



Jyothi Engineering College

Reaccredited with NAAC (Grade A) and NBA Programmes*

Approved by AICTE and Affiliated to APJ Abdul Kalam Technological University

A CENTRE OF EXCELLENCE IN SCIENCE AND TECHNOLOGY BY THE CATHOLIC ARCHDIOCESE OF TRICHUR

JYOTHI HILLS, VETIKATTIRI P.O., CHERUTHURUTHY, THRISSUR, 679531 | Ph. +91 4884 259000 | info@jecc.ac.in | www.jecc.ac.in



*NBA accredited BTech Programmes in Civil Engineering, Computer Science and Engineering, Electronics and Communication Engineering, Electrical and Electronics Engineering and Mechanical Engineering valid till 2025, Mechatronics Engineering valid till 2026

Sl.No.	Title	Title_url
1	Accident Analysis & Prevention	https://www.sciencedirect.com/science/journal/00014575
2	Acta Astronautica	https://www.sciencedirect.com/science/journal/00945765
3	Acta Biomaterialia	https://www.sciencedirect.com/science/journal/17427061
4	Ad Hoc Networks	https://www.sciencedirect.com/science/journal/15708705
5	Additive Manufacturing	https://www.sciencedirect.com/science/journal/22148604
6	Advanced Engineering Informatics	https://www.sciencedirect.com/science/journal/14740346
7	Advances in Engineering Software	https://www.sciencedirect.com/science/journal/09659978
8	Aerospace Science and Technology	https://www.sciencedirect.com/science/journal/12709638
9	AEU - International Journal of Electronics and Communications	https://www.sciencedirect.com/science/journal/14348411
10	Analytic Methods in Accident Research	https://www.sciencedirect.com/science/journal/22136657
11	Annual Reviews in Control	https://www.sciencedirect.com/science/journal/13675788
12	Applied Acoustics	https://www.sciencedirect.com/science/journal/0003682X
13	Applied Clay Science	https://www.sciencedirect.com/science/journal/01691317
14	Applied Energy	https://www.sciencedirect.com/science/journal/03062619
15	Applied Ergonomics	https://www.sciencedirect.com/science/journal/00036870
16	Applied Mathematical Modelling	https://www.sciencedirect.com/science/journal/0307904X
17	Applied Mathematics Letters	https://www.sciencedirect.com/science/journal/08939659
18	Applied Ocean Research	https://www.sciencedirect.com/science/journal/01411187
19	Applied Soft Computing	https://www.sciencedirect.com/science/journal/15684946
20	Applied Thermal Engineering	https://www.sciencedirect.com/science/journal/13594311
21	Artificial Intelligence	https://www.sciencedirect.com/science/journal/00043702
22	Artificial Intelligence in Medicine	https://www.sciencedirect.com/science/journal/09333657
23	Automatica	https://www.sciencedirect.com/science/journal/00051098
24	Automation in Construction	https://www.sciencedirect.com/science/journal/09265805
25	Big Data Research	https://www.sciencedirect.com/science/journal/22145796
26	Biocybernetics and Biomedical Engineering	https://www.sciencedirect.com/science/journal/02085216
27	Biomaterials	https://www.sciencedirect.com/science/journal/01429612
28	Biomedical Signal Processing and Control	https://www.sciencedirect.com/science/journal/17468094
29	Biosensors and Bioelectronics	https://www.sciencedirect.com/science/journal/09565663
30	Biosystems Engineering	https://www.sciencedirect.com/science/journal/15375110
31	Building and Environment	https://www.sciencedirect.com/science/journal/03601323
32	Cement and Concrete Composites	https://www.sciencedirect.com/science/journal/09589465
33	Cement and Concrete Research	https://www.sciencedirect.com/science/journal/00088846
34	CIRP Annals	https://www.sciencedirect.com/science/journal/00078506

