A further aspect is directed to a system for repairing a composite first material, the system for maintaining a temperature difference between a composite first material located proximate to a second material during the repair, the system comprising the composite first material having a first side and a second side, the second material having a first side and a second side, with the first side of the second material located proximate to the second side of the composite first material, a heat source positioned proximate to the first side of the composite first material; a thermoelectric device positioned proximate to the second side of the second material; a temperature sensing device in contact with the second side of the second material, wherein the temperature sensing device is a thermocouple and wherein the thermoelectric device is in communication with the thermocouple; a controller in communication with the thermoelectric device and the temperature sensing device, wherein the controller is configured to control a current directed from an electric source to the thermoelectric device.