Following capability gap analysis, Mr. de Margerie completed the development staff with systems and customer focussed team members. The CTO clarified the portfolio to allow individual projects to focus on clear customer issues. The CTO secured over \$350,000 in financing and provided the reporting link between product development teams and various stakeholders including founders, investors and government funding agencies. System components included COTS and custom hardware, embedded software and user applications. The company now has a successful product and client base.

**Areas of management activities:** Corporate, Human Resources, Financial Resources, Information Technology

**Nov. 1999** Senior Manager, Nortel Networks, Ottawa, Canada  
**- June 2002**

Consistently evaluated as top performer and received several recognition awards

Storage Networking Engineering, Metro Optical Portfolio:

Prepared comprehensive business plans for various facets of storage networking business, including competitive analysis, business cases, market sizing and evolution, strategic positioning, technical feasibility, development plan and financial analysis. Developed model architectures and patents in support of business continuity and disaster recovery. Played a key role in merger and acquisition activities related to storage networking as well as for many other partner vendor relationships. Built a small team with expert knowledge on storage networking technology and business, becoming primary advisor to sales, marketing, product management and development organizations within Nortel. Authored two patents. Coordinated with international teams in the UK and US. Made extensive use and participation in Gartner and IDC market studies in support of mergers and acquisitions as well as product portfolio direction.

Portfolio Integration, Carrier and Core Packet Solution:

Main role was setting and aligning a common strategic vision for IP Transport as well as Voice over IP solutions among development, marketing and sales units in Nortel. Reported directly at the at the Vice President level regarding strategies for Unified Communications and Storage Networking.

**Areas of management activities:** Project, Program, International, Information Technology, Mergers and Acquisitions.

**Feb 1983** Vice President and Co-founder, ASA Consulting, Ltd., Ottawa and Halifax  
**- Oct. 1999** President from 1994.

Mr. de Margerie lead the company in the architecture, development and life-cycle management of major projects and products, including advanced visualization tools, decision support systems, computer simulations, data fusion, remote sensing and data management, using a wide range of computer platforms including array processors, as well as CRAY and NEC supercomputers. As President, he recruited, developed and mentored a staff of up to 30 scientists and engineers in a matrix organization for well over 100 projects for the Canadian Coast Guard, DND, NRCan, Fisheries and Oceans, Environment Canada, provincial and municipal governments, the private sector and foreign governments. He was responsible for most contract negotiations and procurement agreements as well as wrote most proposals. Mr de Margerie developed business cases in support of strategic planning and partnerships. He also coached staff in activities of requirements specification, implementation, configuration and release management, product support and maintenance, incident tracking and performance monitoring.

Led projects in China, Indonesia and Argentina, as well as trade missions in Europe, South America and Asia. Presented projects and results at ministerial and deputy ministerial levels in Canada and abroad as well as in many international conferences.

While at ASA, created and fostered several joint ventures and partnerships including the Groupe d'Application Scientifique (GAS) with corporations from the Maritimes Provinces and Québec offering environmental sciences consulting services. Also played a role in founding the Atlantic Center of Remote Sensing of the Ocean (ARCISO), and participated in the Institute for Information Interoperability (I3). While at ASA, founded another corporation, Infomar Marine Services and participated in the executive management of Socomar International.

**Areas of management activities:** Project, Corporate, Human Resources, Financial Resources, International Projects and Organizations, Information Technology, Science, Science Data and related fields.

**March 1994 Founder and President, Infomar Marine Services Inc., Quebec, Canada  
- Nov. 1999**

A spin-off of ASA Consulting, Infomar specializes in the development of geomatic and decision support systems as well as the design and maintenance of networks for environmental monitoring. It also has an important operational arm providing 14/7 network support, including WAN, MAN and LAN. Mr. de Margerie established the corporate structure and mission statement, established key partner and client relationships, hired and coached the executive and management team. Within a few years this business operated as an autonomous unit and in 1999 interest in the corporation was acquired by its then vice-president and director.

**Areas of management activities:** Project, Corporate, Human Resources, Financial Resources, International, Information Technology, Scientific Data, Networks.

**1995-1997 Vice President, Marketing, Socomar International (1995) Inc., Montreal**

Directed marketing and sales activities in South America, and supported marketing activities in China and Southeast Asia. Secured contracts of up to five million dollars. Socomar is a manufacturer of telemetering systems (SCADA) for environmental applications.

**Areas of management activities:** Project, Human Resources, Financial Resources, International Projects and Organizations, Oceanography and related fields.

**1981-1983 Senior Researcher**, Martec Ltd., Halifax, Canada

Manager of oceanographic research projects and contributor to multi-disciplinary studies. Responsible for project level human resources and finances. These projects comprised field programs, theoretical analysis and numerical modeling techniques to enhance already available data and quantify physical environment factors.