35	CIRP Journal of Manufacturing Science and Technology	https://www.sciencedirect.com/science/journal/17555817
36	Coastal Engineering	https://www.sciencedirect.com/science/journal/03783839
37	Cognitive Systems Research	https://www.sciencedirect.com/science/journal/13890417
38	Combustion and Flame	https://www.sciencedirect.com/science/journal/00102180
39	Communications in Nonlinear Science and Numerical Simulation	https://www.sciencedirect.com/science/journal/10075704
40	Composite Structures	https://www.sciencedirect.com/science/journal/02638223
41	Composites Part A: Applied Science and Manufacturing	https://www.sciencedirect.com/science/journal/1359835X
42	Composites Part B: Engineering	https://www.sciencedirect.com/science/journal/13598368
43	Composites Science and Technology	https://www.sciencedirect.com/science/journal/02663538
44	Computational Biology and Chemistry	https://www.sciencedirect.com/science/journal/14769271
45	Computational Geometry	https://www.sciencedirect.com/science/journal/09257721
46	Computational Materials Science	https://www.sciencedirect.com/science/journal/09270256
47	Computational Statistics & Data Analysis	https://www.sciencedirect.com/science/journal/01679473
48	Computer Aided Geometric Design	https://www.sciencedirect.com/science/journal/01678396
49	Computer Communications	https://www.sciencedirect.com/science/journal/01403664
50	Computer Law & Security Review	https://www.sciencedirect.com/science/journal/02673649
51	Computer Methods and Programs in Biomedicine	https://www.sciencedirect.com/science/journal/01692607
52	Computer Methods in Applied Mechanics and Engineering	https://www.sciencedirect.com/science/journal/00457825
53	Computer Networks	https://www.sciencedirect.com/science/journal/13891286
54	Computer Physics Communications	https://www.sciencedirect.com/science/journal/00104655
55	Computer Science Review	https://www.sciencedirect.com/science/journal/15740137
56	Computer Speech and Language	https://www.sciencedirect.com/science/journal/08852308
57	Computer Standards & Interfaces	https://www.sciencedirect.com/science/journal/09205489
58	Computer Vision and Image Understanding	https://www.sciencedirect.com/science/journal/10773142
59	Computer-Aided Design	https://www.sciencedirect.com/science/journal/00104485
60	Computerized Medical Imaging and Graphics	https://www.sciencedirect.com/science/journal/08956111
61	Computers & Chemical Engineering	https://www.sciencedirect.com/science/journal/00981354
62	Computers & Electrical Engineering	https://www.sciencedirect.com/science/journal/00457906
63	Computers & Fluids	https://www.sciencedirect.com/science/journal/00457930
64	Computers & Geosciences	https://www.sciencedirect.com/science/journal/00983004
65	Computers & Graphics	https://www.sciencedirect.com/science/journal/00978493
66	Computers & Industrial Engineering	https://www.sciencedirect.com/science/journal/03608352
67	Computers & Mathematics with Applications	https://www.sciencedirect.com/science/journal/08981221
68	Computers & Operations Research	https://www.sciencedirect.com/science/journal/03050548
69	Computers & Security	https://www.sciencedirect.com/science/journal/01674048
70	Computers & Structures	https://www.sciencedirect.com/science/journal/00457949

