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Bonnie Mae Savage Ph.D.  
RESEARCH ENGINEER / SCIENTIST AND DEVELOPMENT ADMINISTRATOR  
Wheelock VT - Email me on Indeed: indeed.com/r/cf31d4f032b64974  
Superior skills at bringing biological science innovative engineered systems and people together for successful outcomes.  
Core Skills  
Engineering Research & Technical Analyses Business Development Strategist  
Extensive High-Profile Public Speaking Multiple Discipline Innovator  
Negotiations for Research & Financial Support Partnership with World-Renowned Researchers  
WORK EXPERIENCE  
Entrepreneur & Chief Executive Officer  
STARFIRE RANCH VERMONT - Wheelock VT - 2005 to Present  
\* Developed land designed/constructed ranch infrastructure e.g. designing/constructing barn exercise arena lands for pasture herd/breeding program and Developed Gentleness Training Program (one of its kind).  
\* Bred/developed elite quality horses for reining competition.  
\* Produced 2 World Champion Reining horses each in 1st year of training!  
\* Acheived notarity in reining horse world with two of the World's Top Reining Trainers/Riders have requested to work with SFR horses. The start-up operation rapidly earned professional community rapport is considered one of best up-and-coming ranches nationally & internationally for reining horses.  
\* Invited Member of the Board of Directors of the National Appaloosa Reining Horse Association.  
Engineering Research Initiator & Head Development Administrator  
PURDUE UNIVERSITY Civil Engineering - West Lafayette IN - October 2005 to June 2006  
\* Development of Tracking Monitoring and Traceability Systems Developing technology systems that allow one to: 1) track food source materials from farm to processors 2) monitor quality of food product and appropriate ambient environments including determination of biological and chemical contaminants and 3) trace food contaminants or other concerns back to origin of substance or critical condition.  
\* Research project independently created concepts and put together technical team of 15 diverse experts in areas such as agriculture IT transportation logistics and communications.  
\* Development of integrated wireless technologies biological and chemical sensors and legacy supply chain systems involved. Developed to launch off stage.  
   
\* Received promises of financial support from companies; e.g. Kraft $3M Del Monte $1.5M and several other companies for $0.5M each.  
Engineering Research Developer & Administrator  
PURDUE UNIVERSITY Civil Engineering - West Lafayette IN - May 2004 to June 2006  
\* Development of Optimized Freight Exchange Centers. Developed freight exchange center designs to be integrated with multimodal transportation system in US.  
\* Projections found with freight optimization in place entire Updated National Transportation System would ensure ROI of 4 years as result of fuel/energy savings time savings and efficiencies in freight transport.  
\* $38M was set aside by Congress to study logistics of national plan roll out.  
Visiting Assistant Professor  
PURDUE UNIVERSITY Civil Engineering - West Lafayette IN - June 2003 to March 2006 Civil Engineering  
\* Produced set of research initiatives and developed curriculum as visiting member of staff.  
\* Research initiatives each had potential for significant national and worldwide impact on American economy transportation industry and biomedical communities.  
BioMedical Engineering  
\* Research in Biomedical Engineering on topics involving application of photonic energy applied to cells aimed at cellular stimulation blood vessel creation and bone regeneration as well as tumor relocation exposition.  
BioMedical Research Initiator & Administrator Volunteerism  
PURDUE UNIVERSITY BioMedical Engineering - West Lafayette IN - July 2004 to August 2005  
\* Investigation of Effects of Photonic on Osteoblastic Cells. Pursued self-funded investigations of effects of photonic energy on human osteoblastic cells. Supervised 2 student researchers.  
\* Effects of photonic energy applications on osteoblastic cells quantified in terms of growth indicators proliferation morphology and adherence properties.  
\* Successful in showing how to initiate larger rates of osteoblastic cell growth responsible for bone growth.  
\* Identified particular characterized photonic energies and co-varying energy amounts which detracted were neutral or increased osteoblastic cellular responses.  
\* Identified possible generalized cellular responses to characterized and applied photonic energies based upon results of work done with osteoblastic cells and previous work completed with vascular cell lines.  
\* Negotiated $10M to further research extending through clinical trials and to develop minimally invasive instrument for treating bone growth issues in humans.  
BioMedical Engineering Research Initiator & Administrator Volunteerism  
PURDUE UNIVERSITY BioMedical Engineering - West Lafayette IN - June 2003 to September 2004  
\* Investigation of Effects of Monochromatic Light on Vascular Cells. Pursued self-funded research investigating the effects of monochromatic photonic energy on human vascular cell lines.  
\* Procured use of laboratory facilities and equipment efforts of technicians for aiding in development of needed equipment and training and permissions for use of designated-use equipment.  
\* Research quantified effects of characterized photonic energy applications in terms of growth indicators growth proliferation morphology and adherence properties.  
\* Observed polarity effects on vascular structure growth initiated vascular growth of singular vascular and branching vascular systems.  
\* Identified mechanism which has potential to explain tumor cell distribution throughout body.  