**Areas of management activities:** Project, Human Resources, Financial Resources, Oceanography and related fields.

**1975-1981 Research Assistant**, Marine Science Center (McGill University), Montreal, Canada

Chief scientist on multiple oceanographic cruises; responsible for the Gulf of Saint Lawrence monitoring program for two seasons; designed and ran the processing system (ANALYSIS) for all collected physical data. Also worked on a contractual basis with several other clients (Hydro Quebec, James Bay Hydroelectric Project). Duties included the design and implementation of a data processing system. Maintenance and modifications to instruments, as well as planning and heading of oceanographic research cruises.

**Areas of activities:** Oceanography and related fields, scientific data management.

**BOARD MEMBERSHIP AND EXPERT ADVISOR**

**Chair** of the National Science Data Management Committee (NSDMC) at DFO (to 2014)  
**Expert** Team on Marine Climatology (ETMC) participant for the Joint Commission on Oceanography and Meteorology (JCOMM) under the UN (to 2014).

**National coordinator for Canada** to the International Ocean information and Data Exchange (IODE) subcommittee of the Intergovernmental Oceanographic Commission (IOC) under UNESCO (to 2014).

**Chairman** of the Hydrology Working Group of the National Disaster Advisory Committee (Natural Resources Canada) from 1998-1999.

**Past member of the Emergency Response Team** for the Nova Scotia offshore.

**Expert witness** in court cases.

**Expert advisor** and Independent Validation & Verification for third party projects.

**COMMUNICATIONS**

**Briefing** at the ministerial, ADM, DG, VP levels nationally and internationally on a variety of subjects.

**Authored hundreds of publications and reports.** Confident public speaker, with frequent presentations at international conferences, as well as at smaller workshops. Completely at ease with advising senior management and executives including presentations to ministerial and deputy ministerial levels. Comfortable in chairing meetings with a keen attention to defining objectives and identifying outcomes.

**TECHNOLOGY**

**Familiar with networking technologies** for LAN, SAN, MAN and WAN environments, including Fibre Channel, Ethernet, IP routing SONET and DWDM. Particular expertise in understanding of Storage Area Network (SAN) technologies (e.g. iSCSI, iFCP, FCIP), as well as Internet technologies (TCP-IP, RPC, VoIP, etc.).

**Familiar with many computer platforms** with diverse operating systems (Windows, UNIX, LINUX, and others), hardware (PC, MAC, SUN, HP, VAX, CRAY and NEC

supercomputer, as well as specialized parallel/array processors) and architectures (client-server, distributed, centralized, virtual).

**Expert with Microsoft Project, as well as with other project management tools.**

Agile with office automation tools (e.g. Microsoft Office, Excel, Visio, Word, Outlook, PowerPoint and many others) as well as CAD and GIS tools.

**At ease with development methodologies** (Agile, rapid prototyping, waterfall) and tools (SCRUM, JAD, Subversion) for development in various languages (C, C++, Java, Ruby, SQL), environments and frameworks (Visual Studio, RoR, .NET, etc.).

**Expert user of mathematics and statistics libraries and tools** such as MatLab, SPSS, LinPack, and MathCad for applications such as signal processing (trend, harmonic, spectral, orthogonal-eigenfunctions, correlation, cross-correlation) and modeling (optimal estimation, linear and non-linear statistical forecasting, systems simulations).

## **PATENTS**

US 6,859,865 "*Architecture and Redundancy Scheme for Removing Latency Effects in Acknowledged Data Transfers*"

US 6,920,153 "*Architecture and addressing scheme for storage interconnect and emerging storage service providers*"

US 7,864,175 "*Fast gridding of irregular data*"

## **PAST PROFESSIONAL MEMBERSHIP:**

IEEE, CMOS

**PARTIAL PROJECT LIST****MARINET**

**Role:** Leader and director

**Client/Sponsors:** NRCAN, DND, DFO, CANARIE Inc.

**Abstract:** Development of new information technologies for spatial data analysis and management with applications in science, medicine and geomatics. Included a submission for standardization to the ISO TC-211 working group on geospatial information systems.

**CANSARP V4**

**Role:** Director

**Client/Sponsors:** Canadian Coast Guard (CCG).

**Abstract:** Development of a new release of the Canadian Search and Rescue Planner (CANSARP) software for coordination and optimization of search and rescue at sea. This is a life/mission critical decision support system including extensive security, reliability and redundancy. This was a multi-year multiphase project (3 contracts).

**Special commendation:** for exceptional contract performance.

**Halifax Harbour Sewage Treatment**

**Role:** Director

**Client/Sponsors:** Municipality of Halifax (NS) and Jacques Whitford.

**Abstract:** Multiple contracts analyzing the environmental impacts and cost benefit of various sewage treatment and effluent disposal alternatives.

**COWLIS/SINECO**

**Role:** Originator and director

**Client/Sponsors:** Department of Fisheries and Oceans (DFO)

**Abstract:** Development of an integrated (hardware, software and networking) data collection, validation, management, processing and forecast system. This was a multi-year multiphase project comprising over 10 contracts involving the Eastern, Quebec and Central regional offices of DFO. The turnkey system encompassed system development, implementation, equipment procurement, installation and finally operation of the network for 10 years.