71	Computers and Electronics in Agriculture	https://www.sciencedirect.com/science/journal/01681699
72	Computers and Geotechnics	https://www.sciencedirect.com/science/journal/0266352X
73	Computers in Biology and Medicine	https://www.sciencedirect.com/science/journal/00104825
74	Computers in Human Behavior	https://www.sciencedirect.com/science/journal/07475632
75	Computers in Industry	https://www.sciencedirect.com/science/journal/01663615
76	Computers, Environment and Urban Systems	https://www.sciencedirect.com/science/journal/01989715
77	Construction and Building Materials	https://www.sciencedirect.com/science/journal/09500618
78	Control Engineering Practice	https://www.sciencedirect.com/science/journal/09670661
79	Data & Knowledge Engineering	https://www.sciencedirect.com/science/journal/0169023X
80	Decision Support Systems	https://www.sciencedirect.com/science/journal/01679236
81	Desalination	https://www.sciencedirect.com/science/journal/00119164
82	Design Studies	https://www.sciencedirect.com/science/journal/0142694X
83	Diamond and Related Materials	https://www.sciencedirect.com/science/journal/09259635
84	Digital Signal Processing	https://www.sciencedirect.com/science/journal/10512004
85	Discrete Applied Mathematics	https://www.sciencedirect.com/science/journal/0166218X
86	Displays	https://www.sciencedirect.com/science/journal/01419382
87	Dyes and Pigments	https://www.sciencedirect.com/science/journal/01437208
88	Electric Power Systems Research	https://www.sciencedirect.com/science/journal/03787796
89	Electronic Commerce Research and Applications	https://www.sciencedirect.com/science/journal/15674223
90	Energy and Buildings	https://www.sciencedirect.com/science/journal/03787788
91	Energy Conversion and Management	https://www.sciencedirect.com/science/journal/01968904
92	Energy Research & Social Science	https://www.sciencedirect.com/science/journal/22146296
93	Engineering Analysis with Boundary Elements	https://www.sciencedirect.com/science/journal/09557997
94	Engineering Applications of Artificial Intelligence	https://www.sciencedirect.com/science/journal/09521976
95	Engineering Failure Analysis	https://www.sciencedirect.com/science/journal/13506307
96	Engineering Fracture Mechanics	https://www.sciencedirect.com/science/journal/00137944
97	Engineering Structures	https://www.sciencedirect.com/science/journal/01410296
98	Entertainment Computing	https://www.sciencedirect.com/science/journal/18759521
99	Environmental Modelling & Software	https://www.sciencedirect.com/science/journal/13648152
100	European Journal of Control	https://www.sciencedirect.com/science/journal/09473580
101	European Journal of Mechanics - A/Solids	https://www.sciencedirect.com/science/journal/09977538
102	European Journal of Mechanics - B/Fluids	https://www.sciencedirect.com/science/journal/09977546
103	European Journal of Operational Research	https://www.sciencedirect.com/science/journal/03772217
104	Experimental Thermal and Fluid Science	https://www.sciencedirect.com/science/journal/08941777
105	Expert Systems with Applications	https://www.sciencedirect.com/science/journal/09574174
106	Extreme Mechanics Letters	https://www.sciencedirect.com/science/journal/23524316
107	Finite Elements in Analysis and Design	https://www.sciencedirect.com/science/journal/0168874X
108	Fire Safety Journal	https://www.sciencedirect.com/science/journal/03797112
109	Flow Measurement and Instrumentation	https://www.sciencedirect.com/science/journal/09555986

110	Forensic Science International: Digital Investigation	https://www.sciencedirect.com/science/journal/26662817
111	Fusion Engineering and Design	https://www.sciencedirect.com/science/journal/09203796
112	Future Generation Computer Systems	https://www.sciencedirect.com/science/journal/0167739X
113	Fuzzy Sets and Systems	https://www.sciencedirect.com/science/journal/01650114
114	Geotextiles and Geomembranes	https://www.sciencedirect.com/science/journal/02661144
115	Graphical Models	https://www.sciencedirect.com/science/journal/15240703
116	Image and Vision Computing	https://www.sciencedirect.com/science/journal/02628856
117	Information & Management	https://www.sciencedirect.com/science/journal/03787206
118	Information and Computation	https://www.sciencedirect.com/science/journal/08905401
119	Information and Organization	https://www.sciencedirect.com/science/journal/14717727
120	Information and Software Technology	https://www.sciencedirect.com/science/journal/09505849
121	Information Fusion	https://www.sciencedirect.com/science/journal/15662535
122	Information Processing & Management	https://www.sciencedirect.com/science/journal/03064573
123	Information Processing Letters	https://www.sciencedirect.com/science/journal/00200190
124	Information Sciences	https://www.sciencedirect.com/science/journal/00200255
125	Information Systems	https://www.sciencedirect.com/science/journal/03064379
126	Integration	https://www.sciencedirect.com/science/journal/01679260
127	International Communications in Heat and Mass Transfer	https://www.sciencedirect.com/science/journal/07351933
128	International Journal of Adhesion and Adhesives	https://www.sciencedirect.com/science/journal/01437496
129	International Journal of Approximate Reasoning	https://www.sciencedirect.com/science/journal/0888613X
130	International Journal of Child-Computer Interaction	https://www.sciencedirect.com/science/journal/22128689
131	International Journal of Critical Infrastructure Protection	https://www.sciencedirect.com/science/journal/18745482
132	International Journal of Electrical Power & Energy Systems	https://www.sciencedirect.com/science/journal/01420615
133	International Journal of Engineering Science	https://www.sciencedirect.com/science/journal/00207225
134	International Journal of Fatigue	https://www.sciencedirect.com/science/journal/01421123
135	International Journal of Heat and Fluid Flow	https://www.sciencedirect.com/science/journal/0142727X
136	International Journal of Heat and Mass Transfer	https://www.sciencedirect.com/science/journal/00179310
137	International Journal of Human-Computer Studies	https://www.sciencedirect.com/science/journal/10715819
138	International Journal of Impact Engineering	https://www.sciencedirect.com/science/journal/0734743X
139	International Journal of Industrial Ergonomics	https://www.sciencedirect.com/science/journal/01698141
140	International Journal of Machine Tools and Manufacture	https://www.sciencedirect.com/science/journal/08906955
141	International Journal of Mechanical Sciences	https://www.sciencedirect.com/science/journal/00207403
142	International Journal of Medical Informatics	https://www.sciencedirect.com/science/journal/13865056
143	International Journal of Multiphase Flow	https://www.sciencedirect.com/science/journal/03019322
144	International Journal of Non-Linear Mechanics	https://www.sciencedirect.com/science/journal/00207462
145	International Journal of Plasticity	https://www.sciencedirect.com/science/journal/07496419
146	International Journal of Pressure Vessels and Piping	https://www.sciencedirect.com/science/journal/03080161
147	International Journal of Production Economics	https://www.sciencedirect.com/science/journal/09255273