\* Publicly presented results of growth indicators proliferation and morphology changes due to photonic energy applications. Permission given to further use facilities to pursue independent research.  
Engineering Researcher  
PURDUE UNIVERSITY Civil Engineering - Lafayette IN - November 2003 to May 2004 \* Transportation Distribution and Logistics Investigation for Indiana's Economy.  
\* Data contribution resulted in necessary planning tool for Governor and The Central Indiana Partnership to plan for and encourage economic changes that would benefit businesses and overall state economy.  
Engineering Technical Research Developer & Administrator  
PURDUE UNIVERSITY Civil Engineering - West Lafayette IN - June 2003 to May 2004  
\* Development of Updated National Transportation System. Developed multimodal transportation system plan for both passenger and freight transportation in US.  
\* Developed modeled and cost-estimated physical and systematic components of proposed national transportation system integrated suggested systems and identified emerging and existing technology needed to achieve the total transportation system communications and safety systems resulting.  
\* Held press conferences to speaking to national media.  
\* Presented to United States Congress Department of Transportation where it was enthusiastically accepted and supported with standing ovation and presented to Senate International Economic Affairs group.  
\* Research went to President George Bush's desk on 3 separate occasions.  
Engineering Researcher  
PURDUE UNIVERSITY Civil Engineeering - Seattle WA - January 2002 to 2003  
\* Experimental Analysis of Temperature Distributions in PCC Pavements Using Simultaneous Equations Methodology.  
\* Produced solution to long time industry problem of predicting temperature gradients in PCC pavements.  
Engineering Researcher  
Power Thought LLC - Woodinville WA - May 2001 to November 2002  
\* Neural Networks as Tool for Modeling Temperatures in PCC Pavements: Created collaboration with Power Thought LLC. to research and conduct work to investigate possibility of using neural network computing framework to model/predict dynamic temperature distributions in Portland cement concrete pavements.  
Engineering Researcher; Instructor; Assistant Research Administrator  
UNIVERSITY OF WASHINGTON Civil Engineering - Seattle WA - January 1995 to June 2001 Analytical & Laboratory Research  
\* Characterization of Gradients in Rigid Pavements: Established database of temperature/moisture profiles expected to exist in array of typical in-use and new PCC pavements.  
\* Supervised/coordinated effort of 3 universities involved in field data collection to establish normal and extreme conditions found in typical pavements throughout United States.  
\* Presented results to FHWA in Washington D.C. and to industry groups ~200 persons for critical review.  
Instructor  
\*Taught undergraduate and graduate courses in Construction Materials Civil Engineering History Construction Economics Biophysics and Cryophysics. Created a laboratory course graduate courses and suggested curriculum.  
Entrepreneur & Head Technical Analyst  
ROCKET RIDE INVESTMENTS - July 1996 to December 1999  
\* Managed elite high-risk stock portfolios for 2-5 clients and informally advised major stock firm on choices. \* Clients made returns of ~200% annually resulting in multi-million dollars.  
Engineering Field Research Engineering Supervisor  
UNIVERSITY OF WASHINGTON / STATE OF WASHINGTON Dept. of Transportation - Seattle WA - August 1997 to March 1998  
Evaluation of Highway Reconstruction Practices  
\* Paving quality assessment study and urban primary route closure viability study. Participated in overall planning/execution of pavement and public reaction study.  
\* Established that full baseline set of data for future pavement life cycle issues could be collected safely in major total shut down live construction settings.  
Engineering Research Team Member  
Analytical & Laboratory Research - June 1995 to March 1998  
\* Interpreting FWD Tests of Curled and Warped PCC Pavements: Investigation of effects of curling and warping in PCC pavements on results falling weight deflectometer tests.  
\* Data was subsequently available for investigations aimed at improving longevity of pavement life cycles.  
Field Research Data Collection & Safety Supervisor  
UNIVERSITY OF WASHINGTON Civil Engineering - Seattle WA - June 1997 to July 1997  
\* Supervised ~10 persons in collection of data and maintained safety in live construction traffic situations for both day and night research activities for Washington State Department of Transportation.  
\* Data collected and contributed to nationally watched experiments' success.  
Research Volunteer-Cryo Processes  
UNIVERSITY OF WASHINGTON Quaternary Research Center - Seattle WA - March 1993 to 1995  
\* Freezing in Porous Media: Theoretical model describing freezing processes generalized to include freezing processes in other porous building materials.  
\* Worked with head of Quaternary Research Center on development and head of prestigious German Institute on his own theory development for 3 months after completing personal research.  
\* Received invitation from 3 of 6 members of deciding committee to go to Germany under prestigious Humboldt Fellowship for Post-Doctoral Research to continue research of choice. Offered full support full use of facilities and 3 Ph. D. students at disposal-unprecedented offer in history of this fellowship.  
Engineering Forensic Research Team Member  
UNIVERSITY OF WASHINGTON - Seattle WA - June 1993 to August 1993  
Evaluation of PCC Pavement Condition Using FWD Testing: Pavement rehabilitation investigation conducted including forensic study condition assessment and rehabilitation recommendations for municipal facility experiencing untimely pavement structure failure.  