**Aquaculture Impact Assessment**

**Role:** Senior manager and contributor

**Client/Sponsors:** British Columbia Ministry of Agriculture and Fisheries

**Abstract:** Analysis of Salmon fisheries impact on coastal regions with delivery of impact analysis and prediction tools.

**Taihu Basin Flood Warning**

**Role:** Contract negotiation and planning

**Client/Sponsors:** Taihu Basin Authority (China)

**Abstract:** Planned and secured a project for flood warning and management in the Taihu Basin area of China. This region near Shanghai is part of the Yangtze delta. It is regularly subject to flooding which in some years can cause catastrophic loss of life and physical damage. The project provided a system of networked monitoring stations and systems to monitor and predict flooding events.

**SAR-AWAM (Synthetic Aperture Radar – Advanced Wave Assimilative Model)**

**Role:** Senior manager

**Client/Sponsors:** Atmospheric Environment Service (AES) of Environment Canada (EC)

**Abstract:** Development of an advanced weather forecasting system component for wave climate using Synthetic Aperture Radar (SAR) data from Canada's

RADARSAT satellite. This system is used operationally for weather forecasting in the North Atlantic. This was a multi-year multiphase project (6 contracts).

**Special commendation:** for exceptional management.

### **Tidal Power Analysis**

**Role:** Senior manager

**Client/Sponsors:** CANMET program of Natural Resources Canada (NRCAN)

**Abstract:** Study and analysis of tidal power generation in the upper Bay of Fundy including multi-year field program and simulation of hydrodynamic, sedimentation processes and environmental impacts. Multi-year multiphase project.

### **Euphosiid Migration Model**

**Role:** Manager and contributor

**Client/Sponsors:** Department of Fisheries and Oceans, Quebec Region.

**Abstract:** Cooperative effort with marine biologists to develop an understanding of the migration and aggregation of crustacean plankton in estuaries under the influence of tides and fluctuations in ambient light intensity.

### **Offshore Dispersion Analysis**

**Role:** Manager

**Client/Sponsors:** Department of Fisheries and Oceans (DFO)

**Abstract:** Analysis and forecasting of environmental dispersion of drilling waste from offshore operations (2 contracts).

### **Air-Sea-Ice Interactions**

**Role:** Manager

**Client/Sponsors:** Department of Fisheries and Oceans (DFO) and Environment Canada (EC)

**Abstract:** Analysis and modeling of multiple aspects of atmosphere-ocean interactions including ice formation and movement. Multi-year multi project (>5 contracts).

### **Buoy Data System**

**Role:** Manager and contributor

**Client/Sponsors:** Marine Environmental Data Service (MEDS) of DFO.

**Abstract:** Update of legacy GTS software system for automatic data acquisition and management from satellite transmitting autonomous offshore buoys.

### **Emergency Preparedness Exercise**

**Role:** Manager and contributor

**Client/Sponsors:** Environmental Protection Branch of Environment Canada (EC)

**Abstract:** Joint Canada-US environmental emergency response exercise in Lake Erie.

### **Data Assimilation for Search and Rescue**

**Role:** Manager

**Client/Sponsors:** CCG and Marine Environmental Data Service (MEDS) of DFO

**Abstract:** Two contracts for considering the enhancement of search and rescue performance through the use of real time ocean data from offshore instrumentation and ocean forecast models.

### **Decision Support System for HAZMAT Contamination**

**Role:** Manager

**Client/Sponsors:** Environmental Protection Branch of Environment Canada (EC)

**Abstract:** Support international team in the development of an advance support software for emergency response in the event of toxic spills of various materials.

### **Miramichi Water Quality**

**Role:** Manager

**Client/Sponsors:** Environmental Protection Branch of Environment Canada.

**Abstract:** Analysis and forecast of water quality for the Miramichi estuary.

**Thermal Effluent Analysis: Suralaya, Indonesia**

**Role:** Manager and contributor

**Client/Sponsors:** SNC Lavalin

**Abstract:** Field program, data analysis and computer simulation of cooling water dispersion and circulation for thermal power plants.

**Thermal Effluent Analysis, Ship Harbour and L'Étang Inlet**

**Role:** Manager and contributor

**Client/Sponsors:** Nova Scotia Power

**Abstract:** Field program, data analysis and computer simulation of cooling water dispersion and circulation for thermal power plants. Multiple contracts.

**Engineering Design Criteria**

**Role:** Manager and contributor

**Client/Sponsors:** Sable Island Gas, PetroCan and others.

**Abstract:** Monitoring and determination of environmental parameter (e.g. 10-20-50-100 year storm waves, currents water levels, sediment disturbance, etc.) for coastal structure, pipeline and offshore installations.

**Operational Iceberg Collision Risk Analysis**

**Role:** Manager

**Client/Sponsors:** COGLA (NRCAN) and Mobil Oil

**Abstract:** Development decision support system to assist in decision making regarding the avoidance of iceberg impact for semi-submersible drilling rigs on the Grand Banks. Uses probabilistic and actuarial analysis with current iceberg distributions and paths to recommend various response phases (standby, retract stem, release anchors, trigger blow-out preventer, evacuate platform, etc.).