148	International Journal of Project Management	https://www.sciencedirect.com/science/journal/02637863
149	International Journal of Refrigeration	https://www.sciencedirect.com/science/journal/01407007
150	International Journal of Rock Mechanics and Mining Sciences	https://www.sciencedirect.com/science/journal/13651609
151	International Journal of Solids and Structures	https://www.sciencedirect.com/science/journal/00207683
152	International Journal of Thermal Sciences	https://www.sciencedirect.com/science/journal/12900729
153	IRBM News	https://www.sciencedirect.com/science/journal/19597568
154	ISA Transactions	https://www.sciencedirect.com/science/journal/00190578
155	ISPRS Journal of Photogrammetry and Remote Sensing	https://www.sciencedirect.com/science/journal/09242716
156	Journal of Biomechanics	https://www.sciencedirect.com/science/journal/00219290
157	Journal of Biomedical Informatics	https://www.sciencedirect.com/science/journal/15320464
158	Journal of Building Engineering	https://www.sciencedirect.com/science/journal/23527102
159	Journal of Computational and Applied Mathematics	https://www.sciencedirect.com/science/journal/03770427
160	Journal of Computational Physics	https://www.sciencedirect.com/science/journal/00219991
161	Journal of Computational Science	https://www.sciencedirect.com/science/journal/18777503
162	Journal of Computer and System Sciences	https://www.sciencedirect.com/science/journal/00220000
163	Journal of Computer Languages	https://www.sciencedirect.com/science/journal/25901184
164	Journal of Constructional Steel Research	https://www.sciencedirect.com/science/journal/0143974X
165	Journal of Electrostatics	https://www.sciencedirect.com/science/journal/03043886
166	Journal of Fluids and Structures	https://www.sciencedirect.com/science/journal/08899746
167	Journal of Industrial Information Integration	https://www.sciencedirect.com/science/journal/2452414X
168	Journal of Information Security and Applications	https://www.sciencedirect.com/science/journal/22142126
169	Journal of Informetrics	https://www.sciencedirect.com/science/journal/17511577
170	Journal of Logical and Algebraic Methods in Programming	https://www.sciencedirect.com/science/journal/23522208
171	Journal of Loss Prevention in the Process Industries	https://www.sciencedirect.com/science/journal/09504230
172	Journal of Manufacturing Processes	https://www.sciencedirect.com/science/journal/15266125
173	Journal of Manufacturing Systems	https://www.sciencedirect.com/science/journal/02786125
174	Journal of Materials Processing Technology	https://www.sciencedirect.com/science/journal/09240136
175	Journal of Molecular Graphics and Modelling	https://www.sciencedirect.com/science/journal/10933263
176	Journal of Network and Computer Applications	https://www.sciencedirect.com/science/journal/10848045
177	Journal of Non-Newtonian Fluid Mechanics	https://www.sciencedirect.com/science/journal/03770257
178	Journal of Parallel and Distributed Computing	https://www.sciencedirect.com/science/journal/07437315
179	Journal of Process Control	https://www.sciencedirect.com/science/journal/09591524
180	Journal of Safety Research	https://www.sciencedirect.com/science/journal/00224375
181	Journal of Sound and Vibration	https://www.sciencedirect.com/science/journal/0022460X
182	Journal of Space Safety Engineering	https://www.sciencedirect.com/science/journal/24688967
183	Journal of Systems and Software	https://www.sciencedirect.com/science/journal/01641212
184	Journal of Systems Architecture	https://www.sciencedirect.com/science/journal/13837621