Field Research Supervisor  
UNIVERSITY OF WASHINGTON Engineering Master's Thesis-Analytical Research - Seattle WA - July 1991 to December 1992  
\* Unsaturated Moisture Movement in Portland Cement Concrete: Validated use of porting soil physics principles known to dominate in other porous structures for use in modeling unsaturated moisture movement in Portland Cement Concrete. 1st successful model for unsaturated moisture movement in PCC.  
\* Method was presented to engineering community and followed up on by renowned Los Alamos National Laboratory for employment as tool in related future research.  
Field Research Supervisor  
State of Washington Polyfelt Geosynthetics Inc. & University of Washington; 6/1991  
\* Directed ~35 persons in installation of moisture/temperature monitoring equipment and geosynthetics in roadway. In-situ soil sampling and testing geosynthetic strain measurements.  
\* New roadway with sensors subsequently used as source of research data for State of Washington DOT.  
Engineering Research Assistant  
UNIVERSITY OF ALASKA FAIRBANKS - Fairbanks AK - September 1987 to September 1990 Engineering Master's Thesis-Applied Research  
\* Full-scale Field and Laboratory Modeling of Road Embankment Experiencing Thaw-Strain. Results subsequently employed by Alaska DOT for highway construction and rehabilitation.  
\* Research implementation extended life of concerned pavements by 10 years and estimated to have saved State of Alaska DOT over $1M in pavement embankment restorations.  
Agricultural Research Station Environmental Biophysics Research Investigator Volunteerism  
\* Investigated albedo values for differing crop and terrain surfaces dependent upon radiant energy inputs.  
\* Information forwarded to Alaska Department of Agriculture; considered in ongoing effort to establish crop growth in Delta Junction region and State of Alaska.  
Geophysical Institute Radiant Energy Volunteerism  
\* Initiated/conducted research to identify critical actors in timing of ice breakup on northern rivers.  
\* Information employed in subsequent biophysical research for arctic conditions proving valuable for those receiving goods/services via river transportation in northern regions particularly circumpolar nations and northern portions of former Soviet Union.  
Environmental Field Officer  
STATE OF ALASKA Department of Environmental Conservation; Kenai District - Kenai AK - August 1988 to January 1989  
\* Provided technical and managerial assistance for major groundwater clean-up project using technical expertise in infiltration and transport behavior of multiple fluids (ground water and hydrocarbon derivatives). Initiated and set up computerized data processing and storage system.  
Environmental Engineer  
Nortech Engineering - Fairbanks AK - May 1988 to August 1988  
\* Designed commercial onsite waste water systems. Information gathering for analytical procedures; re: hydrocarbon contaminated surface/groundwater soils/degradation processes in sub-arctic environment Radon gas detection.  
Research Engineer  
STATE OF ALASKA DOTPF-Research Section - Fairbanks AK - May 1987 to August 1987  
\* Conducted forensic investigations for highways containing experimental installations of geosynthetics and recommend designs for installation improvements. Recommendations were adopted by State of Alaska DOT saving over $1M in first several years.  
Environmental Intern Level III  
STATE OF ALASKA Dept. of Environmental Conservation - Kenai AK - May 1986 to August 1986  
\* Coordinated 2 state investigations of benzene contaminated groundwater. Investigated/determined technical needs for remediation identified multiple pollutants types/sources communicated with public to alleviate fears and hired contractors for clean-up operations.  
\* Worked with Alaska Attorney General to suggest punitive damages to be levied against oil/chemical companies responsible for environmental damages.  
\* Both projects closely watched by public interest groups (environmental and oil/chemical companies). Reports of situation made to State Legislator and general public.  
Microbiology Laboratory Assistant  
UNIVERSITY OF ALASKA Institute of Arctic Biology - Fairbanks AK - June 1983 to 1984  
\* Directly assisted Research Veterinarian and Head Microbiologist in Brucella Suis vaccine research.  
\* Use of code 3 laboratory (air lock-controlled environment chamber) knowledge of specific cell level transport processes.  
\* Contributed to research team effort in identifying critical markers and developing vaccine.  
EDUCATION  
Ph.D. in Engineering  
University of Washington 2002 to 2003  
MS in Research Engineering  
University of Washington 1990 to 1992  
MS in Applied Engineering  
University of Alaska Fairbanks - Fairbanks AK 1985 to 1990  
BS in Human & Natural Resources Management Studies  
University of Alaska Fairbanks - Fairbanks AK January 1981 to January 1985  
AD in Business Administration  
Community College of Vermont - Saint Johnsbury VT January 1980 to January 1981  
SKILLS  
MS Word Suite Statistical Evaluation Data Analyses Public Speaking Presentations Reports Innovation Team Building  
ADDITIONAL INFORMATION  
Interests in Alternative Medicine Equine Research Pets Versatile Skills Set