185	Journal of Terramechanics	https://www.sciencedirect.com/science/journal/00224898
186	Journal of the Franklin Institute	https://www.sciencedirect.com/science/journal/00160032
187	Journal of the Mechanics and Physics of Solids	https://www.sciencedirect.com/science/journal/00225096
188	Journal of Visual Communication and Image Representation	https://www.sciencedirect.com/science/journal/10473203
189	Journal of Web Semantics	https://www.sciencedirect.com/science/journal/15708268
190	Journal of Wind Engineering and Industrial Aerodynamics	https://www.sciencedirect.com/science/journal/01676105
191	Knowledge-Based Systems	https://www.sciencedirect.com/science/journal/09507051
192	Marine Policy	https://www.sciencedirect.com/science/journal/0308597X
193	Marine Structures	https://www.sciencedirect.com/science/journal/09518339
194	Materials Science in Semiconductor Processing	https://www.sciencedirect.com/science/journal/13698001
195	Materials Today	https://www.sciencedirect.com/science/journal/13697021
196	Mathematics and Computers in Simulation	https://www.sciencedirect.com/science/journal/03784754
197	Measurement	https://www.sciencedirect.com/science/journal/02632241
198	Mechanical Systems and Signal Processing	https://www.sciencedirect.com/science/journal/08883270
199	Mechanics of Materials	https://www.sciencedirect.com/science/journal/01676636
200	Mechanics Research Communications	https://www.sciencedirect.com/science/journal/00936413
201	Mechanism and Machine Theory	https://www.sciencedirect.com/science/journal/0094114X
202	Mechatronics	https://www.sciencedirect.com/science/journal/09574158
203	Medical Engineering & Physics	https://www.sciencedirect.com/science/journal/13504533
204	Medical Image Analysis	https://www.sciencedirect.com/science/journal/13618415
205	Microelectronic Engineering	https://www.sciencedirect.com/science/journal/01679317
206	Microelectronics Journal	https://www.sciencedirect.com/science/journal/00262692
207	Microelectronics Reliability	https://www.sciencedirect.com/science/journal/00262714
208	Microprocessors and Microsystems	https://www.sciencedirect.com/science/journal/01419331
209	Nano Communication Networks	https://www.sciencedirect.com/science/journal/18787789
210	Nano Today	https://www.sciencedirect.com/science/journal/17480132
211	Nanomedicine: Nanotechnology, Biology and Medicine	https://www.sciencedirect.com/science/journal/15499634
212	NDT & E International	https://www.sciencedirect.com/science/journal/09638695
213	Neural Networks	https://www.sciencedirect.com/science/journal/08936080
214	Neurocomputing	https://www.sciencedirect.com/science/journal/09252312
215	Nonlinear Analysis	https://www.sciencedirect.com/science/journal/0362546X
216	Nonlinear Analysis: Hybrid Systems	https://www.sciencedirect.com/science/journal/1751570X
217	Nonlinear Analysis: Real World Applications	https://www.sciencedirect.com/science/journal/14681218
218	Nuclear Engineering and Design	https://www.sciencedirect.com/science/journal/00295493
219	Ocean & Coastal Management	https://www.sciencedirect.com/science/journal/09645691
220	Ocean Engineering	https://www.sciencedirect.com/science/journal/00298018
221	Optical Fiber Technology	https://www.sciencedirect.com/science/journal/10685200
222	Optical Switching and Networking	https://www.sciencedirect.com/science/journal/15734277

223	Optics & Laser Technology	https://www.sciencedirect.com/science/journal/00303992
224	Optics and Lasers in Engineering	https://www.sciencedirect.com/science/journal/01438166
225	Optik	https://www.sciencedirect.com/science/journal/00304026
226	Parallel Computing	https://www.sciencedirect.com/science/journal/01678191
227	Pattern Recognition	https://www.sciencedirect.com/science/journal/00313203
228	Pattern Recognition Letters	https://www.sciencedirect.com/science/journal/01678655
229	Performance Evaluation	https://www.sciencedirect.com/science/journal/01665316
230	Pervasive and Mobile Computing	https://www.sciencedirect.com/science/journal/15741192
231	Physical Communication	https://www.sciencedirect.com/science/journal/18744907
232	Precision Engineering	https://www.sciencedirect.com/science/journal/01416359
233	Probabilistic Engineering Mechanics	https://www.sciencedirect.com/science/journal/02668920
234	Proceedings of the Combustion Institute	https://www.sciencedirect.com/science/journal/15407489
235	Progress in Aerospace Sciences	https://www.sciencedirect.com/science/journal/03760421
236	Progress in Energy and Combustion Science	https://www.sciencedirect.com/science/journal/03601285
237	Reliability Engineering & System Safety	https://www.sciencedirect.com/science/journal/09518320
238	Renewable Energy	https://www.sciencedirect.com/science/journal/09601481
239	Robotics and Autonomous Systems	https://www.sciencedirect.com/science/journal/09218890
240	Robotics and Computer-Integrated Manufacturing	https://www.sciencedirect.com/science/journal/07365845
241	Safety Science	https://www.sciencedirect.com/science/journal/09257535
242	Science Bulletin	https://www.sciencedirect.com/science/journal/20959273
243	Science of Computer Programming	https://www.sciencedirect.com/science/journal/01676423
244	Sensors and Actuators A: Physical	https://www.sciencedirect.com/science/journal/09244247
245	Sensors and Actuators B: Chemical	https://www.sciencedirect.com/science/journal/09254005
246	Signal Processing	https://www.sciencedirect.com/science/journal/01651684
247	Signal Processing: Image Communication	https://www.sciencedirect.com/science/journal/09235965
248	Simulation Modelling Practice and Theory	https://www.sciencedirect.com/science/journal/1569190X
249	Smart Health	https://www.sciencedirect.com/science/journal/23526483
250	Soil & Tillage Research	https://www.sciencedirect.com/science/journal/01671987
251	Soil Dynamics and Earthquake Engineering	https://www.sciencedirect.com/science/journal/02677261
252	Solid-State Electronics	https://www.sciencedirect.com/science/journal/00381101
253	Speech Communication	https://www.sciencedirect.com/science/journal/01676393
254	Structural Safety	https://www.sciencedirect.com/science/journal/01674730
255	Structures	https://www.sciencedirect.com/science/journal/23520124
256	Sustainable Cities and Society	https://www.sciencedirect.com/science/journal/22106707
257	Sustainable Computing: Informatics and Systems	https://www.sciencedirect.com/science/journal/22105379
258	Sustainable Materials and Technologies	https://www.sciencedirect.com/science/journal/22149937
259	Sustainable Production and Consumption	https://www.sciencedirect.com/science/journal/23525509
260	Swarm and Evolutionary Computation	https://www.sciencedirect.com/science/journal/22106502

261	Systems & Control Letters	https://www.sciencedirect.com/science/journal/01676911
262	Telecommunications Policy	https://www.sciencedirect.com/science/journal/03085961
263	Telematics and Informatics	https://www.sciencedirect.com/science/journal/07365853
264	The Electricity Journal	https://www.sciencedirect.com/science/journal/10406190
265	The Journal of Strategic Information Systems	https://www.sciencedirect.com/science/journal/09638687
266	Theoretical and Applied Fracture Mechanics	https://www.sciencedirect.com/science/journal/01678442
267	Theoretical Computer Science	https://www.sciencedirect.com/science/journal/03043975
268	Thin-Walled Structures	https://www.sciencedirect.com/science/journal/02638231
269	Transportation Research Part A: Policy and Practice	https://www.sciencedirect.com/science/journal/09658564
270	Transportation Research Part C: Emerging Technologies	https://www.sciencedirect.com/science/journal/0968090X
271	Tribology International	https://www.sciencedirect.com/science/journal/0301679X
272	Tunnelling and Underground Space Technology	https://www.sciencedirect.com/science/journal/08867798
273	Vehicular Communications	https://www.sciencedirect.com/science/journal/22142096
274	Wear	https://www.sciencedirect.com/science/journal/00431648
275	World Patent Information	https://www.sciencedirect.com/science/journal/01722190